

# Backyard poultry farming: A means of sustainable livelihood for the rural tribal people of Keonjhar district, Odisha

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**ABSTRACT :** Poverty and a degraded environment are closely inter-connected, especially when people depend for their livelihoods primarily on the natural resources of their surrounding environment. The tribal economy in Odisha is primarily subsistence oriented and based upon a combination of agriculture, forestry and wage labour (ODR, 2002). Scanty land holding, land fragmentation and seasonal agriculture are not able to provide full employment to the workforce which in turn creates unemployment. Backyard poultry farming require hardly any infrastructure set-up and besides supplementary and steady generation, rural backyard poultry can improve food sufficiency, can also unleash human productivity, encourage women and unemployed youth, and bridge the gap between demand for and production of eggs and meat. The study was conducted in Keonjhar district of Odisha. 110 respondents who were engaged in poultry farming were selected as sample for the study. Majority were medium producing poultry rearers with a medium to low level of knowledge regarding breeding and rearing practices.

**KEY WORDS :** Sustainable livelihood, Tribal people, Poultry farming

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## INTRODUCTION

It's an irony that in terms of resources Odisha is one of the richest states but has the largest number of poor people in the country. Vulnerability of the state comes from a high level of dependence on agriculture which is least diversified, a paddy dominated mono-cropped system that does not give enough to farmers and highly disaster prone because of repeated cyclones and floods. The total population of the state was 4.2 crores in 2011 population census with a density of 270

persons per sq. km. In Odisha, Scheduled Tribes (STs) account for 22.8 per cent of the total population of the State (2011 Population Census report). Ecological imbalance is now seriously undermining the livelihood patterns of the tribal and increasing vulnerability. A small land base, low agricultural productivity and low incomes have led to rising indebtedness, trapping tribal into a vicious circle of exploitation. The life of the tribal is increasingly vulnerable due to a persistent lack of assured entitlements to their resource base.

### Issues of sustainable livelihood :

One of the key issues that affect overall community living of tribal has been the livelihood arrangement for improved quality of living. Though, scope of other sector involved for livelihood is marked, still it has been less adequate to arrange livelihood throughout the year. In one hand, gap in availability of own asset or access to resource base for productive investment is not available and in the other hand, no productive asset base exists which can other wise yield required livelihood for the family. Apart from this, poor capacity to engage in demanding sectors such as business unit establishment or trading etc. is also not prevalent among the tribal. As a result, economic dependency on external sources is relatively high leading to indebtedness and less asset base situation.

The main occupation of tribal people living in Odisha is collecting forest products. The income from traditional agriculture is low. The climatic conditions are unpredictable, land holding becoming smaller and smaller with each generation and seasonal agriculture (rain fed) are unable to provide full employment to the working class. The major issue for these people are food security and risk spreading through subsidiary income. Therefore dependency upon non formal activities like Goat and sheep rearing, as well as poultry farming, remain part-time activities despite their huge potential for generating income. Backyard poultry farming require hardly any infrastructure set-up and besides supplementary and steady generation, rural backyard poultry can improve food sufficiency, can also unleash human productivity, encourage women and unemployed youth, and bridge the gap between demand for and production of eggs and meat.

### Backyard poultry farming :

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 workforce which in turn creates disguise unemployment. Backyard Poultry farming can be a viable option for rural poor to overcome the issue. Rural poultry production is being recognised as an important component of socio-economic improvement among the weaker section of society. Poultry development plays a crucial role in increasing egg and chicken meat production. Poultry rearing provides income and employment to large number

of people in rural areas. The backyard poultry contributes nearly 30 per cent of the National egg production, is the most neglected one. The most preferred quality chicken and egg come from this sector, which is sold at a premium market price. Besides, the increase in over all egg and chicken production this sector can play an important role in socio-economic upliftment of the rural mass. Backyard Poultry can act as an engine for economic growth through eradication of tribal poverty. On the other hand development of backyard poultry can reduce the high infant and mother mortality rate through restoration of nutritional status of the tribal population.

In Odisha, about 30 per cent of rural households are involved in poultry rearing and the flock size ranges from 5- 20. The small holder poultry production is not capital intensive and requires minimal use of land, labour and capital. Poultry development in Orissa has made significant progress over the years. As per 19th livestock Census 2012, the total poultry population in Odisha including duckery in the State was 54.657444 lakhs.

**Table A : Departmental poultry and duck farms in the state**

Sr. No.	Name of the farms
1.	Poultry Breeding and Research Farm, Angul
2.	Regional Poultry Farm, Sundargarh
3.	District Poultry Farm, Bhanjanagar
4.	District Poultry Farm, Harichandanpur, Keonjhar
5.	District Poultry Farm, Bolangir
6.	Poultry Breeding Farm (IPDP), Bhubaneswar
7.	Special Poultry Unit, Chipilima, Sambalpur
8.	Duck Breeding Farm, Chipilima, Sambalpur
9.	Regional Poultry Farm, Koraput
10.	District Poultry Breeding Farm, Similiguda
11.	Duck Breeding Farm, Khapuria, Cuttack

Source - Directorate of animal husbandry and veterinary services, Odisha

### Importance of poultry farming :

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). Gueye (2009) reported that poultry in rural areas is an important system for supplying the fast-growing human population with high-quality protein and providing additional income to resource-poor small farmers, especially women. The poultry industry in India was growing at 8 per cent-10 per cent in the last decades but presently the growth is over 15 per cent in last 3 years

and the poultry business is to cross Rs. 1320 billion by 2015. The annual egg and poultry production in Odisha is insufficient to meet the demand of the state and therefore the demand is met by bringing the same from the neighbouring states. The present production of poultry meat in the state is 70 T.M.T and these is a target to produce 100 T.M.T of poultry meat by year 2010. Similarly the production of eggs is 42 lakhs per day as against the demand of 654 lakha eggs per day and it is targeted to produce 100 lakhs eggs per day by year 2010 (Annual report 2013 by Odisha Tribal Empowerment and Livelihood Programme).

### **Potentials in backyard poultry farming :**

Raising of local poultry breeds in backyard is an important source of livelihood for the rural people of Odisha as 63 per cent of the owners of the backyard poultry are Scheduled Tribes, 17 per cent Scheduled Castes and rest 20 per cent owned by OBCs and other communities (Annual report 2013 by Odisha Tribal Empowerment and Livelihood Programme). 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 sell them as birds. Poultry keeping in backyard gives very high return as the investment is very low.

- 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 very popular sport for the tribes and the local breeds are superior to exotic breeds in fighting.
- The coloured bird can be used for socio-religious use.
- The average annual income from backyard poultry is Rs. 2200 per household although the variation across households is very large. Studies reveal, when mortality is reduced, income per household increases by 18.1 per cent.
- The merit of backyard poultry lies in its ability to

contribute a substantial proportion of income of those who are otherwise poor. For the nutritiously starved poor, backyard poultry brings in little pleasures of life within their easy reach - it enables them to indulge in the consumption of the much cherished food.

The poultry birds reared in the backyard are also important from the biodiversity point of view as they act as a natural scavenger. The droplets of the birds also increase the soil fertility.

## **METHODOLOGY**

### **Objectives :**

The present study was an attempt to meet the following objectives:

- To study the poultry farming practices of the tribal people of Keonjhar district.
- To find the knowledge of poultry production among the respondents.
- To determine the various constraints of poultry rearing faced by the participants.

### **Research design:**

The study was conducted in Keonjhar district, Odisha. 110 respondents engaged in backyard poultry farming were selected as the sample for the study. Data were collected from both primary and secondary sources from November 2014 to January 2015. The researcher collected primary data by questioning the selected farmers directly using a test questionnaire; secondary data were available from various sources, including, books, reports, journals, official records. Simple and direct questions were used to obtain information.

## **OBSERVATION AND ASSESSMENT**

Table 1 depicts the personal profile of the respondents who fall under different category of age groups, educational qualification, number of family members, Type of family and family monthly income.

Fifty-six per cent of the farmers in the study area reared chickens only, 25.45 per cent reared only ducks while 18.18 per cent of the farmers reared both chickens and ducks. Approximately 54 per cent of the farmers were medium producer, compared to 37 per cent low producer and 8 per cent high producer.

Knowledge of breeding among the farmers ranged between 0 and 14 with a mean of 7.51. Only 18 per cent of the farmers in the study area had a good level of

Personal factor	Category	Frequency	Percentage (%)
Age	Between 21-30 years	34	30.90
	Between 31-40 years	65	59.07
	Above 40 years	11	10.03
	Total	110	100
Educational qualification	Illiterate	37	33.63
	Primary	35	31.81
	Secondary	26	23.66
	Higher secondary	12	10.90
	Total	110	100
No of family members	2 - 3 members	14	12.72
	4 - 5 members	62	56.38
	Above 5 members	34	30.90
	Total	110	100
Type of family	Nuclear family	13	11.81
	Joint family	97	88.19
	Total	110	100
Family annual income	Up to Rs.25,000	25	22.72
	Rs.25,001-Rs.30,000	39	35.45
	Rs.30,001-Rs45,000	34	30.90
	Above Rs.45,000	12	10.9
	Total	110	100

Category (Birds/Family)	Chicken rearer		Duck rearer		Both chicken and duck rearer	
	F	%	F	%	F	%
Low producer (up to 15)	21	33.87	12	42.86	08	40
Medium producer (16-25)	35	56.45	14	50	11	55
High producer (above 26)	06	9.68	02	7.14	01	05
Total	62	100	28	100	20	100

Category	Farmers individual knowledge							
	Breeding		Feeding		Housing		Prevention and control of disease	
	F	%	F	%	F	%	F	%
Poor (up to 9)	34	30.9	26	23.63	39	35.45	68	61.81
Medium (9 – 12)	58	52.72	67	60.9	55	50	36	32.72
Good (above 12)	18	16.38	17	15.47	16	14.54	06	5.47
Total	110	100	110	100	110	100	110	100
Mean	7.51		6.64		6.48		5.94	

Farmers individual knowledge ranges from 0 to 25; 0 indicating no knowledge at all and 25 indicating very good knowledge

Problems	F	%
Disease	110	100
Inadequate supply of vaccine and medicines	87	79.09
Shortage of feed	64	58.18
Predator	59	53.64
Lack of housing facility	42	38.18

knowledge regarding poultry breeding. In this study, most of the farmers reported that they did not rear exotic breeds due to the high mortality rate. The feeding knowledge score of the farmers ranged from 0 to 15 with an average score of 6.64. Approximately 60 per cent of the farmers had medium knowledge of feeding, 23.6 per cent had a poor level of knowledge, whereas only about 15 per cent had a good level of knowledge. The housing knowledge score of the farmers ranged from 0 to 16 and the mean was 6.48. Data revealed that approximately 50 per cent of the farmers had medium knowledge compared to 35.4 per cent with poor knowledge and only 14.5 per cent with a good level of knowledge about housing. The computed knowledge score for prevention and control of diseases ranged from 5 to 16 with a mean of 5.94. Approximately 62 per cent of the farmers in this study had poor knowledge in regard to the prevention and control of poultry disease compared to 32.7 per cent with medium knowledge and only 5.47 per cent with good knowledge.

Diseases (100%) and inadequate supplies of vaccines and medicine (79.09%) were identified as the most prominent problems for the participants. When farmers were asked about problems they experienced in rearing poultry, 58.8 per cent of the farmers identified feed unavailability as a major problem. Feed is one of the important factors in rural poultry production. Chowdhury *et al.* (2006) reported that if the birds are raised only on scavenging feed resources, their productivity decrease. Predator problems were reported by 53.64 per cent of the farmers, followed by lack of housing facilities 38.18 per cent.

### Conclusion :

The majority of the farmers included in this study expressed their willingness to increase their poultry activities, although the highest proportions of the farmers were medium producers and most of them did not use vaccines to prevent diseases. The major problems in family poultry production included diseases, inadequate supply of vaccines and medicine, shortage of feed and lack of appropriate housing facilities. In order to increase poultry production at the farmers' level, a systemic

training program should be organized specifically for rural tribal women. Furthermore, adequate arrangements should be made for disease prevention and control. 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, gender equity and providing employment to women. Improvement of local breeds and their conservation for future use also should be the joint responsibility of the Government and farming community.

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