# A STUDY ON SOCIO ECONOMIC ASPECTS AND CONSTRAINTS FACED BY LAYER BIRD FARM OWNER IN SAMASTIPUR DISTRICT OF BIHAR, India

**ABSTRACT**

Layer bird farm owners in Bihar played a significant role in the development of the state's poultry sector by adopting scientific management practices to enhance egg production and operating farms with notable efficiency. The majority of these farms were small to medium in scale and faced several challenges, including high feed costs and inadequate access to veterinary services. Despite such constraints, farm owners made considerable contributions to rural livelihoods and the local egg supply. The present study, titled “A Study on Socio- Economic Aspects and Constraints Faced by Layer Bird Farm Owners in Samastipur District of Bihar”, was conducted in Tajpur block, which was purposively selected for its high potential in layer bird rearing. A random sample comprising five percent of villages and ten percent of respondents from those villages was selected. The study revealed that most farm owners were young, male, and lived in nuclear families, with 61% having attained a basic level of education. A significant portion earned less than ₹1 lakh annually. The major marketing constraints identified were high price fluctuations, seasonal demand, perishability of eggs, high marketing costs, and lack of grading facilities at the farm level, with price fluctuation ranked as the most critical challenge based on the highest Garrett Mean Score.

**Keyword:** Layer farming, Socio-economic profile, Marketing constraints, Price fluctuation

# INTRODUCTION

Layer birds, primarily hens selectively bred for high-efficiency egg production, played a vital role in the poultry industry. Raised under scientifically managed conditions, these birds were optimized for productivity and egg quality, typically beginning egg production at 18 to 20

weeks of age and continuing for up to 72 weeks or longer. Farm owners who raised layer birds typically operated small- to medium-sized farms, employing scientific management practices to maximize egg production. Despite facing challenges such as high feed costs, price fluctuations, and limited veterinary services, they significantly contributed to the local egg supply. The eggs produced by layer birds served as a primary source of protein and were highly sought after in global markets due to their consistent quality, size, and nutritional value. The quality of eggs depended on various factors, including the birds' age, diet, health, and management practices. While egg production naturally declined as the birds aged, effective management could sustain productivity throughout the laying cycle. These eggs were widely consumed, serving as a staple food in many households and providing significant economic value, especially in regions where egg production was a major industry. However, the industry faced several challenges, such as the perishability of eggs, high marketing costs, and price fluctuations, which impacted profitability. These constraints underscored the complexities of egg production and marketing, highlighting the need for continuous improvement in farm management and the broader poultry sector to ensure sustained productivity and profitability.

# RESEARCH METHODOLOGY

The methodology adopted for the present study was a combination of purposive and random sampling techniques. The district of Samastipur in Bihar was purposively selected to minimize logistical challenges and time constraints for the investigator. Among the blocks within the district, Tajpur block was selected based on the predominance of respondents engaged in layer bird rearing. A comprehensive list of villages in the selected block was prepared, and five percent of villages with a high concentration of layer bird rearers were randomly selected. From these villages, a list of respondents engaged in egg production was compiled and categorized into three groups based on their flock size: Small (less than 200 eggs), Medium (200–500 eggs), and Large (more than 500 eggs). A total of 100 respondents were randomly selected using proportionate random sampling across these categories. In addition, 10 wholesalers, 5 retailers, 5 poultry farm owners, and 5 consumers were selected to examine marketing costs, margins, price spread, and marketing efficiency. Primary data were collected using a well-structured and pre-tested schedule through direct personal interviews. Secondary data were sourced from relevant books, journals, official reports, and records from district and block headquarters. The data pertained to the agricultural year 2024–2025 and were analyzed using appropriate statistical tools.

# Analytical Tools

1. **Chi-Square:** 𝜒2 = ∑(𝑂𝑖 – 𝐸𝑖)2 /𝐸𝑖
2. **Garrett Ranking**: 100 (Rij-0.5) /Nj

# RESULTS AND DISCUSSION

**Table 1:** Distribution of farmer according to farm size

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Categories** | **Respondent** | |
| **Number** | **Percentage (%)** |
| **1.** | **Small (Less than 200 eggs)** | 59 | 59.00 |
| **2.** | **Medium (200-500 eggs)** | 32 | 32.00 |
| **3.** | **Large (more than 500 eggs)** | 09 | 09.00 |
| **Total** | | **100** | **100.00** |

**Table 1:** Indicates that most of the participants were part of the small farm size category. This particular group makes up 59.00 percent of the entire sample by itself. 32.00 percent of the respondents were categorized in the medium farm size group, while 09.00 percent were classified in the large farm size group.

**Table 2:** Distribution of respondents based on their age.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.**  **No.** | **Categories** | **Respondent Number** | **Respondents** | | | |
| **Small** | **Medium** | **Large** | **Percentage (%)** |
| **1.** | **Young age group (20-35 years)** | 59 | 36 | 19 | 4 | 59.00 |
| **2.** | **Middle age group (36-50 years)** | 33 | 19 | 11 | 3 | 33.00 |
| **3.** | **Old age group**  **(Above 50 years)** | 8 | 4 | 2 | 2 | 08.00 |
|  | **Total** | **100** | **59** | **32** | **9** | **100.00** |
| **Chi Square** | | **20.37** | | | | |

**Table 2:** Shows that most participants were in the 20-35 age bracket. This specific group makes up 59.00 percent of the entire sample. 33.00 percent of the survey participants were in the 36- 50 age bracket, while 08.00 percent were above 50 years old.

**Table 3:** Distribution of respondents based on their Education

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Categories** | **Respondents Number** | **Respondents** | | | |
| **Small** | **Medium** | **Large** | **Percentage**  **(%)** |
| **1** | **Primary School** | 18 | 14 | 4 | 0 | 18.00 |
| **2** | **Junior High School** | 14 | 11 | 3 | 0 | 14.00 |
| **3** | **High School** | 13 | 7 | 5 | 1 | 13.00 |
| **4** | **Intermediate** | 10 | 5 | 4 | 1 | 10.00 |
| **5** | **Graduate** | 5 | 0 | 2 | 3 | 05.00 |
| **A** | **Total Literate** | 61 | 38 | 18 | 5 | 61.00 |
| **B** | **Illiterate** | 39 | 21 | 14 | 4 | 39.00 |
| **Total** | | **100** | **59** | **32** | **9** | **100.00** |
| **Chi Square** | | **32.56** | | | | |

**Table 3:** Demonstrates that among the 100 participants, 39.00% were illiterate, 18.00% had completed Primary School, 14.00% had finished junior high school, 13.00% had graduated high school, 10.00% had completed Intermediate level, and 05.00% had graduated.

**Table 4:** Distribution of respondents according to their gender.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Category** | **Respondents number** | **Respondents** | | | |
| **Small** | **Medium** | **Large** | **Percentage (%)** |
| **1** | **Male** | 84 | 50 | 28 | 6 | 84.00 |
| **2** | **Female** | 16 | 9 | 4 | 3 | 16.00 |
| **Total** | | **100** | **59** | **32** | **9** | **100.00** |
| **Chi Square** | | | **3.54** | | | |

**Table 4:** Shows that most participants were Male. This particular group makes up 84.00 percent of the entire sample. A significant portion of participants, specifically 16.00 percent, were classified as female.

**Table 5:** Distribution of respondents according to their Family type.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Category** | **Respondents**  **Number** | **Respondents** | | | |
| **Small** | **Medium** | **Large** | **Percentage (%)** |
| **1** | **Nuclear** | 85 | 53 | 27 | 5 | 85.00 |
| **2** | **Joint** | 15 | 6 | 5 | 4 | 15.00 |
| **Total** | | **100** | **59** | **32** | **9** | **100.00** |
| **Chi Square** | | | **5.53** | | | |

**Table 5:** Shows that most participants resided in a nuclear family. This single group makes up

85.00 percent of the entire sample. 15.00 percent of the respondents resided in a joint family, a significant number.

**Table 6:** Distribution of respondents according to their Annual Income.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Annual Income Level Wise Distribution of the Sample Respondents (Rupee/Year)** | | | | | | |
| **Sr.**  **No.** | **Income in**  **Rupee/Year** | **Respondent Number** | **Small** | **Medium** | **Large** | **Percentage (%)** |
| 1 | <1,00,000 Rupee | 51 | 37 | 14 | 0 | 51.00 |
| 2 | 1,00,001-2,50,000  Rupee | 23 | 13 | 9 | 1 | 23.00 |
| 3 | 2,50,001-5,00,000  Rupee | 19 | 9 | 7 | 3 | 19.00 |
| 4 | >5,00,001Rupee | 07 | 0 | 2 | 5 | 07.00 |
| **Total** | | **100** | **59** | **32** | **9** | **100.00** |
| **Chi Square** | | **20.87** | | | | |

**Table 6**: Demonstrates that among 100 participants, 51.00 percent had an average annual income less than 1 lakh, 23.00 percent had an income between 1 lakh and 2.5 lakh, 19.00 percent had an income between 2.5 lakh and 5 lakh, and 07.00 percent had an income over 5 lakh.

**Table 7:** Constraints faced by producer in marketing of eggs.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No** | **Particulars** | **Garrett Mean**  **Score** | **Rank** |
| 1. | High price fluctuation | 56.53 | I |
| 2. | Exploitation by middlemen | 55.24 | II |
| 3. | Seasonal nature of consumption | 48.38 | III |
| 4. | Perishability or less shelf-life of the  product | 39.83 | IV |

**Table 7:** The table depicted that the main constraint faced by producer in marketing of eggs was high price fluctuation, with a Garrett mean score of 56.53 ranked -I. The exploitation by intermediaries (55.24) got the second rank, followed by the Seasonal nature of consumption (48.38) ranked -III and lastly perishability or less shelf-life of eggs with (39.83) garret mean score ranked IV respectively.

**Table 8:** Constraints faced by intermediaries in marketing of eggs.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl.**  **No.** | **Particulars** | **Garrett Mean**  **Score** | **Rank** |
| 1. | High price fluctuation | 62.16 | I |
| 2. | Seasonal nature of consumption | 60 | II |
| 3. | Perishability or less shelf-life of the  product | 50.5 | III |
| 4. | High cost of marketing | 41.5 | IV |
| 5. | Lack of grading at farm level | 35.83 | V |

**Table 8:** The table revealed that the main constraint faced by middlemen was high price fluctuation in the marketing of eggs having a Garrett Mean Score of 62.16 ranked I, followed by Seasonal nature of consumption having a Garrett Mean score of 60 ranked II, followed by Perishability or less shelf-life of the product having a Garrett Mean score of 50.50 ranked III, followed by High cost of marketing having a Garrett Mean score of 41.5 ranked IV and lastly Lack of grading at farm level having Garrett Mean score of 35.83 ranked V respectively.

# CONCLUSION

In conclusion, the study on the socio-economic aspects and constraints faced by layer bird farm owners in Samastipur district of Bihar highlighted several key findings. The majority of farm owners operated small-scale farms, with most participants being young, male, and from nuclear families. Educationally, a substantial proportion of farm owners had limited formal education, with many being illiterate or having completed only primary education. Economically, the farm owners faced financial constraints, as a significant number earned less than ₹1 lakh annually. The primary challenges in egg marketing included high price fluctuations, exploitation by intermediaries, seasonal demand, and the perishability of eggs. These factors, combined with high marketing costs and the lack of grading at the farm level, further hindered profitability. Overall, the study underscores the need for targeted interventions to improve the economic conditions of farm owners, enhance education and training opportunities, and address the marketing challenges in the layer poultry sector in Samastipur.

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