

Backyard Poultry Farming- An Approach For Enhancement of Farmers' Income

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Introduction

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 farming is an old age profession of rural families in India. It is the most important source for subsidiary income 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 source 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 to be neglected. As it is the best alternative for the small scale farmers to subsidise the income with low input, so this system needs an upliftment with the recent advancement of research in the field of rearing of chicks, balanced feeding, disease control and efficient marketing system for the eggs and meat. Now-a-days, the backyard poultry farming can be easily started with good egg laying breeds of RIR (Rhode Island Red), Chabro, Punjab Red and Partapdhan.

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 the eggs and chicken meat production. The production of agricultural crops has been rising @ 1.5–2% per annum, where as eggs and broilers has been shown to rise @ 8-10% 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 people living in rural areas mostly depends on

livestock for their daily livelihoods. It has also been reported that the demand for the animal protein source is increasing rapidly in developing countries.

Raising of local poultry birds 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 as 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 as compared to those from intensive poultry farming. Almost double the rates of brown shelled eggs in the local market.
- Provides eggs and meat with low 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 consume the required protein, energy, minerals and vitamins etc., from the 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 upto 5 (4-6) 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 rice polish	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 results in building 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 management practice and should be done by trained people. This is done to prevent cannibalism and wastage of feed. Beak trimming is a sensitive operation. It 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 diseases 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, faecal 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, 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 deworming at 3-4 months interval.

Importance of local breeds in backyard poultry farming system

Small scale holder 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 may 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 give competitive advantages of backyard system over commercial poultry production. Backyard poultry farming 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 level 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.
- People prefer eggs and meat of indigenous as poultry compared to those realized from farm-breed 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

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, 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 can be 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 as 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 or i/m
4-7 days	F-1/Lasota	Ranikhet disease	One drop	Eye or nostril
14 to 18 days	Intermediate plus	Gumboro disease	-	Drinking water
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 10 weeks	Strain killed vaccine	Ranikhet disease	0.5 ml	s/c or i/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.

Economics of backyard poultry production (cost calculated for one RIR female)

A. Cost of raising pullets upto the age of 20 weeks (egg laying starts)

- Cost of chick= Rs. 15/-
 - Cost of vaccine and medicines= Rs. 30/-
 - Cost of feed upto 20 weeks= Rs. 100/-
 - Miscellaneous cost= Rs. 5/-
- Total cost= Rs. 150/- (This cost includes all the expenditure incurred upto 20 weeks or first egg lay)

B. Recurring expenditure during the egg laying period)

- Feed cost= Rs. 720/- (100 gram feed/hen/day@ Rs. 20=2 X 30 X 12=720)
 - Medicine cost= Rs. 30/-
 - Miscellaneous cost= Rs. 20/-
- Total cost= Rs. 770/hen/annum

C. Income from backyard poultry birds

- Total egg produced= 180 eggs/hen/year
- Sale rate of egg=Rs. 10 /egg (desi egg)
- Total income from the sale of eggs= Rs. 1800/egg

D. Net income from backyard poultry production

- Expenditure: Rs 770/hen/annum

- Income: Rs. 1800/hen/annum
- Net income= Rs 1030/hen/annum

The 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 for poorer sections of the society and will help increasing in food production, food security and employment to rural people. 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.

Krishi Vigyan Kendra's (KVK) must take a leading steps in providing technical training in backyard poultry production along with supply of 10-20 good quality chicks of local breeds like RIR, Chabro, Punjab Red and Partapdhan. So, this may create awareness and education to the rural families to get encouragement in the line of egg and meat production. If possible the breeds may be supply after the brooding period of 6-8 week of age. So, there is less chances of mortality at the farmer's field. All are helpful to increase the backyard poultry production in the rural areas of Punjab/India. Hope these efforts will be helpful to our farmers/farm women and rural youth to show encouragement in poultry production specially "Backyard Poultry".