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Contribution of Poultry Farming among the Tribal Farmers of Kamrup (M) districts of Assam

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Abstract

Poultry farming is an important livelihood activity for small and marginal tribal farmers. This study was conducted in Dimoria and Chandrapur development blocks of Kamrup (M) district, Assam, during 2025 to examine the contribution of poultry to household livelihood. Data were collected from 120 respondents through interviews and group discussions. From each block 4 villages were selected randomly based on tribal population and 15 tribal farmers were randomly selected based on selection criteria set for the study for which the sample size becomes 120. Farmers having minimum 20 numbers of poultry reared for household consumption as well sell of surplus were selected as the respondents for the study the results showed that poultry contributed about 25.76% to total household income, indicating its economic importance. It also supported family nutrition through egg and meat consumption, although per capita availability was lower than recommended levels. Contribution in terms of protein, fat, and energy was found to be limited. Poultry farming generated around 36 man-days of employment annually and provided financial support during emergencies for more than half of the respondents. However, the use of poultry manure in agriculture was low, and poultry was not considered a status symbol.

Keywords: Poultry, tribal, livelihood, employment, nutrient

1. Introduction

Poultry rearing is one of the most common livestock farming among the small and marginal farmers in India. Backyard poultry production helps in sustainable development among the rural household. Poultry rearing helps the farmers in income generation, employment opportunities, nutritional support, and risk mitigation. Poultry farming has emerged as one of the fastest-growing segments in agricultural sector in India. It contributes approximately 1.00 per cent to the national Gross Domestic Product and 10.00–12.00 per cent to the livestock sector GDP (Basic Animal Husbandry Statistics, 2024). Poultry manure from the farm can be used in agricultural farm for more production by enhancing soil fertility through nutrient recycling.

Poultry farming is one of the important sectors in the world among the small and marginal farmers. Large scale production of poultry is also gaining popularity in the world

because of rising population, urbanization, and huge demand for inexpensive animal protein. Total global meat production is 370135 thousand tonne out of which poultry sector alone contribute 126350 thousand tonne that means poultry accounts for 34.13 per cent global meat production (FAO, 2025) [2]. Chicken meat is one of the most preferred meats in the world. Global egg demand has grown steadily because of high nutritive value with lost cost production. Top producers of poultry meat in the world are United States, China, Brazil, European Union and India. China rank 1st in egg production by producing 38.00 per cent of global egg production and other largest egg producing countries are India, United States, Indonesia and Brazil (FAO, 2025) [2]. North Eastern region of India includes 8 numbers of states and Assam is the biggest state among them. The total poultry population in the NER is 69.22 million accounting for 8.13% of country's total poultry of India (Sharma *et al.*, 2024) [7]. Poultry sector of North East India is not advanced

as compared to the other states of India. The people in the region are mostly non-vegetarian but not self-sufficient in terms of meat and egg production. Assam is the leading state in NER in terms of egg production by contributing 43.91 per cent of total egg production during the year 2021-22 followed by Tripura (25.54%), Manipur (9.3%) and Meghalaya (9.03%) (Sharma *et al.*, 2024)^[7]. The per capita availability of egg in Assam is 17 eggs per year per person and meat is 1.98 kg per year (Basic Animal Husbandry Statistics, 2024). Backyard and free-range system of poultry farming are common rearing practices adopted by the most of the farmers of Assam. Kamrup (M) district is located between 25.1701° North latitude and 91.9490° East longitude. Scheduled Tribe population in the district is 75, 121 (Statistical hand book of Assam, 2023) and major tribes are Amri Karbi, Bodo, Rabha and Tiwa etc. The tribal people residing in the district are rich in culture. They mainly depend on agriculture, livestock and poultry sector for livelihood. For many tribal households, poultry farming is a primary or supplementary source of income. Poultry farming can be adopted by the farmers for their livelihood and to meet the day-to-day requirement of the family. Considering the scope and potential of poultry in this region, the current research work was designed to find out the contribution made from poultry to the tribal household.

Materials and Methods

The research work designed for the study was conducted in two development blocks of Kamrup (M) district of Assam. The district has 3 numbers of development blocks from which two development blocks were purposively selected for the study namely Dimoria and Chandrapur. From each block 4 villages were selected randomly based on tribal population and 15 tribal farmers were randomly selected based on selection criteria set for the study for which the sample size becomes 120. Farmers having minimum 20 numbers of poultry reared for household consumption as well sell of surplus were selected as the respondents for the study. Respondents were interviewed by the researcher individually to collect the data by visiting their residence and responses were collected by using interview schedule. The data were collected from January, 2025 to November, 2025. The data collected from selected respondents through interview schedule and focus group were tabulated and analysis was done by using standard statistical procedure. Contribution from poultry to the household was assessed in five dimensions as mentioned below:

- 1. Contribution from poultry to household income of tribal farmers:** The total income from poultry in Indian Rupees in the last one year was assessed by direct questioning taking into consideration from the time of data collection. The per cent contribution made from poultry was calculated in terms of total annual income of the family.
- 2. Nourishment from homestead poultry farm to the Family:** To assess this aspect the yearly average consumption of meat, and egg by the family members from homestead poultry farm was calculated by direct questioning and later on converted into per year protein, fat and energy consumption based on computation given by Longvah *et al.* (2017)^[10].
- 3. Contribution of nutrients to the agricultural**

activities from poultry rearing: Average poultry manure applied to the agricultural farm in a year was quantified. It was ascertained by direct questioning.

- 4. Employment Generation from poultry rearing by the tribal farmers:** Employment generation from poultry rearing was calculated by direct questioning. The respondents were asked how much time they devoted in poultry farming a day. Then the total time spent per day was converted into annual time spent. The total time spent in a year was divided by 8 hrs to convert into man days.
- 5. Poultry rearing as status symbol:** The respondents were asked directly whether the neighbour or other farmer respect them for rearing large number of poultry or not. It was assessed by direct questioning.

Results and Discussion

1. Contribution from poultry to the farming households

Table 1 presented the contribution of poultry to household livelihoods in terms of income, nutrition, farm support, employment generation and security against uncertainties in Dimoria and Chandrapur well as in the pooled data. Table 1 revealed that the average income from poultry noted to be Rs. 49, 940.63 Rs. 36, 624.60 and Rs. 43, 282.62 Dimoria, Chandrapur and pooled data which were 30.25 per cent, 21.27 per cent 25.76 per cent contribution to the total household annual income. This indicates that poultry farming plays a very important role among the tribal farmers of the study area in terms of contribution made from poultry to the total annual income. This might be due to the traditional habits of poultry rearing among the respondents. Biradar *et al.* (2013)^[5] in their study in Western Maharashtra on evaluating Contribution of livestock to the livelihood of the Farmers revealed that the range of contribution from livestock to the household income was noted to be 18.60 to 33.90 percent. With regard to household nutrition, poultry provided substantial nourishment in the form of eggs and meat. The availability of eggs per family per year was higher in Dimoria (271 eggs) compared to Chandrapur (241 eggs), while the pooled average stood at 256 eggs. Similarly, egg consumption per individual per year was recorded as 63 in Dimoria and 54 in Chandrapur, with a pooled value of 59. Meat availability per family per year was comparable in both blocks, being 8.80 kg in Dimoria and 8.57 kg in Chandrapur, while per capita meat consumption ranged from 1.96 kg to 2.04 kg across the blocks. Contribution from poultry in terms of protein, fat and energy per year per individual was very less. Poultry contributed 420.43 gm, 362.12 and 393.74 gm protein in Dimoria, Chandrapur and pooled data and in terms of fat contribution the figure noted to be 300.90 gm, 259.29 and 281.80 gm respectively. Table 1 also depicted that 5987.48 cal, 5212.86 cal and 5607.62 cal energy were contributed from poultry in Dimoria, Chandrapur and pooled data. The per capita availability of meat and egg of the respondents in both the development blocks was very less as compared to ICMR recommendation of 180 egg per year and 10.98 kg meat per year. Therefore, awareness about nutritive quality from poultry meat and egg among the farmers is need of the hour in the study area. Biradar *et al.* (2013)^[5] revealed that contribution in terms of protein, fat and calcium were 34.61

gm, 52.32 gm and 1690.5 mg to the daily diet of the farm household.

In addition to nutritional benefits, poultry farming also supported farm activities using manure. The quantity of poultry manure utilized per year was also very little and noted to be 41.56 kg in Dimoria and 54.42 kg in Chandrapur, with a pooled average of 47.96 kg. This may be due to lack of awareness about use of poultry manure in agricultural activities or due to mono cropping system where only paddy is cultivated where the use of manure is less or they use chemical fertilizers. Poultry manure was used by the respondents who cultivate vegetables along with paddy for own consumption or sale of surplus amount for which the finding may be very less. Biradar *et al.* (2013) [5] reported the use of 89.33 kg nitrogen, 44.69 kg phosphorous and 178.76 kg potash were obtained from the manure of livestock annually to the fields of each farm household.

Employment generation through poultry means engagement of family or hired labour in different farming activities. Table 1 revealed that 30.25-man days, 21.27-man days and

25.76-man days in Dimoria, Chandrapur and pooled data. Biradar *et al.* (2013) [5] reported that Livestock also generated employment the farmers which reported to be 140.79 man- days for adult women and 95.35-man days for adult men.

Furthermore, use of poultry farming served as a source of security during uncertain situations, as reported by 56.67 per cent of respondents in Dimoria and 60.00 per cent in Chandrapur, with a pooled proportion of 58.33 per cent. However, poultry was not perceived as a status symbol by respondents in both the development blocks.

The present findings on the contribution of poultry to household income, nutrition, employment generation and security against uncertainties are similar to the findings of Islam *et al.* (2015) [8] and Dhakal (2019) [9]. However, the per capita availability and consumption of eggs and meat were lower than recommended levels, which is dissimilar to the findings of Saikiran *et al.* (2025) [12]. Further, the limited utilization of poultry manure for farm support in the present study differs from the findings of Nigussie *et al.* (2015) [11].

Table 1: Contribution from poultry towards livelihood of the farmers

Type of contribution	Unit	Dimoria	Chandrapur	Pooled
Income from poultry	Average income from poultry per year (Rs)	49940.63	36624.60	43282.62
	Per cent contribution to total income (%)	30.25	21.27	25.76
Nourishment to family	Egg/family/year (Nos.)	271	241	256
	Egg/individual/year (Nos.)	63	54	59
	Meat/family/year (Kg)	8.80	8.57	8.68
	Meat/individual/year (kg)	2.04	1.96	2.00
Protein from poultry	(gm)/ person/year	420.43	362.12	393.74
Fat from poultry	(gg)/person/year	300.90	259.29	281.80
Energy from poultry	(cal)/person/year	5987.48	5212.86	5607.62
Contribution from poultry manure to farm	Manure used/ year (Kg)	41.56	54.42	47.96
Employment generation in man days	Per year	260	321	291
	Man days	32.50(32days)	40.115(40days)	36.375(36days)
Security to uncertainties	Per cent	34(56.67)	36(60.00)	70(58.33)
Status symbol	Per cent	0(0.00)	0(0.00)	0(0.00)

Table 2 revealed that in both Dimoria and Chandrapur development blocks, poultry-related activities were mainly carried out by housewife and daughter. In Dimoria development block, poultry rearing was mainly carried by housewives and daughters (35.00%), followed by housewife alone (31.67%). A low proportion of respondents' family managed their family by the head of the family and housewife (25.00%) and 8.33 per cent of the respondent managed their poultry by daughter alone. A similar trend was noticed in Chandrapur block, where housewife and daughter together managed their poultry accounted for the highest share (35.00%), followed by heads of the family and housewife (31.67%). Participation by housewife alone was (25.00%) and by daughter was (8.33%). No involvement was reported from hired labour.

Pooled data from the table showed that the highest proportion of respondents in Dimoria (35.00%), Chandrapur (35.00%) and the pooled data (35.00%) managed poultry farming activities through the combined efforts of the housewife and daughter. The findings may be due to the habit of tribal communities where poultry and small animals are managed by the women as tradition. Feeding, cleaning and other management are commonly practiced by tribal women which might be the reason for the involvement of

house wife and daughter in poultry rearing activities.

This finding is in agreement with the observations of Chaturvedani *et al.* (2015) [6] and Achakzai *et al.* (2019) [4], who reported active involvement of women family members in poultry rearing activities. However, the present finding differs from studies where poultry activities were predominantly managed by hired labour or male members of the household.

Table 2: Person involved poultry farming activities

Category	Dimoria	Chandrapur	Pooled
Head of the family+ housewife	15(25.00)	19(31.67)	34(28.33)
House wife+daughter	21(35.00)	21(35.00)	42(35.00)
Housewife	19(31.67)	15(25.00)	34(28.34)
Daughter	5(8.33)	5(8.33)	10(8.33)
Hired labour	0(0.00)	0(0.00)	0(0.00)

Note: Figures in parentheses () indicate percentlevels

Conclusion: The present study clearly indicated that poultry farming is one of the most important livelihood components among the tribal farmers in the selected blocks of Kamrup (M) district of Assam. The study also revealed that Poultry farming has contributed to the household income and household nutrition. Moreover, poultry farming also helped

the tribal farmers of the districts in emergency situation as well as in the fertility of agricultural farm. The study also noted that poultry rearing create employment generation among the tribal respondents of the study district. Involvement of women in the poultry farming activities were mostly found as the tribal women are practicing livestock and poultry farming as their tradition.

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