

## A Farming System Perspective of Rural Duck Farming of Tamilnadu

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### Abstract

A survey was carried out to document rural duck farming systems and techniques from breeding to marketing adapted by the duck farmers in the North Eastern districts of Tamil Nadu. Duck farming was characterized by nomadic and seasonal and still in the hands of small and marginal landless farmers for their livelihood. It was quite interesting to note that it was practiced by generation to generation by certain groups of peoples. Duck farming mainly based on low-input and semi-intensive system of management. The duck farmers are keeping a wide sex ratio of 1:20-25 for breeding ducks and obtaining the fertility rate of 70-80 per cent. They had the habit of rearing the ducks in three stages viz. brooding (0-4 weeks), grower (5-16 weeks) and layer (above 16 weeks) periods. In brooding, no artificial warmth was provided except "tent" brooding and the ducklings were allowed to swim in water from 6-7th day of onwards. Growing period was mostly depends upon the availability of water bodies and harvested paddy flocks in day time. During night time low cost materials like bamboo sticks and wire nets are used for making enclosures for confinement and herding. It is also a critical period for ducks and duck farmers since they had faced the problems like disease out break and lack of water and feeding resources. The straight run ducklings were reared up to 20 weeks of age, and then female and male ducks were used for laying and meat purpose respectively. Selection for breeding males based on phenotypic

characters and colour pattern. In rural conditions, it was observed that 150-170 eggs/year for layer ducks. Most of the flocks were maintained for 2-3 years for egg production and then disposed for slaughter to the market.

**Key words:** Duck farming, Management techniques, Rural duck farming

### Introduction

Duck farming is one of the traditional and seasonal businesses for rural farmers of Tamil Nadu and it plays an important role in rural economy to a certain extent. But, the technology of growing duck lags far behind that of other farm enterprises such as chicken production. Hence, the duck farmers relied solely on their inherited experience from the ancestors to rear the ducklings to laying ducks in the rural areas. In this connection, a survey was carried out to document rural duck farming systems and their techniques adapted by the duck farmers in the North Eastern districts of Tamil Nadu.

### Materials and Methods

The present survey was carried out in two districts of Tamilnadu viz Thirukoilur area of Villupuram District and Uhiramerur area of Kancheepuram

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District during the year of 2005-2006. Periodical visits were made in this study area to identify the promising duck farmers who had the minimum experience of 15 years in rural duck farming. From each taluk, three key respondents were chosen and interactions were made on their duck farming activities. All the information pertaining to duck farming such as source of ducklings or duck eggs, feeding, housing management, health and marketing was collected and their observation of facts on duck farming over the years were documented thorough personal interview with the duck farmers.

## **Results and Discussion**

### **1. Nature of duck farming**

The duck farming under the report area was characterized by nomadic in nature and seasonal farming and still in the hands of both small and marginal landless or agricultural farmers for their livelihood. It was traditionally practiced along with rice production and it was quite interesting to note that it was followed by generation to generation by certain groups of people. Duck farming mostly coincides with monsoon and paddy cultivation and it is depending on availability of water bodies, ponds and lakes. Duck farming is always on low-input and extensive or semi-intensive system of management.

### **2. Procurement of ducklings**

In study areas, the duck farmers were procuring ducklings between the ages of 10- 15 days old or the hatching eggs to produce ducklings. Hatching operations were carried out by familiar individuals from adjacent states to assist the hatching

operations and got the remuneration based on hatchability percentage. They were maintaining the ducks more than 300 numbers and they were divided in to four batches (each consisting of 50-75 birds) for grazing in extensive system of rearing. Gajendran *et al.* (2005) has reported similar type of flock size in rural areas.

### **3. Stages of rearing and their management of ducks**

#### **(i) Brooding period**

In brooding, no artificial warmth was provided except "tent" brooding in Uthimerur area. The farmers mostly depend on broody hens and each broody hen a maximum of 10-12 duck eggs was set. Artificial incubation was practiced by elite farmers in Thirukoilur area of Villupuram district in which they were using mud pot containing duck eggs and artificial heat was provided to hatching eggs thorough electric bulbs. They had the habit of rearing the ducks in three stages *viz.* brooding (0-4 weeks), grower (5-16 weeks) and layer (above 16 weeks) periods

The ducklings were allowed to swim in water from 6-7th day of onwards in near by water channels but they restrict the movement of new born ducklings up to 15 days of age in bamboo enclosures to prevent predator attack such as snakes, dogs and cats, particularly the dogs were always worrying menace for duck farmers in rural areas. After 15 to 20 days of age, they were allowed to free swim with their mother for efficient foraging. The same pattern of practice was reported by Islam *et al.* (2002) in North Eastern India.

#### **(ii) Grower and adult period**

The duck farmers in the study area followed a common method of rearing the grower and layer stages of ducks, in which they were allowed to forage during the day time on ponds, harvested paddy areas and water channels under the care of the attendant mostly in the age group of 40-50 years of old. They had a long stick and one end of stick was tied by pieces of red or black cloths to maintain the herd grazing or to control the movement of ducks during the grazing time since ducks are very sensitive to handle. Even the bus horn or loud sound causes mortality in growing periods. During night time, low cost materials like bamboo sticks (3 to 4' feet height) and wire or plastic nets were used for making enclosures for confinement in nearby the water bodies or herding in the farmers house itself. The above said information have been reported in several previous reports,(Rithamber *et al.* (1986), Mahanta *et al.* (2001), Islam *et al.* (2002) and Gajendran *et al.* (2005).

Many duck farmers felt that the grower period was a critical for ducks since they had faced the problems like disease outbreak and lack of water and feeding resources. In case of poor monsoon and uncertain rainfall, they had to make a search for the water bodies individually or by means of their experience, they knew about presence of water bodies or to contact with other duck farmers to know about the availability of water resources. The ducks were migrated to different parts of the Tamilnadu by road transport only and they did it only on night time.

### **(iii) Breeding**

The farmers were rearing indigenous ducks only and they popularly called as Aarani ducks. They were differentiated by colour variation in feathers and neck colour pattern. The male ducks with desirable phenotype and good body weight will be retained and used as breeder males for production of hatching eggs. But, there was no distinction between layer and breeder ducks in field areas. The wide sex ratio of 1:15-20 will be maintained for getting good fertility (60 to 70 per cent) and laid eggs were sold to financier cum vendor and mostly the eggs were transported to potential duck market *ie* neighboring state Kerala. The age at sexual maturity for these ducks ranging from 150-180 days based on the foraging resources. This finding was comparable to the observations of Eswaran *et al.* (1986) and Gajendran *et al.* (2005a). The average body weight at point of lay *ie* 20 weeks of age varies from 1300 to 1500gm for male and 1400 to 1500gm for female ducks. The straight run ducklings were reared up to 20 weeks of age, and then female and male ducks were used for laying and meat purpose respectively. In rural conditions, it was observed that 150-170 eggs/year for layer ducks. Most of the flocks were maintained for 2-3 years for egg production and then disposed for slaughter to the market.

### **(iv) Feeding**

The rural duck farmers in the study area were exclusively rearing the ducks in extensive system of management since ducks are good foragers. In this system of rearing, ducks were allowed to graze on pre- and post-harvested paddy fields,

ponds, lakes and canals and the main sources of feeding were, fallen paddy grains, insects, snails, earthworms, small fishes, fingerlings, tadpoles and water plants like algae. It was in agreement with observation of Senani *et al.* (2001). So, active duck farming is seasonal, coincide with monsoon based paddy cultivation. From their experience they said, 100 ducks require 0.5 acre of paddy field per day for effective grazing. During non laying periods, they were fed with low cost feed sources like paddy husk and low graded grains like broken rice and sorghum etc

#### **4. Health care**

In general, ducks were subjected to relatively few diseases when compared to chicken, but they were serious in nature. In study area, the most contagious and deadly disease was Duck Viral Enteritis (Duck Plague), it affects the adult birds and causes huge losses to the duck farmers unless the stock was not immunized against the disease. Farmers are receiving the Duck Plaque Vaccine (DPV) at a free of cost from Institute of Veterinary Preventive Medicine (IVPM), Ranipet, Vellore District. In addition, some progressive farmers had using regular deworming with broad spectrum anthelmintics at three months interval during growing and laying stage will control the internal parasites.

#### **5. Marketing trends**

In the survey area, most of the duck farmers as earlier said, small and landless farmers or agricultural labourers and they were dependent on the local financiers-cum-vendors in order to meet their demands (duckling or duck eggs).

Finally, they were in the hands of “dictating integration” by vendors or middleman to reach the markets outside Tamilnadu especially Kerala state and because duck eggs and meats were not consumed in Tamilnadu except by specific group of people. In addition, the vendors utilized their ignorance of the farmers and they were being exploited at every stage of operation. Hence, the duck farmers have the feeling that duck farming is not profitable business avocation for them because of marketing difficulties duck eggs and live ducks for meat purpose. In conclusion, the marketing of duck products was characterized by peculiar lender-debtor relationship between financier-cum-vendor and the farmers

#### **Conclusion**

The indigenous ducks had the special advantages of moderate egg production, adaptability to vagaries of climate, thrive well on limited feed resources, system of rearing (migratory) and hardiness to diseases make it suitable and desirable for free range production system in rural areas. But, the main constraints were,

1. Demand for duck eggs and ducklings in field
2. Shrinkage of grazing land mainly due to urbanization of rural areas and narrowing of water channels and encroachment upon lakes and ponds are the serious threats
3. Lack of technical guidance and health care
4. Poor marketing facilities

5. New generation of youths are decline to practice the duck farming, so the government must take serious steps to motivate them to do duck farming

The above said factors, which affect the economic returns and preventing the promising enterprise to come up as a source of supplementary income to farming community in rural area.

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