

Poultry farming



Rural population living in India constitutes 72.2 per cent of the total population, which is predominantly occupied by poor, marginal farmers and landless labourers. Backyard poultry production is an old age profession of rural families of India. It is the most potent source for subsidiary incomes for landless and poor farmers. It is an enterprise with low initial investment but higher economic returns and can easily be managed by women, children and old aged persons of the households. Now-a-days, poultry meat and eggs have been the best and cheapest sources for meeting out the per capita requirement of protein and energy for rural areas of India.

Though India has shown a tremendous growth in poultry production over decades but rural poultry farming is still lagging behind and always found neglected. As it is the best alternative for the small scale farmers to subsidise the income with negligible input, this farming system needs an upliftment with recent advancement of research in the field of rearing of chicks, balanced feeding, disease control and efficient marketing system for the egg and meat. Now-a-days, the backyard poultry

can easily start with good egg laying birds of RIR (Rhode Island Red), Chabro, Punjab Red and Partapdhan breeds.

Backyard poultry production system is a low input business and is characterized by indigenous night shelter system, scavenging system, natural hatching of chicks, poor productivity of birds, with little supplementary feeding, local marketing and no health care practice. Poultry development plays a crucial role in increasing egg and chicken meat production. Indian demand for poultry products will be enhanced at 4.8 per cent whereas the supply of poultry products will grow at 5.2 per cent per year over the decade which is faster than for any other type of animal product. The production of agricultural crops has been rising at a rate of 1.5–2 per cent per annum, whereas eggs and broilers has been shown to rise at a rate of 8–10 per cent per annum but the growth has been mainly restricted to commercial poultry. In India, growth in the livestock sector can definitely contribute to poverty reduction, because of the people who live in rural areas depends on livestock for their daily livelihoods. It has also been observed that the demand for the animal protein source is increasing rapidly in developing countries.

Raising of local poultry breeds in backyard is an important source of livelihood for the rural people. Small holdings containing 2-3 hens per unit were found to be more efficient producer of eggs compared to those with 5 or more hens per unit. Main interest of the poultry farmers having backyard poultry is not production of eggs as returns are very low from sale of eggs. They hatch all their eggs and sale them as birds because of broodiness habit of these breeds.

Advantages of backyard poultry farming

There are many advantages of rural poultry farming system which are given follows:

- Gives employment to the rural small scale and marginal farmers.
- Provides additional income to the rural communities.
- Aids in enhancing the soil fertility in backyards (15 chickens produce 1-1.2 kg of manure/day).
- Products from rural poultry farming fetches high price compared to those from intensive poultry farming. Almost double the rates of brown shelled eggs in the local market.
- Provides egg and meat with almost no or very less investment through backyard poultry farming in free range system.
- Birds reared under free range conditions give eggs and meat of low cholesterol concentration compared to those produced under intensive poultry farming.
- Lessens protein malnutrition in susceptible groups like pregnant women, feeding mothers and children.

Management of backyard poultry birds

Feeding: In backyard poultry farming, the feed cost is considered to be minimum. The birds collect the required protein, energy, minerals and vitamins etc. From snails, termites, leftover grains, crop residues and household wastes. Feed ingredients like broken groundnut straw and wheat grains can also be given to the chicks. The chicks may be supplied with extra concentrate ration @ 30-60 gm/day/chick for better performance. The chicks need balanced feed during the initial 6 weeks of age under brooder by providing balanced chick feed during the early period of growth. The average body weight of 1.5 to 2.0 kg will be attained up to 5 weeks and if required should be provided with supplemental calcium sources like lime stone powder, dicalcium phosphate (DCP), stone grit, shell grit at 4 to 5 grams/bird/day.

Ingredients for balanced ration

Ingredient	0-8 week old birds	9-20 week old birds	More than 20 week old birds
Maize	52	45	46
Soybean	18	-	15
Groundnut oil	13	13	8
Rice polish	-	35	-
Deoiled ricepolish	15	-	22
Fish meal	-	06	-
Limestone	-	-	7
Dicalcium phosphate	2	01	02
Salt (g)	200	-	300
Vitamins (A,B,D,K) g	15	15	15
B complex	20	20	20
Vitamin B ₁₂	15	-	-
Trace minerals (g)	50	50	50
Coccidiostat	+	-	-

Floor space: The chick should be provided sufficient feed and floor space. Overcrowding results in stress and mortality chick requires 8 square inches of feeding space. During the 6th week, 1 sq. ft. floor space per chick must be provided to avoid overcrowding.

Space requirement for poultry

Age (Weeks)	Floor space (sq. ft)	Feeding space (cm)	Watering space (cm)
0-4	0.5	2.5	1.5
4-8	1.0	5.0	2.0
8-12	2.0	6.5	2.5

Ventilation: Supply of fresh air to the chicks is highly essential. Brooding will cause depletion of oxygen and build up 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, windows, doors and fans need to be effectively used to maintain optimum ventilation.

Beak trimming: Trimming of beak is an important managerial practice. This is done to prevent cannibalism and wastage of feed. Beak trimming is a sensitive operation and it should be done by trained people. The beak trimming is done at 3rd week and one third of upper beak should be trimmed.



Litter management: Litter management plays a vital role in controlling the disease in the flock. When birds are housed on deep litter, placing of waters and their maintenance should receive due attention to keep the litter dry. The litter should be stirred at regular intervals depending on the environmental temperature, humidity, ventilation fecal moisture content, quality of water system.

Health issues: Rural chicks need brooding care during the initial 6 weeks of age. After 6 weeks, they can be let free for scavenging in the backyard. The excess males can be reared separately and marketed for meat purpose. The night shelter should have good ventilation and protection from predators and plenty of clean water should be made available. The birds must be vaccinated against Marek's and Ranikhet diseases. There should be periodic de worming at 3-4 months intervals.

Importance of local breeds in backyard poultry farming system
Smallholder backyard poultry production utilizing local breeds is expected to come under serious competition with the commercial poultry sector and if not well planned the genetic resources of local poultry shall be lost. Conservation of local poultry breeds along with improvement for traits like meat and eggs will increase competitiveness to survive in the market. The socio-religious use of local poultry breeds, superior adaptability in their habitat, ability to perform in low input production system

and the production system which is similar to organic production will be the competitive advantages of backyard system over commercial poultry production. Poultry keeping in backyard gives very high return as the investment is very low. The local breeds of poultry/indigenous poultry genetic resources are held in high esteem even after 50 years of industrial poultry production because of the following reasons:-

- Local poultry breeds exhibit superior adaptability in their habitat and possess the ability to survive, produce and reproduce on low plane of nutrition and sub-optimal management.
- The inputs required are very small, as they scavenge their feed requirements and are raised with little veterinary care.
- They possess the ability to protect themselves from predators.
- All the local breeds show broodiness and hatch their own chicks making the system auto generating.
- People have a preference for eggs and meat of indigenous poultry compared to those realized from farm-bred chickens consequently eggs and meat from local breeds are sold at a premium price.
- Cock fighting is a popular sport for the ethnic tribes and the local breeds are superior to exotic breeds in fighting.
- Use of coloured bird for socio-religious use.

Points kept in mind for backyard poultry farming

Trainings: Poultry farmers must approach to Krishi Vigyan Kendra's to obtain the basic training on backyard poultry farming. This is very useful for rearing of chicks, feeding, housing and disease management.

Exhibitions:Through regular exhibition of local poultry breeds in Kisan Melas, Animal Camps, Livestock Championship and other poultry exhibitions. This helps in the selection of good quality birds.

Breeding of local poultry breeds:Since most of the small holder poultry farmers are poor, Government should extend assistance to improve the poultry farming system by providing good quality chicks to the backyard poultry and suggest for multiplication of birds at their own level from these good quality hens. Within a time frame the skills are to be transferred to farmers at village level. Attempt, however, should be made to retain broodiness in the local stocks since it makes the system auto generating. These hens are used for producing the chicks at home level.

Record keeping:In order to improve egg production there is a need to record the performance of individual hens for egg production. It is not a problem to obtain this information since each hen lays her egg in a separate nest regularly. This will provide information on laying capacity and hatching performance for each hen. Those hens with higher egg production and hatchability should be selected to reproduce next generation.

Vaccination schedule: Follow the vaccination schedule given below:

Age of birds	Name of vaccine	Name of disease	Doses	Route of vaccination
Day old chicks	HVT MD Vaccine	Marek's disease	0.2 ml	s/c ori/m
4-7 days	F-1/Lasota	Ranikhet disease	One drop	Eye or nostril
14 to 18	Intermediate plus	Gumboro disease	-	Drinking water

days				
35 days	F-1/Lasota	Ranikhet disease	One drop	Eye and nostril
6 to 7 weeks	Chicken embryo adopted	Fowl Pox	0.5 ml	Wing stab method
8 to weeks	Strain killed vaccine	Ranikhet disease	0.5 ml	s/c ori/m

Extension services: Extension support for health care, input supply, market linkages and other aspects should be readily available at village level. The people should participate in the health care and breed development programme.

Majority of the farmers expressed their willingness to increase their poultry activities, although the highest proportions of the farmers were medium producers. In order to increase poultry production at the farmers' level, a systemic training program should be organized specifically for rural communities.

Additionally, extension and motivational work along with technical support should also be conducted in the villages to encourage farmers to rear and consume more backyard system of poultry production, since this is a means of sustainable livelihood of poorer sections of the society and will help in food production, food security and providing employment to rural peoples. Lack of technical knowledge, lack of suitable germplasm, decrease in availability of natural resources of feed and inadequate veterinary support is the alarming constraints of the traditional backyard poultry production system.

Video link:

<https://www.youtube.com/watch?v=IjwIKJWzDfw>