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## A study on economics of poultry farmers and suggestions of poultry management practices in Dungarpur district of Rajasthan

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### Abstract

The current research was conducted on backyard poultry rearing system in tribal district Dungarpur, four tehsils of Dungarpur district *i.e.* Dungarpur, Bicchiwada, Aspur and Sagwara were selected for the study purpose three villages were selected from the each identified tehsil. 15 farmers from every village were randomly selected for a sample of 180 recipients. Average egg production was 680 per family. Average income by farming, animal husbandry and labour year<sup>-1</sup> was Rs. 138350.15 per respondent. Average 38.91 birds reared by each respondent and average 10.11 birds consumed and 28.81 birds sold by every respondent. The mean number of eggs produced per year per family was 680 and out of these 170 eggs was spent at homes while the 510 eggs was sold out cost. Benefits ratio per recipients was 1:1.95. Predators problems was the major constraints facilitating respondents.

**Keywords:** Dungarpur, economics, poultry farmers and suggestion

### Introduction

The livestock sector is one of the fastest growing parts of the agricultural economy. The growth and transformation of the sector offer opportunities for agricultural development, poverty reduction and food security gains. Livestock contribute 40 % of the global value of agricultural output and support the livelihoods and food safety of nearly a 1.3 billion people (Anonymous, 2019) <sup>[1]</sup>. Livestock plays a major role in Indian economy. The comparative share of poultry in the national economy has persisted below 1 per cent, but its share in the livestock sector is continuously rising. India ranks 3rd in egg production and 5<sup>th</sup> in meat production in the world. As per the recommendations of National Institute of Nutrition, we require 182 eggs and 11 kg of poultry meat per capita per year, but we have presently achieved only upto 79 eggs and 3.6 kg of poultry meat per capita per year (Anonymous, 2019-20) <sup>[1]</sup> which is lower than global average of 8.92 kg and 14.13 kg for egg and meat. The population has improved in rural part by 15.02 per cent, while town areas have noticed a decline in population by 25.60 per cent. The population of poultry under courtyard system is 317 million (20<sup>th</sup> census). This occurred even though the fact that rural courtyard poultry is a main part of the activity portfolio of the most of rural families. It contributes nearly 8.5% of the nationwide egg production and improves household food security and income. As per the 20<sup>th</sup> livestock census, there were 80.24 lacs poultry in Rajasthan, from which 30.33 lacs poultry were at backyard and remaining 49.91 lacs were at farm poultry. Dungarpur was at V<sup>th</sup> position in the number of backyard poultry with having 1.78 lacs population after Ajmer, Udaipur, Jhunjhunu and Banswara having I<sup>st</sup>, II<sup>nd</sup>, III<sup>rd</sup> and IV<sup>th</sup> rank, respectively. The poultry was 2.54 percent of the total livestock populace in country in 1951. Now it is reached to 86.36 % in year 2019. Backyard poultry serves as an inexpensive means for household's to generate highly nutritious food commodities at minimal cost (Pica-Ciamarra and Otte, 2010). Hence, the rural poultry farming has good potential in the state especially in the rural areas to improve the economic condition and overcoming protein deficiency.

### Materials and Methods

The existing study was carried out in tribal area of Dungarpur district of Rajasthan. Dungarpur district is situated in the south region of Rajasthan and geographically characterized by the Aravali hills. The district lies in the middle of 23.8°N latitude and 73.7°E longitude and altitude of 225 meter beyond average sea level. Dungarpur district comprises of total 8 tehsils, out of which 4 tehsils *i.e.*

Dungarpur, Bicchiwada, Aspur and Sagwara were selected for the investigation. Three villages were selected from the each identified tehsil and total twelve villages were selected on the basis of backyard poultry birds availability in the villages. Fifteen respondents from every village were randomly selected and a total number of 180 farmers were investigated for current research. Data were collected with the help of a semi structured interview schedule and through observation. Before the conduction of interview and collections of data from respondents, particular objectives and the determination of the study was explicitly explained to the farmers. The question in the tool were offered to them in their individual understanding and Hindi confirming that they got the queries properly so as to escape any interpretational disparity of the query by the farmers. The answerers obtained from respondents were documented and only single respondent was questioned at a time. Data so collected, tabulated and analyzed as per standard statistical procedures of Snedecor and Cochran (1994).

## Results and Discussion

### Economics of Poultry Farmers

Figures on an average income per year per respondent due to agriculture, animal husbandry and labor was ₹138350.15. Out of these, agriculture occupy average income respondent Rs. 60517.70. Further, earnings from the animal husbandry per year per respondent was Rs 30632.80 and earnings from labor contributed 43247.02 Rs. (Table 1). In present study

expenses on rearing of poultry fowl counting charge of chicks, feeding, house and equipment's were Rs. 9675. The income has been calculated by subtracting the charge spend on rearing from the worth of net income increase. Total income earned from eggs and fowls were Rs. 18867.83. Total benefit of respondent was Rs. 18867.83 and over-all charge was Rs. 9675.00 giving a B/C ratio of 1:1.95. Mean number of birds nurtured per recipients was 38.91, whereas the average number of eggs produced per year per family was 680. Out of these 170 (25.00%) eggs consumed by respondent family and 510 (75.00%) eggs were sold out (Table 2).

**Table 1:** Average income per year/ respondent (Rs)

Parameters	Particular	Number
Agriculture	Grain production(q)	25.42
	Fodder production(q)	36.92
	Income from grain sold	45748.30
	Income from fodder sold	14769.40
	Total income	60517.70
Animal	Animal sale	2.29
	Income from animal	11764.97
	Average income from sold egg	4465.05
	Average income from sold bird	14402.78
	Sum	18867.83
	Income from animals	30632.80
	Labour	43247.02
	Agriculture	60517.70
	Business	3952.64
	Overall income/family	138350.15

**Table 2:** Economics of backyard poultry rearer (Rs.)

S. No.	Parameters	Number
1.	Expenditure on	
I	Charge of chicks Rs	525
II	Charge of feeding Rs	4050
III	Charge of house and equipment Rs	5100
	<b>Total (Rs)</b>	<b>9675</b>
2.	Average number of produced eggs /year/family	680
3.	Average number of consumed eggs	170 (25.00%)
4.	Average number of sold eggs	510 (75.00%)
5.	Average number of birds reared/recipients no.	38.91
6.	Average number of consumed birds	10.11
7.	Average number of birds sold	28.81
8.	Average income from sold egg (Rs)	4465.05
9.	Average income from sold bird (Rs)	14402.78
	<b>Total</b>	<b>18867.83</b>
	BC ratio/recipients	
1.	Total benefits	18867.83
2.	Total charge	9675.00
3.	B/C ratio	1:1.95

The mean number of eggs consumed and sold per year were 110 and 570, respectively. However, Singh *et al.* (2003) <sup>[8]</sup> reported higher number of eggs consumed per week (9.45) as compared to the present study. The mean number of fowls disbursed and sold per year was 10.11 and 28.21, respectively. Benabdeljelil *et al.* (2005) described that consuming or selling the fowls were 0-20 birds. The mean income/year/ respondent owing to agriculture, animal husbandry and from labour was Rs 18867.83. These findings were contradictory by Singh and Jilani (2005) <sup>[9]</sup> who noticed the yearly income of farmers was less than Rs 10,000. The expenses on nurturing of poultry birds per recipients (including charge of chicks, feeding, house, equipment, etc.) was Rs9675. Total earnings produced from eggs and bird sold year<sup>-1</sup> was Rs18867.83. Similarly, Singh *et al.* (2003) <sup>[8]</sup>

noticed that economic return of recipients ranged from Rs 100-300 per month which was the similar findings of present investigation. The total benefit/charge ratio per family was 1:1.95. Shettar and Jadhav (1999) <sup>[10]</sup> discovered lower benefit/charge ratio (1:1.13) as related to the present research on rearing broilers. Reddy *et al.* (2017) <sup>[7]</sup> reported that the income generated from the eggs is Rs 360 and from meat Rs180, total of Rs 540. The net income generated from individual bird is Rs 475. Each female beneficiary generated about Rs 21, 375 from 45 birds. The average number of eggs laid/year/family was 680. Similarly, Ekunwe *et al.* (2010) <sup>[5]</sup> reported that backyard poultry production (layers) is a profitable venture in the Nigeria with net profit of N 271.95 (2.36) per bird.

### Constraints

In the area of investigation, it was exposed that there are nine major constraints faced by the poultry farmers. Predators problems was the major problems in the area. On the other hand, most of recipients (66.85 per cent) express non availability of balanced poultry feeds as the major constraints subsequently occurrence of infection (65.55 per cent). Most of recipients of study area placed constraints as developed breed availability, non availability of veterinary officer, lack of credit facility for poultry farm, lack of market facility for sale of poultry products and training facility for poultry farmers rank on 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> position (Table 3).

It was discovered that market for trade of poultry product was main problems in the study areas, as there is no trade facility in selected areas under investigation. These results are in agreement with the results of Bhattu *et al.* (1999) [3] and Benabdejelil *et al.* (2005). Instead of most (46.25%) of recipients showed availability of developed strain of bird as a main constraints in study area. The consequences of current research are in agreement with the reports of Sing and Jilani (2005) [9] and Mandal *et al.* (2006) [6]. Maximum recipients of research area placed problems as infection occurrence, predators, fitness service and feed accessibility on rank II, III, IV and V. Similarly Mandal *et al.* (2006) [6] reported high occurrence of disease and predators as key constraints. Though Conroy *et al.* (2005) [4] reported the predation as main as, or more important than infection. Thakre and Sarkar (2004) [11] perceived that lake of health care facility as one of

the main constraints. Further, Barua and Yoshimura (1997) [2] discovered that scarcity of feed and high occurrence of disease as key problems.

**Table 3:** Constraints faced by farmers

S. No.	Constraints Observed	MPS	Rank
(a)	Predators problems	68.90	1
(b)	Disease occurrence	65.55	3
(c)	Non availability of veterinary officer	60.30	5
(d)	Availability of balanced poultry feeds	66.85	2
(e)	Developed breed Availability	64.50	4
(f)	Lack of market availability for sale of poultry products	48.00	7
(g)	Lack of credit facility for poultry farm	52.20	6
(h)	Training facility for poultry farm	46.00	8

### Suggestions for Suitable Backyard Poultry Management to overcome Constraints

Some of the suggestions are: - 1) Timely availability of mineral mixture for birds. 2) Developed breeds of poultry should be provided at minimum charge. 3) Balance ration for poultry. 4) Training for poultry rearing farmers should also be provided. 5) Timely vaccination facility should be provided by the government and medicines. 6) Credit facility should be provided to the poultry farmers. 7) Market facility should also be therefore selling of poultry products. 8) Developed feederer and waterer should be easily available for poultry farmers.

**Table 4:** Suggestions of poultry management practices

S. No.	Suggestions	MPS
I	Timely availability of mineral mixture	83.89
II	Timely vaccination facility should be provided by the government	82.22
III	Developed breeds of poultry should be provided at low charge	82.96
IV	Market facility should also be therefore selling of poultry products	81.48
V	Credit facility should be provided to the poultry farmers	82.04
VI	Developed feederer and waterer should be made available for poultry farmers	79.81
VII	Training for poultry farmers should also be provided	82.41
VIII	Balance ration should be provided to poultry bird	82.59
	Overall	82.18

### Conclusion

The study concluded that yearly income noted through poultry keeping was ₹18868 in per household and over all yearly income verified was Rs 138350.15. The tribal families under rearing developed breed of fowls as backyard poultry experienced an economic upliftment along with mitigation of nutritious grade due to maximum production and maximum mass attained by males of developed strain as related to those keeping native birds. Some constraints faced by the poultry farmers i.e. improved breed availability, non availability of veterinary officer, lack of credit facility for poultry shed, lack of market facility for sale of poultry products and training facility. Predators problems was the major problems in tribale area of Dungarpur.

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