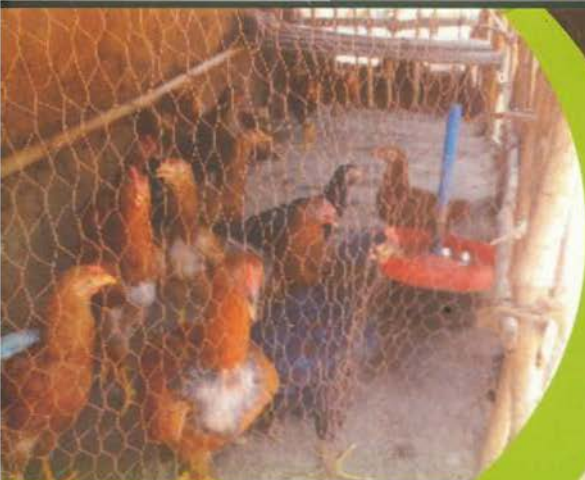




Technical Bulletin no.27

# Backyard Poultry Farming for Income and Household Nutrition

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भाकृअनुप-केन्द्रीय कृषिरत महिला संस्थान  
ICAR - CENTRAL INSTITUTE FOR WOMEN IN AGRICULTURE  
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Bhubaneswar, Odisha

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## FOREWORD

India has nearly 70 percent of its population living in the villages. Backyard poultry keeping has been practiced by the rural people since time immemorial. Women, especially farm women play a very significant role in rural poultry farming and are often in control of the whole process from feeding to marketing, which is not the case in production systems for other livestock species. The contribution of rural poultry to egg basket is around 21% of total egg production of the country. Presently, 70% of the poultry products like eggs and meat are consumed in urban and semi-urban areas and their consumption in rural areas is very low due to limited availability. Poultry production programme in rural areas utilizing low input technology can be an important tool to increase the availability of the poultry products and boost the nutritional standards and health of the rural people. Successful and sustainable rural poultry production needs appropriate genetic resources, effective utilization of locally available feed, availability of appropriate health service, good marketing system and access to extension services. Promoting backyard/rural poultry production system in rural sector is the need of the hour to alleviate poverty and malnutrition, promote gender equity and women empowerment in India. An attempt has been made in this bulletin to provide information on various aspects of rural/backyard poultry farming and hope this information will be highly helpful for the extension functionaries, farming community preferably farm women and other stakeholders engaged in rural poultry farming.

*S. K. Srivastava*  
**S.K. Srivastava**  
Director

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## **Backyard Poultry Farming**

India has nearly 70% of its population living in the villages. Backyard poultry production is an age old practice in rural India and rural poor women play a significant role in it. Spectacular growth has been achieved in commercial poultry sectors but the rural poultry sector has remained unchanged. Rural poultry sector contributes nearly 21% of the national egg production in India but remains one of the most neglected sector. In the present scenario most of the commercial poultry production is concentrated in urban and peri - urban areas. The 25% urban population consumes about 75-80 % of eggs and poultry meat leaving the rural areas far behind. It has been observed that poultry products are quite expensive in rural areas mainly due to their non availability and lack of market chain. The non-availability coupled with low purchasing power of the rural people deprive them of access to the highly nutritious products like egg and meat resulting in malnutrition. Free range and small scale semi-intensive poultry production can be promoted in rural areas to enhance the nutritional status of women and children and to improve economic conditions of population in these areas. Poultry production in the rural areas is generally considered a key asset for rural livelihoods. It offers advantages over other agricultural sectors and is an entry point for promoting gender balance in rural areas. Rural women traditionally play an important role in poultry sector and are often in control of the whole process from feeding to marketing, which is not the case in production systems for other livestock species. Poultry is easy to manage, requires few external inputs, and enjoys good market demand and prices. By increasing women's income, poultry farming also enhances women's social status and decision making power in the household.

### **Advantages**

- Easy to manage and handle
- Needs minimal use of land, labor and capital

- Gives quicker and higher economic return
- Easily integrate with other agriculture, aquaculture and livestock farming
- Aids in increasing soil fertility in backyards
- Contribute to the village economy
- Eggs and meat from birds reared in backyard are low in cholesterol concentration
- Women in rural areas can operate backyard poultry with maximum involvement

Generally indigenous (local/desi) birds are used for rearing in backyards in rural and tribal areas of the country as they are hardy, resistance to common diseases, heat tolerant and do not need special attention as compared to exotic breeds. These native breeds have also acquired considerable adaptability to the local climatic environments due to several years of natural selection. However, the production potential of the native chicken-breeds is very low (55-65 eggs/year) compared to the birds reared under intensive system of production (320 eggs / year). Therefore, the need arises to develop suitable germplasm with improvements in the economic traits in the existing native breeds or the development of new stock with infusion of native blood for rural / backyard production.

Realizing the importance of rural poultry farming in India, research efforts were initiated in the past at ICAR Institutes and SAUs for developing suitable chicken varieties for rural farming. These chicken varieties developed have multi-coloured plumage and resemble the native chicken in their feather pattern, produce more meat and eggs than the natives. Due to these advantages the improved varieties of birds gained wider acceptability across the country. Some of the chicken varieties developed for rural poultry farming are given in Table 1.

**Table 1. Chicken varieties developed for rural/backyard poultry production**

| Variety          | Type | Developing agency    |
|------------------|------|----------------------|
| Giriraja         | Dual | KVAFSU, Bangalore    |
| Girirani         | Egg  | KVAFSU, Bangalore    |
| Swarnadhara      | Egg  | KVAFSU, Bangalore    |
| Vanaraja         | Dual | ICAR-DPR, Hyderabad  |
| Gramapriya       | Egg  | ICAR-DPR, Hyderabad  |
| Krishibro        | Meat | ICAR-DPR, Hyderabad  |
| Srinidhi         | Dual | ICAR-DPR, Hyderabad  |
| CARI Debendra    | Dual | ICAR-CARI, Izatnagar |
| CARIBRO Dhanraja | Meat | ICAR-CARI, Izatnagar |
| CARI Nirbheek    | Egg  | ICAR-CARI, Izatnagar |
| CARI Shyama      | Egg  | ICAR-CARI, Izatnagar |
| Up cari          | Dual | ICAR-CARI, Izatnagar |
| Hitcari          | Dual | ICAR-CARI, Izatnagar |
| Krishna J        | Egg  | JNKVV, Jabalpur      |
| Narmadanidhi     | Dual | JNKVV, Jabalpur      |
| Nandanam IV      | Dual | TANUVAS, Chennai     |
| Gramalakshmi     | Egg  | KAU, Kerala          |
| Kalinga Brown    | Egg  | CPDO, Bhubaneswar    |
| Rajasree         | Egg  | SVVU, Hyderabad      |
| Nicrorock        | Dual | ICAR-CARI, Portblair |
| Nishibari        | Dual | ICAR-CARI, Portblair |



**Fig.1. Important varieties of backyard poultry**

## **Management of Backyard Poultry**

The main factor that affects the success of poultry production is management. Poultry management in broader sense includes rearing, feeding, disease control, marketing and other aspects. Irrespective of the system of poultry production, birds need brooding during the initial four to six weeks age. In the rural/backyard system of poultry production, the young chicks also need brooding at least up to 4 weeks of age, usually called nursery management after which they are let out for free range farming. The chick rearing is the most important and difficult operation of the poultry farming and required high skill and practical experience. Proper care and management during nursery period is essential to get good quality chicks at the end of the nursery period.

### **Poultry Housing**

Housing of birds is essential to protect them from sun, wind, rain, extreme variation in temperature and predators. Proper housing is a prerequisite for profitable poultry production. If the birds are reared under free range or semi intensive system of rearing, then birds are to be provided place for night shelter. The night shelter house can be made of bamboo, wood earth with minimum expenditure. There should be provision of clean drinking water inside the house during night time. When birds are reared under intensive system of production, construction of poultry house is essential. Some of the important criteria to be followed are

- The poultry house should be in east-west orientation to protect from summer wind and cold stress and also for direct sunlight in winter months.
- The site for construction of poultry houses should be selected preferably in elevated areas with good drainage facility. Availability of the basic infrastructure facilities such as water, electricity and access to roads must be taken into account.
- The brooder house where young chicks are grown up to 4 - 6

weeks of age should be constructed with 1/3<sup>rd</sup> portion of the side wall made of solid material from floor level and remaining 2/3<sup>rd</sup> portion may be fitted with chicken mesh (wire-netting) for open air ventilation.

- The poultry houses are preferably constructed on elevated areas with a plinth of 0.6 - 0.9 m to keep the floor above the ground level in order to avoid seepage of moisture from surrounding of the houses.
- The height of the poultry house at sidewall should be 2.2 to 2.4 m and 3.0 to 3.2 m at the centre to provide slope on either side. The roofing materials like tins, asbestos sheets, tiles or thatches may be used for construction. The overhang of roof should be sufficient (1 to 1.2 m) to offer full protection from sun and rain.
- For small scale intensive poultry farming, low cost housing utilizing locally available construction materials like bamboo, wooden planks, thatch, grass, etc. may be used and housing system should be economical and safe.

### **Chick Management**

It is also known as brooding management. It starts from day old stage and continue up to 4 to 6 weeks depending upon the season.

### **Brooding**

The baby chicks cannot maintain their body temperature due to lack of well developed body feathers to conserve body heat, therefore, heat is provided to maintain their body temperature. The management and care of baby chicks till 4 to 6 weeks of age is known as brooding. There are two types of brooding such as natural and artificial.

**Natural Brooding:** In the natural brooding, the hen, which incubates and hatches out chicks, brood the chick. A broody hen can brood around 10-12 chicks comfortably. The broody hen takes out newly hatched chicks in daytime for foraging of food. During

night time they are provided brooding nest and protection from predators. This system is commonly practiced in backyard poultry farming.

**Artificial Brooding:** When the chicks are reared separately from their mothers, artificial source of heat is used to provide heat to maintain their body temperature. After the sixth week brooders are not necessary unless and until the environmental temperature is too low. The source of artificial heat used may be electricity, wood, gas, sawdust, kerosene, and infrared light depending on type of brooder used. Bukharies' with burning of wood, charcoal or sawdust are useful in remote areas where availability of electricity, gas or kerosene is limited and it is very much useful for smaller farms. Two watt/ chick heat is required up to 6 week in brooder house.

### **Preparation of Brooder House**

- The brooder house should be thoroughly cleaned and disinfected much before the placement of chicks.
- All movable equipments like brooders, waterers, feeders, etc. should be removed from the shed and should also be cleaned thoroughly in water and disinfected well.
- Overnight fumigation of house must be done 24 hours before housing chicks and should be ventilated it at least for 3 - 4 hours to remove traces of poisonous gas.
- Spread litter material such as dried sawdust, rice husk or wood shavings on floor with 5-10 cm thickness.
- One day before arrival of chicks: set the heating system at 32 - 35°C at chick level for floor brooding. Spread adequate bedding material such as dried sawdust, rice husk or wood shavings on floor with 5-10 cm thickness.
- Spread old news papers/any papers over the litter material or the first 7 to 10 days in order to prevent chicks from eating litter material and subsequent choking.

- Sprinkle feed or maize grit on the papers for feeding of chicks in initial stages. Remove the top layer of paper daily to clean, turn it upside down after 4 or 5 days and remove it altogether after 8 or 10 days. About 50 -66 cm<sup>2</sup> space per chick under brooder is recommended.
- Arrange waterers, feeders, etc. in wheel-spoke pattern around brooder for easy accessibility of feeder and waterers to baby chicks and run empty brooders for 4-5 hours before arrival of chicks to confirm maintenance of temperature.
- Upon arrival of chicks, while placing chicks in the brooders, count the number of chicks placed in each portion cell to ensure proper stocking density. Check the brooder temperature.
- Fill waterers with clean water. On placing chicks, trigger water cups to encourage drinking. Electrolytes/antibiotics supplementation in drinking water during initial 3 to 5 days will reduce transportation and environmental stress and also reduce initial chick mortality.
- Provide adequate light continuously during the first two days, followed by dim light during all dark hours except for 1 hour at night during brooding period.
- Artificial light in the poultry house must be provided to encourage feed consumption, optimum growth and to prevent birds from piling or stampeding when scared. At floor level, the light intensity should be 0.5 foot candle, which can be supplied by one 150-watt bulb for each 1000 sq ft of floor space.

**Brooder Guard:** Also known as chick guard is a barrier provided around brooder to avoid straying away of baby chicks from source of heat, feed and water and to prevent floor drafts. A cardboard or metal sheet of 0.45 m height placed in circular manner at a distance of 0.85 to 0.90 m from the edge of brooder acts as brooder guard.

**Brooding temperature:** The brooding temperature is regulated by adjusting the height of hover or with the number of bulbs, but a minimum clearing space of 12 to 15 cm above the chicks is recommended. The brooding temperature during first week of brooding period is 35°C, which is subsequently reduced by 2.8°C per week during each successive week till it reaches 21°C. The suggested brooding temperature for chicks is given in Table 2.

**Table 2. Brooder temperature for chicks**

| Age of chicks (wk) | Brooder temperature (°C) |
|--------------------|--------------------------|
| 1                  | 35                       |
| 2                  | 32.2                     |
| 3                  | 29.4                     |
| 4                  | 26.6                     |
| 5                  | 23.8                     |
| 6                  | 21                       |

The correct brooding temperature is known by the behavior of the chicks. Under ideal temperature, the chicks will be uniformly spread under the hover of the brooder. If the hover temperature is higher they will be away from the hover. On the other hand, when the hover temperature is lower, the chicks will huddle together.

**Floor space:** It is one of the most important attribute to be looked into to obtain final performance of the chicks. More chicks in a specified area lead to cannibalism. Lack of space can lead to leg problems, injuries and increased mortality. About 50-65 cm<sup>2</sup> space per chick under brooder is recommended. A maximum of 500 chicks per 2 m per hover is suggested. A minimum of 700 sq cm. should be maintained per chick up to 6<sup>th</sup> week of age.

**Feeder space:** The feeder space of 2.5cm (0-2 wks) and 5.0cm (3-6 wks) is recommended during 0 to 6 weeks of age. Pan feeders are better than trough feeders, as they allow unrestricted bird movement around the feeder and there is lower incidence of feed spillage and improved feed conversion.

**Water space:** A provision of 50 cm (linear) of water space per 100 chicks for the first 2 weeks should be provided. This may be increased to 100 cm from 3 to 6 weeks of age. Height of the waters should be maintained at 2.5 cm above the back height of the chicks to reduce spillage.

**Ventilation:** Supply of fresh air to the chicks is highly essential. Brooding will cause depletion of oxygen and buildup of carbon dioxide, ammonia etc., the airtight curtains should be avoided. It is recommended to keep a gap of 3.5 inches between the ceiling and side curtains to facilitate gas exchange between the house and environment. In extreme weather conditions curtains, windows, doors and fans need to be effectively used to maintain optimum ventilation.



Fig.2. Rural/Backyard poultry houses

## Feeding Management

Nutrients are essential for maintenance, growth, health and reproductive process of the body. Poultry also require continuous supply of nutrients in their diet for maintenance, growth (weight gain) and egg production. The need of birds for various nutrients depends on several factors such as the genotype, level of growth, production and stress. Besides, the dietary factors like digestibility, bioavailability and actual content of nutrients in feedstuffs and the presence of anti-nutritive substance in them. The birds need a steady supply of energy, protein, essential amino acids, essential fatty acids, minerals, vitamins and water (most important). The required nutrients supply is partly made through the natural feedstuffs (energy and protein) and rest are supplemented while formulating the diets (vitamins, minerals and synthetic amino acids). All the above nutrients are supplied to the chicken through mixture of feedstuffs and supplements called the 'Feed'. Whatever may be the system of production, a regular supply of low cost feed over and above maintenance requirements is essential for sustaining performance in poultry.

Feed accounts for 70% of the total cost of poultry production. Therefore, feeding of adequate amount of balanced and wholesome feed is important for optimum production. It is also essential to efficiently utilize the feed by incorporating better feeding practices. Feed should be provided in chick feeder spread uniformly throughout the brooding area. It is important to ensure easy access to the feed even by the smallest of the chick in the flock. Adequate feeder space should be provided for obtaining good livability, growth rates, feed conversion and uniformity. Feed distribution and the proximity of the feeder to the birds are essential for achieving optimum feed consumption rates. One of the most important factors reducing feed consumption in tropical countries like India is high micro-environmental temperatures. Feed should be withheld at the hottest time of the day, to prevent

heat stress and the resultant mortality. Pan feeders are better than trough feeders, as they allow unrestricted bird movement around the feeder and there is lower incidence of feed spillage and improved feed conversion.

Poultry feed is primarily a mixture of several feed stuffs such as cereals, vegetable and animal protein supplements, fats, vitamins and mineral premixes and additives. Feed should be formulated to contain optimum nutrient concentration obtainable at reasonable cost for maximum growth, production and efficiency of feed utilization. While rearing the bird under nursery management, complete balanced feed containing all the nutrients should be given. During nursery rearing feed should contain at least 18% CP and 2600 kcal/kg ME. Low cost balanced feed should be formulated utilizing locally available feed ingredients like jowar, bajra, ragi, broken rice, groundnut cake, sunflower cake, til cake, deoiled rice bran, wheat bran etc. The farmers can make the feed at their doorstep by mixing coarsely ground form of the feed ingredients as given below. Alternatively, poultry feed available commercially in the market can be purchased but it will be costly. After six weeks of age the birds can be allowed to let out for backyard free range production. Under free range conditions the necessity of supplementary feed or feed ingredients depends on the free available are in the backyard, intensity of vegetation and availability of waste grains, insects, white ants, waste grains etc.

**Table 3. Low cost feed formula for feeding chicks during nursery rearing**

| Ingredients                                         | %  |
|-----------------------------------------------------|----|
| Maize/Jowar/Bajra/Broken rice                       | 50 |
| Soybean meal/Sunflower meal/Groundnut meal/Til cake | 30 |
| De-oiled rice bran/Wheat bran                       | 18 |
| Vitamins and mineral mixture                        | 2  |

**Table 4. Ideal Feed formula for feeding of chicks during nursery phase**

| Ingredients         | %     |
|---------------------|-------|
| Maize/Joawr/Bajra   | 50.63 |
| Soybean meal        | 21.16 |
| Sunflower cake      | 20.28 |
| Deoiled rice bran   | 5.52  |
| Salt                | 0.40  |
| Dicalcium phosphate | 0.90  |
| Shellgrit           | 0.70  |
| Vitamin premix      | 0.05  |
| Methionine          | 0.04  |
| Mineral premix      | 0.12  |
| Choline             | 0.10  |
| Antibiotics         | 0.05  |
| Coccidiostats       | 0.05  |

### General Principles of Feeding

- The chick feed during nursery feeding should be balanced with respect to energy, protein, minerals, vitamins, fiber and moisture (water).
- The feed should be free from microbial contamination.
- The feed in feeders should be stirred twice daily.
- The feeders should not be filled more than two-third of their capacity to avoid wastage.
- Overfeeding or underfeeding of birds must be avoided.



**Fig.3. Backyard poultry keeping**

## Health Management

For effective poultry health management, three components are very important such as bio-security, vaccination and medication. Prevention should be the approach as the cost of medication is relatively high and once disease occurs, the productivity is affected and profit margins are reduced despite effective treatment. The birds developed for developed for rural/backyard poultry farming are relatively more resistant to disease compared to the commercial varieties. However, the birds need protection against few diseases like Ranikhet disease (RD), infectious bursal disease (IBD), Marek's disease (MD) and fowl pox etc.

### Vaccination

The main purpose of the vaccination is to protect flocks against infective agents. Proven vaccines produced under rigid quality control, from a reputed manufacturer should be used for vaccination. Vaccination can be done manually by injection or can be administered through drinking water.

### General Precautions

- Vaccine should be stored in a clean area. Live freeze-dried vaccines are always stored under refrigerated conditions.
- The vaccines should be kept in an organized manner with proper identification. The serial number, type, name of the manufacturer and expiration date of each vaccine should be recorded.
- Check the vaccine type and the vaccination schedule for each flock to be vaccinated prior to leaving the storage area.
- Use the correct number of doses and vaccinate only healthy birds.
- Live vaccines must be kept alive until they are administered to the birds. Keep live virus vaccines away from sunlight and in a cool location.

Table 4. Suggested vaccination schedule for chicks during nursery rearing

| Age                  | Vaccine                                        | Dose   | Route               |
|----------------------|------------------------------------------------|--------|---------------------|
| 1 <sup>st</sup> day  | Mareks disease (HVT FC-126 strain live)        | 0.2 ml | Subcutaneous (S/C)  |
| 7 <sup>th</sup> day  | Newcastle disease, Lasota (live)               | 1 drop | Ocular or nasal     |
| 14 <sup>th</sup> day | Infectious bursal disease, Intermediate (live) | 1 drop | Ocular or oral      |
| 24 <sup>th</sup> day | Infectious Bursal disease, Intermediate (live) | 1 drop | Ocular or oral      |
| 28 <sup>th</sup> day | Newcastle disease, Lasota (live)               | 1 drop | Ocular or nasal     |
| 6 <sup>th</sup> week | Fowl pox (live)                                | 0.2 ml | Intramuscular (I/M) |

### Bio-security

Biosecurity is the system used to prevent and control of infectious diseases in poultry. Considering that people, vehicles, equipments, birds etc., entering the farm may carry infectious agents, hence measures to be taken for restriction of their movement. Disinfection of sheds, equipments and internal shed surfaces should be done following flock depletion. The implementation of proper biosecurity measures is a prerequisite to prevent infectious disease into, within or out of a poultry farm

### Medication

Controlling the incidence of disease in free range and backyard poultry is a challenging task as the birds are exposed to adverse environmental conditions. In spite of proper vaccination and biosecurity measures, sometimes disease may strike the flock. When a flock is affected, immediately consult the local veterinarians. Disease in poultry may cause high mortality and morbidity which result in heavy economic loss to the poultry farmer. Depending on the age, managemental conditions, the following preventive medication is suggested for preventing early chick mortality, stress, mycoplasmosis and coccidiosis in the flock.

**Table 5. Preventive medication, deworming and control of external parasites**

| Prevention            | Age                                     | Drug              | Route   |
|-----------------------|-----------------------------------------|-------------------|---------|
| Stress                | 1 day                                   | Electrolytes      | Water   |
| Early chick mortality | 1-5 days                                | Antibiotic        | Water   |
| Coccidiosis           | Continuous in dip litter system (floor) | Anticoccidials    | Feed    |
| Mycoplasmosis         | Continuous                              | Antimycoplasmal   | Feed    |
| Internal parasites    | Prior to R <sub>2</sub> B vaccination   | Anthelmintics     | Water   |
| External parasites    | On detection of infestation             | Ectoparasiticides | Dipping |

### Free range management (after nursery rearing)

The birds developed for rural poultry farming attain a body weight of around 550-600 g at 6 weeks of age. These birds can be let out under backyard free range conditions @ 10 to 20 birds /household depending on the area and natural food base. The birds should be allowed to scavenge outside during day time and temporary shelters should provided (made of bamboo, wood or earth) during night to protect from predators, adverse weather and to provide laying shelter. The birds largely subsist on scavenging in gardens, village alleys and surroundings of the farms by feeding on crop residues, green forage, insects and worms. No formulated balanced supplementary feed is given to the birds, but they are accessed to kitchen waste as and when available. Usually the birds under free range conditions can meet their protein requirements through scavenging. Therefore, sometimes the birds are offered small amount of grain. If 10 males and 10 females are given to a farmers, the males should be sold after they attain a body weight of around 1500 g (at 12-15 weeks of age), while the females can be reared for egg production. Once birds start laying, they should be provided calcium supplements like limestone or shell grit (4-5 g) for better eggshell quality. The most important disease that affects birds under free range is the Ranikhet disease. The birds should be vaccinated against RD at six months interval, preferable before the onset of summer.

### Economic Analysis

Based on the experience of the authors an economic analysis is carried out for rural poultry birds based on the quantity of natural food base available, body weight and health of the bird for input and on the basis of productivity and body weight of bird for output. The analysis is for 12 weeks for male birds of and the layers are kept for complete laying cycle of 72 weeks of age. The input cost includes price of the chick, feed health etc, upto 4-6 weeks of age there after the recommended mode of rearing is free range without any feed supplementation. Additional feed supplementation is optional which may increase the performance of the birds. The input cost of growers and layers include medication and additional feed supplementation (optional) under the free range conditions. The farmer can earn a net profit of about Rs. 100 /bird on males and 500/bird on female birds in by rearing improved chicken varieties. A unit of 20 birds with 15 females and 5 males is ideal and viable for providing additional income for the family which will improve the livelihood status of the farmer.



**Table 6. Economics under free range conditions**

| Sex                               | Input           |            | Out-put                                                |                |             |
|-----------------------------------|-----------------|------------|--------------------------------------------------------|----------------|-------------|
|                                   | Age of the bird | Cost (Rs)* | Particulars/details of the bird                        | Receipt (Rs)   | Profit (Rs) |
| Male                              | 12wk            | 100        | Bird at 12wks (1.5-1.8 kg) @ Rs. 120/kg                | 180-240        | 80-140      |
| Female                            | 72wk            | 225        | Eggs: 100-110 @ Rs. 3/egg<br>Birds: 3.0 kg @ Rs. 80 kg | 300-330<br>240 | 315-355     |
|                                   |                 |            | <b>Total</b>                                           | <b>540-570</b> |             |
| Total profit from a pair of birds |                 | 325        |                                                        | 720-810        | 395-485     |

\*Includes cost of day old chick, feed, medicines and healthcare etc.

## Policies for Poultry Development

Odisha is the eighth and ninth largest producer of poultry eggs and meat in the country, respectively. Poultry has been the fastest growing sector in providing employment and income to a significant number of people in the state. The backyard poultry also plays a vital role in supporting livelihoods of million poor people particularly the tribal and the scheduled caste. As per the available statistic about 62 commercial layer farms having 40.5 lakh birds are running in the state with production of 36.36 lakh eggs per day. Presently, about 4,792 broiler farms with commercial broiler bird strength of 85.63 lakh are in operation. The broiler placements are 20 to 25 lakh day-old chicks per week and 18 to 23 lakh adult broiler birds per week are entering to the market for meat purpose. The per capita availability of egg is 56 per person per year in the state as against of 180 eggs as advised by the nutritional advisory committee. Similarly the poultry meat availability is around 3kg per person per year.

The poultry sector in Odisha is divided into traditional and commercial poultry production system. The rural based traditional system constitutes 60% of the total poultry population in the state and supplies most of the eggs and meat consumed by the rural area. Backyard poultry rearing is widely accepted in the rural areas of the state due to low investment in terms of infrastructure. It also provides supplementary income to small and landless farmers and is taken care by the family, especially by the women. It also provides 10% of the poultry products in urban and peri-urban areas where commercial poultry production is practiced. The dual purpose varieties developed by various organizations which are coloured, phenotypically similar to desi birds but grow faster and produce more number of eggs are the choice of birds for backyard poultry rearing. The backyard poultry production scheme is proposed through rearing of low-input technology birds such as Vanaraja, Gramapriya, Giriraja, Girirani, Rainbow roosters,

Kuroilers etc. for alleviating rural poverty and protein hunger by the Government.

Odisha is one of the leading states to have declared as agriculture and initiated many promotional efforts such as

- Reduction of electricity tariff for poultry farming
- Reimbursement of VAT on maize and broken rice used for poultry feed
- Supply of egg in mid day meal scheme at primary schools.
- The dual purpose parent stocks developed by various organizations under Indian Council of Agricultural Research (ICAR) are being maintained by the State owned poultry breeding farms for supply of chicks to the farmers for backyard poultry.
- Poultry hatcheries have been established in all the districts of the state to supply day old chicks of dual purpose birds suitable for backyard poultry farming.
- Central Poultry Development Organization (CPDO), Govt. of India, Bhubaneswar is also collaborating with the State Govt. to supply hatching eggs and parent stock-day old chicks.
- Stamp Duty exemption of 100% will be allowed on purchase of land in any part of the state (maximum 10 acre for one layer unit and 6 acre for one unit of broiler parent bird) after furnishing bank guarantee and certificate from the Chief District Veterinary Officer.

### **Schemes for Poultry farming**

#### **Commercial layer farming**

The state Government is proposed to take up bankable projects for establishment of 60 lakhs commercial birds in next 3 years.

- Expansion of existing commercial layer units: Capital investment subsidy is available for establishment of Commercial layer poultry unit. It is planned to encourage existing poultry layer units for additional expansion of 10 lakhs over a period of 4 years.

- Setting up new commercial poultry layer farms: It is planned to encourage prospective entrepreneurs to set up new commercial poultry layer units for an additional capacity of 50 lakhs over a period of 4 years.

The financial assistance in shape of loan will be available from commercial and co-operative banks for taking up the poultry farming. The technical officers of the Fisheries & Animal Resource Department, Krishi Sahayak Kendra and banks (NABARD) will provide guidance to the entrepreneurs for preparing the project to submit to bank for loan.

#### **Commercial broiler farming**

It is planned to establish or expand existing commercial broiler units to an additional capacity of 40 lakhs over a period of 4 years. The broiler farming can be undertaken either individually or through integrators. Subsidy will be provided to the farmers for setting up the new broiler unit or expansion of existing unit under Poultry venture Capital Fund through NABARD and State agriculture Policy-2013 (40% of the fixed capital excluding the land cost & 50% for SC/ST/Women/Graduates of Agriculture and Allied Disciplines subjected to a limit of 50 lakhs).

#### **Backyard Poultry Farming**

The backyard poultry production scheme is proposed through rearing of low-input technology dual purpose birds such as Vanaraja, Gramapriya, Giriraja, Girirani, Rainbow roosters, Kuroilers etc. which grow faster and produce more eggs than country chickens. As per Government of India Rural Backyard Poultry Scheme Guidelines, 20 chicks will be given initially, followed by 15 and 10 chicks with interval of 16 weeks each. Each unit will get assistance for construction of night shelter for birds and for procurement of 45 numbers of four-week old chicks.

### **Organizations for procuring rural poultry birds**

1. ICAR-Directorate of Poultry Research, Rajendranagar, Hyderabad, 500 030, Telengana Phone no. 040-24015651, 24017000,
2. ICAR-Central Avian Research Institute, Izatanagar, Bareilly, UP, 243122 Phone no. 0581-2303223; 2300204; 2301220; 2310023
3. Central Poultry Development Organization (Eastern Region) (Government of India), Nayapalli (Near Jayadev Bihar), Bhubaneswar-751012, Odisha. Phone no. 0674-2420175

