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A study on knowledge level of the poultry farmers and its correlation with socio-personal factors in Bihar

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Abstract
Assessment of knowledge level of the poultry farmers is very important characteristic of the farmers to develop a comprehensive strategy for better technology adoption. Present study was conducted in East Champaran, West Champaran and Muzaffarpur district of the Bihar. For the study 436 poultry farmers were selected as respondents with condition that they must have more than three year poultry farming experience. Data was recorded for the assessment of the knowledge level of the respondents through a knowledge test was developed on improved poultry farming. The data thus collected were coded for the precise conclusion with the objective to study the knowledge level of the poultry famers and their determinants in the study area. It was slight less than half of the respondents (48.60%) were found having medium level of knowledge in recommended backyard poultry farming practices followed by 43.20 percent and 08.20 percent of the respondents having low and high level of knowledge about recommended backyard poultry farming practices, respectively. It was also found that knowledge had positive correlation with age, land holding, experience in Poultry farming, and flock size at 5% level and with education status at 1% level.

Keywords: Low cost technology, knowledge level, poultry farming, correlation analysis, resource constraint farmers

1. Introduction
Poultry farming become popular among the agricultural farmers for securing their livelihood day by day in India. The total Poultry in the country is 851.81 million in 2019, increased by 16.8% over previous Census. The total Backyard Poultry in the country is 317.07 million in 2019, increased by 45.8% over previous Census (GoI, 2019) [2]. Total egg production of India is around 88139 million in which backyard poultry contributed is 21 percent of total egg production. The total meat production is estimated to be about 7.4 million tones and poultry contributed 47.32 percent of total meat production (BAHS, 2022) [1]. It is considered as one of the promising subsidiary enterprise for landless and poor farmers. Poultry farming is a traditional practice of for livelihood security in India and is being practiced by majority of the poor and marginalized rural households all over the country. These resource poor farmers rearing low input based native and indigenous breed has significant impact on their livelihood (Singh *et al.*, 2016). This can be characterized with low input and higher economic return enterprise and can easily be managed by women, children and even old aged persons of the households hence it has been considered a family backyard enterprise. It is characterized by indigenous night shelter, scavenging system, with little supplementary feeding, natural hatching of chicks, poor productivity of birds, local marketing and no health care practice (Saha, 2003) [8]. Production level of this low cost enterprise may vary in different agro climatic zones due poor knowledge level of the farmers but better opportunity available of marketing of the product in their local area, farmers can get better earning (Singh *et al.,* 2019 and Rajak *et al.,* 2022) [11, 7]. Farmers have better perception about rearing of improved low cost rearing of local breed for their livelihood security (Singh *et al.,* 2018) [9] so, poultry rearing has well acceptance among the farmers. Poultry meat and eggs have fetching higher price and considered as the best and cheapest sources for meeting out the per capita requirement of protein and energy for rural areas of India. Farmers are struggling to improve their poultry productivity and sustainability due to many reasons under the present production systems and they are struggling for effective and efficient poultry production. Poultry farmers need to be equipped with the need based knowledge about improved poultry farming practices. Hence, the present study was undertaken to understand the present knowledge level of the poultry famers and their determinants in the study area.

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2. Materials and Methods
Present study was conducted in East Champaran, West Champaran and Muzaffarpur district of the Bihar. For the study 436 poultry farmers were selected as respondents with condition that they must have more than three year poultry farming experience. Data was recorded for the assessment of the knowledge level of the respondents through a knowledge test was developed on improved poultry farming. The data thus collected were coded for the precise conclusion with the objective to study the knowledge level of the poultry famers and their determinants in the study area.

3. Results and Discussion
3.1 Socioeconomic profile of the respondents:
Socioeconomic profiles are important factors playing crucial role in the happening of any social phenomena. For the study age, education status of the respondents, family size, land holding annual income and experience in poultry farming and flock size were considered.

Table 1: Distribution of the respondents according to Socioeconomic profile (N=436)

S. No.	Variable	No. of respondents (f)	Percentage (%)
1	Age		
	Young (< 32 year)	99	22.71
	Middle (32 to 47 year)	122	27.98
	Old age (> 47 year)	215	49.31
2	Education		
	Illiterate	27	6.19
	Primary education	41	9.40
	Middle education	69	15.83
	High school	189	43.35
	Intermediate & above	110	25.23
3	Family size		
	Small (< 4)	86	19.72
	Medium (4 to 6)	247	56.65
	Large (> 6)	103	23.62
4	Land holding		
	Landless	137	31.42
	Marginal	219	50.23
	Small	80	18.35
5	Annual income (Rs.)		
	Low (< 1Lakh)	197	45.18
	Medium (1-2 lakh)	142	32.57
	Large (>2 Lakh)	97	22.25
6	Experience in Poultry farming		
	Low (< 3 year)	133	30.50
	Medium (3-5 year)	234	53.67
	High (> 5 year)	69	15.83
7	Flock size		
	Small (<15 birds)	115	26.38
	Medium (15-22 birds)	213	48.85
	Large (>22 birds)	108	24.77

a. Age of the respondents
Age of the respondents is one of the important factors influencing the knowledge level of the respondents. Table 1.0 revealed that about half of the respondents (49.31%) were found in old age categories followed by about one fourth of the respondents i.e. 27.98 percent and 22.71 percent of the respondents were found in middle age group and young age group, respectively. The average age of the respondents was 43.22±27 years.

b. Education status of the respondents
Education status implies that it increase the probability of acceptability of any technology among the farmers. A glimpse from the Table 1.0 shown that majority of the respondents (68.58%) were educated above high school level followed by 15.83 percent of the respondents were educated up to middle school level and rest of the respondents (15.59%) were found educated below up to primary level.

c. Family size of the respondents
Family size of the respondents is presented in table 1.0 depicts that majority of the respondents (56.65%) were found in medium family size level having 4 to 6 family members followed by 23.62 percent and 19.72 percent of the respondents in large family size (more than 6) and small family size (less than 4), respectively.

d. Land holding pattern of the respondents
From the information presented about land holding pattern of the respondents in table 1.0 it can be comprehend that about half of the respondents (50.23%) were found in marginal land holding category followed by 31.42 percent and 18.35 percent of the respondents in landless and small landholding categories, respectively. These findings are similar with the findings of Kumari (2009) [5] and Rajak et al. (2022) [7].

e. Annual income of the respondents
Annual income of any farmer is very important indicator depicting the capacity of any farmers. It was found that maximum no. of farmers (45.18%) were found in low annual income category (less than 1 lakh) followed by 32.57 and 22.25 percents of the respondents found in medium and high annual income category, respectively.

f. Experience of the respondents in poultry farming
Experience of the respondents in poultry farming was measured in term of year. It was found that majority of the respondents (53.67%) were having medium level of poultry farming experience followed by 30.50 percent and 15.83 percent of respondents were found in low (less than 3 years) and high (more than 5 years) of poultry farming experiences, respectively. These findings are in agreement with the findings of Pathak et al. (2013) [6] and Kavithaa et al. (2020) [4].

g. Flock size reared with the respondents
Flock size of the respondents was measured as no. of poultry birds rearing by the respondents at the time of data collection. It may be determined from the data presented in table 1.0 that about half of the respondents (48.85%) were found in medium flock size category (15 to 22 birds) followed by 26.38 percent and 24.77 percent of the respondents were having small (less than 15 birds) and large (more than 22 birds) flock size, respectively.

3.2 Knowledge level of Backyard poultry farmers

Table 2: Distribution of respondents according to their knowledge in recommended poultry farming practices (N=436)

Category	No. of Respondents (f)	Percentage (%)
Low (< 0.33)	216	43.20
Medium (0.33 to 0.66)	243	48.60
High (> 0.66)	41	08.20

The assessment of knowledge level of backyard poultry farmers is very essential to identify appropriate technological interventions and approaches to be implemented by outreach extension organizations for augmenting the backyard poultry production. Knowledge is an important component, which significantly influences the adoption of new technology. Knowledge level of the respondents in recommended backyard poultry farming practices were assessed through knowledge test developed for the purpose. After obtaining the knowledge score a knowledge index was prepared and respondents were categorized in low medium and high knowledge level as per their index value. Table 2 reveals that slight less than half of the respondents (48.60%) were found having medium level of knowledge in recommended backyard poultry farming practices followed by 43.20 percent and 08.20 percent of the respondents having low and high level of knowledge about recommended backyard poultry farming practices, respectively. The findings concurred with those of Kanwat et al. (2012) [3] and Kavithaa et al. (2020) [4].

3.3 Factors affecting knowledge level of the respondents about recommended poultry farming practices

Table 3: Relationship between the characteristics of the respondents and their knowledge about Backyard Poultry farming practices

S. No.	Explanatory Variable	Correlation coefficient "r"
1.	Age (X1)	0.064*
2.	Education Status (X2)	0.142**
3.	Family size (X3)	0.274
4.	Land holding (X4)	0.166*
5.	Annual income (Rs.) (X5)	0.095
6.	Experience in Poultry farming (X6)	0.183*
7.	Flock size (X7)	0.642*

*Significant at P<0.05; ** Significant at P<0.01.

A thorough view at the Table 3 indicated that knowledge had positive correlation with age, land holding, experience in Poultry farming, and flock size at 5% level and with education status at 1% level. This showed that the higher the flock size and experience in poultry farming makes an individual more likely to acquire latest knowledge on poultry production, so as to make critical comprehension and decision making at the right time. The better education status makes an individual to acquire more knowledge on the new innovation in the management, health care, marketing etc., and ensures to reap maximum benefits from poultry farming. The findings are in line with the study of Kanwat et al. (2012) [3].

4. Conclusion
Backyard Poultry Farming plays a significant role in rural development. Backyard poultry not only help in generation of cash income but also have nutritional, cultural and social impact on the rural society. From the present study it can be concluded that respondents had medium to low knowledge on different aspects of poultry production. The rural poultry farmers had poor knowledge about feeding, breeding and management practice, which led to poor performance of the birds. Since, there are need of efforts are to be made by the different agencies to improve the knowledge level through various methods. Education, Experience and flock size were the significant factors contributed to the knowledge gained by the poultry farmers. Therefore, the extension agencies, public and private organizations, NGOs etc should focus on these aspect for bringing about overall improvement in the knowledge level of backyard poultry farmers.

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