

## **Chicken-fish integrated farming**

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### **Concept**

- Chicken raising for meat (broilers) or eggs (layers) can be integrated with fish culture to reduce costs on fertilizers and feeds in fish culture and maximize benefits
- Chicken can be raised over or adjacent to the ponds and the poultry excreta recycled to fertilize the fishponds
- No significant differences have been observed on the chickens' growth or egg laying when they are raised over the ponds or on land

### **Advantages**

- It maximizes the use of space;
- Saves labour in transporting manure to the ponds and the poultry house is more hygienic (in case of over the pond)
- Reduces cost (droppings as fertilizer and uneaten chicken feed as fish feed)

### **Chicken raising**

#### ***Housing***

- House can be constructed on pond or on embankment
- Provision of enough cross ventilation to keep cool during hot days
- House frame can be made of bamboo or any other locally available cheap materials
- Roof can be covered with hay or similar material
- Floors are to be constructed with bamboo slats, with 1 cm gap, to allow excreta and unused feed to fall into pond
- Space required for broiler as 1-1.5 square feet and that of layer as 2-2.5 square feet

#### ***Strain***

- Any fast-growing chicken, like Shavar Starbro broilers etc. for broiler
- Any good strain of chicken, like Star Cross Shavar etc. for layer

#### ***Production cycle***

- Broilers reach market size of 1.5-1.8 kg in 7-8 weeks and it is possible to raise six batches in a year
- Layers start laying after 22 weeks and 250-280 eggs/bird/year could be obtained
- Egg laying becomes uneconomical after chickens reach the age of 18 months, when they need to be replaced

#### ***Number of birds***

- Depends on pond size and waste production by birds
- Waste of 3-4 kg is produced from a broiler within 3-4 months
- No fertilizer and feed required for fish if 500-600 layers are kept for 1 ha pond

### ***Feeding***

- In case broiler, starter mash for 1-4 weeks and finisher mash for 5-8 weeks, given as much as they can consume
- In case layer, for the first 16 weeks @80-110 g/bird/day and from 17th week onwards, @ 110-120 g/bird/day.

### **Fish culture**

#### ***Pond selection***

- Avoid small pond to avoid water quality degradation
- Located comparatively high land to protect fish and birds from flood
- Dry place is preferred for chicken
- Closer to homestead is better

#### ***Pre-stocking management***

- Remodelling of pond if necessary
- Removal of weeds and unwanted animals
- Liming
- Manuring the pond with cattle dung at 500 kg/1 000 m<sup>2</sup>

#### ***Stocking***

- Carps (10-15 cm in size) @30 per decimal
- Surface feeder 40%, column feeder 20%, bottom feeder 30%, all layer 10%

#### ***Fertilization***

- No fertilizer is needed, except for excreta of chicken falling into ponds

#### ***Feeding***

- No feeds need to be given, as the feed spilled by chicken (which could be as much as 10 percent) fall into ponds

#### ***Harvesting***

- After 6 to 7 months to reach the table size

### **Fish, egg and poultry production**

- Fish production of 4-5 ton/ha
- Meat production of 1500-2000 kg (broiler)
- Egg production of 60000-70000 (layer)

### **Precaution**

1. Regular liming required for disinfecting the ponds
2. Placing mats or plastic sheets for 1 to 3 weeks below the poultry house required while finding plankton blooms
3. Immediate irrigating the pond with fresh water required in case of fish mortality due to oxygen depletion