



Backyard poultry farming with improved Giriraja breed

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ABSTRACT : A backyard poultry farming based on scientific management practices with high yielding breed of chickens was desired by the rural communities to improve their income. Rural farmers rear *Desi* type chicken with low egg and meat production in backyard system. For developing the rural poultry farming, improved backyard poultry like Vanaraja, Giriraja birds rearing is of utmost important. Birds can be reared for egg production in small numbers (10-20) in free range conditions if plenty of natural feed resources are available. Chicks need brooding during initial 6 weeks of age to maintain the required body temperature and to protect from predators. At 42 days of age, the birds can be let out under backyard free-range conditions. Birds should be vaccinated specifically against the Newcastle disease and fowl pox. In the primary sector, Agriculture provides about 100 to 120 days employment to the rural poor. Scanty land holding, land fragmentation and seasonal agriculture are not able to provide full employment to the work force which in turn creates disguise unemployment. Backyard poultry farming can be a viable option for rural poor to overcome the issue.

KEY WORDS : Rural, Backyard poultry, Giriraja

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INTRODUCTION

Under drought condition where agriculture income of family is challenged, a secondary source of household income was provided by way of backyard poultry. Livestock and poultry sector provide a major contribution to India's economy (Nath *et al.*, 2012). In poultry sector impressive growth has been achieved in the intensive poultry farming in India, but the rural poultry sector remained rather stagnant (Pathak and Nath, 2013). Poultry plays an important role in human nutrition, national income, employment and income generation. The importance of poultry as a source of income for the landless and marginal farmers, particularly women, has become increasingly recognized (Ogunlade and Adebayo, 2009). The consumption of egg in rural areas is far below the national average egg consumption. Improving the

genetic potential of local native chicken varieties helps in increasing the availability of poultry meat and egg in rural areas.

Backyard poultry farming:

Backyard poultry make a significant contribution to the livelihoods of poorer households in terms of nutrition. It is also a liquid asset that can be sold quickly to meet any emergency cash needs of poorer's families. Backyard poultry rearing requires hardly any infrastructure setup. Besides targeted egg production, it is potent tool for upliftment of poor. It has very positive impact to improve the socio-economic factors of the socio-economically backward people. Backyard poultry production can cater to the nutritional requirements of the family as well as cater to a niche market, thus, providing a source of subsistence income. Backyard poultry can be taken up by every household as a subsidiary occupation, as a source of additional income or to cater to the egg and meat

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requirements of the family by taking up coloured bird units ranging from 10 to 20 birds per family in their backyards. Such units require very little hand feeding and can give a fairly handsome return with bare minimum night shelter. Having realised the importance of backyard poultry farming in India, several research organization developed different backyard chicken varieties which are presented in Table 1.

Salient features of Giriraja chicken:

- Resembles local birds in colour and appearance
- Sturdy and resistant to diseases
- Acclimatizes to any region and weather
- Body weight and egg production are three times more than that of local birds
- Adopt well to scavenging conditions
- Develop for small scale farmers and tribal's.

Advantages of backyard poultry farming :

- Alleviates protein malnutrition in vulnerable group's viz., expectant women, feeding mothers and children.
- Waste material (insects, ants, fallen grains, green grass, kitchen waste, vegetable waste etc.) can be efficiently converted in to egg and chicken meat for human consumption.
- Minimizes environmental pollution per unit poultry produce, which is otherwise a major problem with the intensive poultry farming.
- Provides additional income to the rural households (women).
- Integrates well with other agricultural operations.
- Aids in enhancing the soil fertility in backyards (15 chickens produce 1- 1.2 kg of manure/ day).
- Produce of rural poultry farming fetches high price compared to those produce from intensive poultry farming
- Eggs and meat from birds reared under free range conditions have low cholesterol concentration compared

to those produced under intensive poultry farming.

- Generate employment opportunity in rural areas and help in checking migration of people to urban areas.
- Provides egg and meat with almost no or meager investment through backyard poultry farming in free range system (Pathak and Nath, 2013). In rural areas of India, chicken reared in backyard are mostly *Desi* type with low egg and meat production (Ghosh *et al.*, 2005) and there is need of introduction of improved dual purpose bird having capacity to lay more eggs and gain higher body weight than the local or *Desi* birds.

Management of Giriraja chicken :

Giriraja birds can be reared for egg production in small numbers (10-20) in free range conditions if plenty of natural feed resources are available. But if the local demand is for meat, they can be reared in large number under intensive/ semi-intensive conditions by providing all inputs similar to commercial broilers. These birds need to be reared under proper nursery management up to 6 weeks and later they may be released in free range after 6 weeks of age.

Brooding management :

Giriraja chicks need brooding during initial 6 weeks of age to maintain the required body temperature and to protect from predators. Metal, wooden or any other low cost brooding materials can be used for the purpose and electric bulbs (2 Watts/ chick) can be used as a heat source. The movement of the chicks can be restricted near by the heat source with the help of chicks guard. Initially about 7-10 sq. inches space is recommended per chick under brooder.

Housing :

Emphatically housing is more important for poultry management. Poultry house may be constructed with

Table 1 : Different improved strain of backyard chicken

Name	Feather pattern	Purpose	Organization
Grampriya	Multicolour	Dual	PDP,Hyderabad
CARI-Nirbhic	Multicolour	Dual	CARI,Izatnagar
CARI-Shyama	Multicolour	Dual	CARI, Izatnagar
Gramlaxmi	Mixed brown	Egg	KAU,Mannuthy
Nicobari	Black and white	Egg	CARI, Portblair
Vanraja	Multicolour	Dual	PDP,Hydrabad
Giriraja	Multicolour	Dual	PSU,Banglore

available low cost construction materials like bamboo, wooden planks, thatch grass, polythene sheets etc. For rapid growth of Giriraja chicken, sufficient space is required for each bird which is presented in Table 2.

Litter management :

Litter materials are used in deep litter system of rearing to absorb moisture from poultry droppings and also provide warmth in winter, coolness in summer. Suitable litter materials like saw dust, rice husk, and pieces of hay and straw can be spread upto 5-10 cm thickness and that should be stirred frequently and treated with slaked lime to avoid caking.

Feeding management :

While rearing the bird under nursery management, complete balanced feed containing all nutrients; minerals

and vitamins should be given. In nursery rearing, feeding of broiler starter upto 28 days is better option but it also can be formulated with locally available materials. Maize is the main feed component for poultry in rural areas. Feeder and waterer can be made of bamboo, card board, boxes etc. and it is important to ensure easy access of feed to all the birds.

Feeding and watering space has to be increased as they grow up. Fresh and clean water should be available at all times as water is one of the important nutrients which are essential for proper body growth and production.

Health care management :

Backyard poultry birds (Giriraja/Vanraja) should be vaccinated specifically against the Newcastle disease and fowl pox as per the vaccination schedule presented in

Table 2 : Space requirement for Giriraja chicken

Age (weeks)	Floor space (ft ²)	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

Table 3 : Vaccination schedule for Giriraja birds

Age	Name of the vaccine	Strain	Dose	Route
In the hatchery				
1 st day	Mareks diseases	HVT	0.20 ml	S/C injection
5 th day	Newcastle diseases	Lasota	One drop	Eye drop
14 th day	Infectious bursal diseases	Georgia	One drop	Oral drop
21 st day	Pox	Fowl pox	0.20 ml	S/C injection
28 th day	Newcastle diseases	Lasota	One drop	Eye drop
In the field				
9 th week	Newcastle diseases*	R2B	0.5 ml	S/C injection
12 th week	Pox*	Fowl pox	0.20 ml	S/C injection

*Repeat these two vaccines at every six months interval

Table 4 : Comparative performance of Giriraja and Desi bird (Non descript) under backyard system of rearing

Parameter	Performance	
	Giriraja	Desi birds (Non- Descript)
Weight of day old chick	45-50 g	20-25 g
Body colour	Multi colour	Multi colour
Body weight in 8 week (kg)	1.6 kg	Average 0.5 kg
Period required to attain 1 kg body weight	8-9 week	25-30 week
Average egg weight	55 g	35-40 g
Egg colour	Brown	Brown
Egg production per month	14-16	5-7

Table 3.

Management under free range system :

At 42 days of age, these birds will attain 1.6 kg weight and by the time they are ready to keep in free range system. These birds can be let out under backyard free-range conditions (10-20 birds/ household) depending upon the housing area and natural feed base available. These birds are let loose in day time for foraging while they require shelter at night time. Clean drinking water should be provided before letting them out from the night shelter. The male can be sold when it attains marketable weight of 2-2.5 kg and female should be raised for egg production. Two to three males in a flock of 10-20 birds should be kept to get fertilized eggs for hatching.

Feeding management :

Giriraja birds under free-range can easily pick up its food the backyards once it learns to scavenge in the household surrounding. Under free-range conditions the necessity of supplementary feed/ feed ingredients mostly depends on the free area available in the backyards, intensity of vegetation and availability of waste grains, insects, grass seeds etc. Generally, the birds under free-range conditions can meet their protein requirement through scavenging, but, the possibility of energy deficiency is common. Therefore, feeding the birds with different locally available cereals (like maize, *Bajra*, ragi, *Jowar*, broken rice, with equal parts of rice polish or rice bran) is always beneficial to sustain the production under free-range conditions (Bhattacharya *et al.*, 2005). If the problem of broken/ shell less eggs observed, calcium source (lime powder, shell grid etc.) should be supplemented @ 3-4g/ bird/day.

Health management :

The most important diseases that affect birds under free range farming are the Newcastle (Ranikhet) disease. Night shelter should have good ventilation, adequate light and protection from predators. The materials used for night shelter such as wood and bamboo offer a good hiding place for external parasites. Therefore periodic cleaning of night shelter is essential. Since the chicks move in free range, there is a possibility of parasitic infestation. The deworming at 2- 3 months interval is required.

Under free-range conditions, adult birds should be

vaccinated against Newcastle disease at 6 months interval, preferably before the onset of summer (Kumaresan *et al.*, 2008). Vaccination of native birds along with Giriraja is recommended. The performance of improved breed (Giriraja) of chicken under backyard system of rearing is presented in Table 4.

Conclusion :

Backyard poultry is most profitable than rearing of deshi local birds. The backyard poultry farming with improved birds provide a better livelihood security to the poor farmers. The important thing for obtaining high returns from backyard poultry farming is to protect birds from predator. Provide additional concentrate feed with clean and fresh drinking water and vaccination, deworming with veterinary care.

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