



# Knowledge Level of Farmers about Poultry Farming in Southern Region of Rajasthan

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## ABSTRACT

The study was carried out to know the awareness level of poultry growers about different aspects of managerial practices of poultry farming in southern region of Rajasthan. For this study total 240 poultry farming was randomly selected out of 16 villages in 08 tehsils of 04 districts of Non-tribal and Tribal area. It was observed that 60.84% of Non-TSP area and 58.33% of TSP area respondents possessed medium level of knowledge, whereas, 12.50 and 35.83% respondents of Non -TSP and TSP area, respectively had low level of knowledge and 26.66% of Non-TSP area and 5.83% TSP area farmers were found to have higher level of poultry farming knowledge. The results indicated that there was significantly variation in knowledge between Non-TSP and TSP area respondents about poultry farming.

**Key Words:** Poultry, Respondents, Knowledge, Non-TSP and TSP area.

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## INTRODUCTION

In India among all agriculture sectors only poultry sector is the fastest growing with having more than 8% annual growth rates (Erdaw and Beyene, 2022). In the globe, India has the third and seventh position in egg production as well as chicken meat (Pandey *et al*, 2022). According to last two years statistical data, India has 851.81 million poultry population (BAHS, 2021-22). The percent growth rate in poultry population is 16.8% than previous year (Anonymous, 2012). In India annually about 74 billion eggs are produced by 260 million layers birds and about 3.8 million tons of chicken meat is harvested by 3000 million broilers birds (Kanakachari *et al*, 2022). Total egg production in the country has increased by 10.19% as compared to 2018. In India, top five egg producing states are Andhra Pradesh (19.1%), Tamil Nadu (18.2%), Telangana (13.2%), West Bengal (8.3%) and Haryana (5.3%). The total meat production from poultry is 4.34 million tons in 2019-20, contributing about 50.50% of total meat production according to 20<sup>th</sup> livestock census.

In India poultry sector to be an ideal model of food security for particularly among the landless labourers, small and marginal farmers, and women in rural areas as an improving the socio-economic conditions of rural masses by augmenting family income and generating gainful employment (Singh and Sonwani, 2021). Consumers are now becoming more self-aware of the safety and high-quality of the food items they consume on a daily basis (Ambali and Bakar, 2014). Additionally, when the Purchasing Power (PP) of the average person is continuously increase, they are interested in consuming safer food products without caring to pay more. Consequently, it is imperative to provide safer poultry products free of microbiological and chemical residues (Biradar *et al*, 2011).

In livestock farming for meat production, especially for full fill the meat supply in the short production cycle, chicken meat is most preferred. However, in livestock farming when compare to other livestock meat production the poultry meat production has the lowest cost of production (Heller, 2006). There are eight districts in all that have had

all or part of their region declared as Schedule V areas. Completely Tribal District such as Pratapgarh, Dungarpur, and Banswara. Udaipur, Rajsamand, Chittorgarh, Sirohi, Pali are areas that are partially tribal. Tribal Sub Plans Area (TSP): These are the villages in Rajasthan where the majority of the tribe's inhabitants, which include different type of cast as Bhils, Minas, Gadiya Lohars, Garasiyas, Shaharayas and Damors, constitute over 50% of the population. Rajasthan's 5697 villages have been declared as TSP zones by the Indian government. The Indian and Rajasthan governments have launched multiple initiatives pertaining to small-scale industry growth and skill enhancement and the tribal population residing in the TSP region has been granted additional reservation rights. Rest is Non-Tribal Sub Plan Area (Non-TSP). (Rana and Devi, 2017).

There are a number of densely situated marginal, small as well as large farmers, registered as well as unregistered poultry farms in the various pockets of this region. This region has witnessed a revolutionary history of poultry growth for decades. In this region, ICAR funded project on Development of production and protection technologies for poultry farming has also been implemented for poultry farming. The selected respondents were on the basis of benefited through ICAR funded project in the study area.

## **DATA COLLECTION AND ANALYSIS**

The knowledge of respondents was measured by asking various questions related to poultry farming. A set of 53 questions was prepared. The responses of respondents were collected in yes and no. The numerical scores assigned for each was 1 and 0. Thereafter, the scores of each individual were calculated and categorized into three categories viz. low (less than 15.24 score), medium (15.24 to 28.34 score) and high (More than 28.34 score) based on mean and standard deviation of total score of all respondents. To find out the extent of knowledge of respondents about each item, frequency and percentage of respondents in each category i.e., low,

medium and high was calculated accordingly. To know the various characteristics of poultry growers a scale developed by Trivedi (1963) was used with some modifications.

## **MATERIALS AND METHODS**

The present survey was conducted to assess the knowledge level of poultry farmers in Southern Rajasthan, which consists of seven districts (Dungarpur, Udaipur, Rajsamand, Pratapgarh, Banswara, Bhilwara and Chittorgarh). During the survey out of these seven districts, on the basis of maximum population of poultry and scope of poultry farming only two tribal districts (Udaipur and Dungarpur) and two Non-tribal districts (Bhilwara and Chittorgarh) were selected.

### **Selection of Villages**

For this purpose, a comprehensive list of poultry farmers was collected with the help of personnel of department of Animal Husbandry, patwari and agriculture supervisors from each identified tehsil. In the next step from the prepared list of farmers on the basis of maximum number of poultry farmers only two villages were selected from each selected tehsil and total sixteen villages were selected for this present investigation.

### **Selection of Respondent**

A total 15 poultry farmers randomly choose from each selected village, which having at least 15-20 poultry birds. During this survey a total 240 poultry farmers samples were used. The data were compiled, tabulated and analysed as per Snedecor and Cochran (1994).

## **RESULTS AND DISCUSSION**

### **Knowledge level about chick procurement**

Majority of the respondents from both Non-TSP and TSP area had knowledge "Name of improved breeds of poultry" statement and accorded 1<sup>st</sup> rank. In Non-TSP and TSP area respondents had knowledge about "What is layer" accorded 2<sup>nd</sup> rank. Respondents had least knowledge on "Name

## Knowledge Level of Farmers about Poultry Farming in Southern Region of Rajasthan

**Table 1 Knowledge level of farmers about chick procurement.**

N=240

Sr. No.	Chick procurement	NON-TSP (n <sub>1</sub> =120)		TSP (n <sub>2</sub> =120)	
		MPS	Rank	MPS	Rank
1.	Name of improved breeds of poultry	63.33	I	50.83	I
2.	What is layer	52.50	II	47.50	II
3.	From where the chicks should be purchased for poultry farming	44.16	IV	35.83	III
4.	Name of breed of poultry suitable for or poultry farming	42.50	V	34.16	IV
5.	What is broiler	50.00	III	30.83	V

MPS= Mean Per Cent Score, n=Total no. of respondents

of breed of poultry suitable for poultry farming” in non-TSP area accorded 5<sup>th</sup> rank. Whereas, the respondents from TSP area had least knowledge about “What is broiler” statement and accorded 5<sup>th</sup> rank.

Similar findings were reported by Jagalur *et al* (2022) who revealed that, 100 per cent of the backyard poultry farmers had knowledge about different breeds of desi and improved birds. Knowledge about chick procurement management practices might be attributed by their individual

education, experience in poultry farming, mass media utilization and social participation. Similar findings were also reported by Slathia *et al* (2013) and Bunkar *et al* (2021).

### Knowledge level about brooding and breeding practices

It was observed that majority of the respondents from Non-TSP and TSP area had knowledge on “Do you know that there should be provision of nests for brooding hen” statement accorded 1<sup>st</sup> rank, while, knowledge about “How you will test

**Table 2. Knowledge level of farmers about brooding and breeding practices.**

N=240

Sr. No.	Brooding and breeding practices	NON-TSP (n <sub>1</sub> =120)		TSP (n <sub>2</sub> =120)	
		MPS	Rank	MPS	Rank
1.	Do you know that there should be provision of nests for brooding hen	75.00	I	69.16	I
2.	How you will test the eggs suitable for hatching	68.33	II	55.00	II
3.	How many eggs should be placed under a broody hen	61.66	III	43.33	III
4.	For how many days chicks be kept under brooder/broody hen	42.50	VII	34.16	IV
5.	How many chicks can be brooded by one broody hen	59.16	IV	32.50	V
6.	Do you know about different types of brooders	50.83	V	30.83	VI
7.	Do you know about chick guard	44.16	VI	27.50	VII

MPS= Mean Per Cent Score, n= Total no. of respondents

**Table 3 Knowledge level of farmers about housing management practices.**

n=240

Sr. No.	Housing management practice	NON-TSP (n <sub>1</sub> =120)		TSP (n <sub>2</sub> =120)	
		MPS	Rank	MPS	Rank
1.	Which system of housing is required for poultry production	67.50	IV	39.16	V
2.	What should be the height of poultry shed	36.66	VIII	26.66	VIII
3.	Is it essential to provide open area for sand bathing to express natural behavior to birds in poultry	32.50	X	30.00	VI
4.	What happens when litter became wet beyond limit	58.33	V	40.00	IV
5.	What is to be done when litter becomes wet and forms hard crust	79.16	I	59.16	II
6.	After how many days litter should be replaced in viable poultry unit	73.33	II	64.16	I
7.	How much indoor floor space per adult birds is required as per poultry regulations	37.50	VII	24.16	IX
8.	How much outdoor floor space per adult birds is required as per poultry regulations	35.00	IX	23.33	X
9.	What is optimum day light required for layer birds in a day as per poultry regulations	42.50	VI	28.33	VII
10.	How will you maintain optimum temperature inside the poultry house during summer	69.16	III	45.83	III

MPS= Mean Per Cent Score, n= Total no. of respondents

the eggs suitable for hatching” of respondents from both Non-TSP and TSP area possess ranked second. Respondents from Non-TSP area had least knowledge about “For how many days chicks be kept under brooder/broody hen” accorded 7<sup>th</sup> rank. Whereas, the respondents from TSP area had least knowledge about on statement “chick guard” accorded 7<sup>th</sup> rank.

These findings were in accordance with results of Jagalur *et al* (2022) who concluded that, all the backyard poultry owners in study area had knowledge on provision of laying box with dry bedding (47.50%) followed by storage of eggs at uniform cool temperature (28.33%) and least knowledge on provision for chick guards (20.83%). The probable reason might be due to low experience and scientific orientation. Similar findings were also reported by Slathia *et al* (2013), Sihag *et al* (2021a) and Bunkar *et al* (2021).

### Knowledge level about housing management practices

Majority of the respondents in Non-TSP area had highest knowledge on “What is to be done when litter become wet and forms hard crust” statement accorded 1<sup>st</sup> rank. Whereas, in TSP area highest knowledge of poultry farmers was reported for “After how many days litter should be replaced in viable poultry unit” accorded 1<sup>st</sup> rank. The extent of knowledge possessed by respondents in Non-TSP area on “After how many days litter should be replaced in viable poultry unit” ranked second. Whereas, the respondents from TSP area had knowledge on “What is to be done when litter become wet and forms hard crust” accorded 2<sup>nd</sup> rank. The respondents from Non-TSP and TSP area had knowledge on “How will you maintain optimum temperature inside the poultry house during summer”, respectively accorded 3<sup>rd</sup> rank.

## Knowledge Level of Farmers about Poultry Farming in Southern Region of Rajasthan

**Table 4. Knowledge level of farmers about equipment and spacing.**

N=240

Sr. No.	Equipment and spacing	NON-TSP (n <sub>1</sub> =120)		TSP (n <sub>2</sub> =120)	
		MPS	Rank	MPS	Rank
1.	How many waterers should be used for 25 birds	68.33	II	46.66	I
2.	How many feeders should be used for 25 birds	70.00	I	39.16	II
3.	Do you know about egg incubator	60.83	IV	38.33	III
4.	Do you know about candling equipment to assess the fertile of egg for hatching purpose	63.33	III	37.50	IV
5.	Should debeaking be done in poultry birds in poultry farming	31.66	V	18.33	V

MPS= Mean Per Cent Score, n= Total no. of respondents

Respondents in Non-TSP area had least knowledge on statement “Is it essential to provide open area for sand bathing to express natural behavior to birds in poultry” accorded 10<sup>th</sup> rank, whereas, the respondents from TSP area had least knowledge on statement “How much outdoor floor space per adult birds is required as per poultry regulations” possess accorded 10<sup>th</sup> rank.

These findings were in line with the findings of Sihag *et al* (2021a) who revealed that, majority of beneficiaries 93.78% had knowledge on provision of litter material in poultry shed, 93.75% had knowledge about shelter for poultry birds, whereas, 81.30% respondents had knowledge on ventilation in poultry house and 79.16 per cent had knowledge on floor space requirement for poultry birds. Similar findings were also reported by Bharti *et al* (2021).

### Knowledge level about equipment and spacing

The present results revealed that respondents of Non-TSP area had highest knowledge about “How many feeders should be used for 25 birds” accorded 1<sup>st</sup> rank, whereas, the respondents from TSP area had highest knowledge on “How many waterers should be used for 25 birds” accorded 1<sup>st</sup> rank. The extent of knowledge possessed by respondents in Non-TSP area on statement “How many waterers should be used for 25 birds” ranked 2<sup>nd</sup> rank, whereas, the respondents from TSP area

had knowledge on “How many feeders should be used for 25 birds” accorded 2<sup>nd</sup> rank. Respondents had least knowledge on “Should debeaking be done in poultry birds in poultry farming” in Non-TSP and TSP area possess 5<sup>th</sup> rank.

These findings were line with the reports of Bunkar *et al* (2021) who found highest knowledge of poultry owners on the feeding space provided to chick (80.80 MPS) and ranked first followed by spacing required per layer (73.61 MPS) and required water space to the birds at different age with 71.03 MPS. Similar results were also reported by Patel *et al* (2022).

## CONCLUSION

It was concluded that inferred the poultry farmers should be educated about emerging production techniques and to support them by giving the appropriate training and orientation courses through the concerned department of animal husbandry and other non-government organization (NGO) about farming especially for unemployed youngsters in study area. Despite having a better understanding of different management practices of poultry farming and their work, which shows the need for regular supervision and give economic assistant rearing for poultry farming in Non-Tribal and Tribal area of southern region of Rajasthan.

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