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Extent of adoption of improved poultry farming practices among the poultry farmers in North Bihar

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Abstract

Assessment of adoption of improved poultry farming practices and the factors affecting it among the poultry farmers is very important characteristic of the farmers to develop a comprehensive strategy for technology refinement. Present study was conducted in East Champaran, West Champaran and Muzaffarpur district of the North 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 adoption of improved poultry farming practices of the respondents through a schedule developed for the purpose. The data thus collected were coded for the precise conclusion with the objective to study the adoption of the poultry farmers and their determinants in the study area. It was found that approximately same number of the respondents (i.e.42.60 per cent and 39.80 per cent) were found in low and medium level of adoption for recommended poultry farming practices followed by only 17.60 per cent of the respondents have found in high level of adoption for recommended poultry farming practices. It was also found that education status, experience in poultry farming and flock size were found having positively significant correlation with the extent of adoption of improved poultry farming practices.

Keywords: Poultry farmers, adoption level, correlation analysis, improved poultry farming practices

Introduction

Poultry farming is considered as an important tool for self-employment as it offers vast scope for generating income in socially and economically backward areas. 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) [9]. 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]. These resource poor farmers rearing low input based native and indigenous breed has significant impact on their livelihood (Singh *et al.*, 2016) [12]. 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) [9]. 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) [13, 8]. Farmers have better perception about rearing of improved low cost rearing of local breed for their livelihood security (Singh *et al.*, 2018) [11] 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. Their key environmental and socioeconomic factors have significant influence towards adoption and diffusion of agriculture technologies (Lestrelin *et al.*, 2012) [5]. The outcomes of the study will be helpful in setting future location specific policy and program directions in the light of socio-economic development of poultry farming community in the region.

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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 adoption level of the respondents through a developed schedule on improved poultry farming practices. The data thus collected were coded for the precise conclusion with the objective to study the adoption level of the poultry farmers and their determinants in the study area.

Results and Discussion

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 per cent and 22.71 per cent 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 per cent 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 per cent and 19.72 per cent 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 per cent and 18.35 per cent of the respondents in landless and small landholding categories, respectively. These findings are similar with the findings of Kumari (2009)^[4] and Rajak *et al.* (2022)^[8].

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 per cent and 15.83 per cent 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].

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 per cent and 24.77 per cent of the respondents were having small (less than 15 birds) and large (more than 22 birds) flock size, respectively.

Adoption level of improved poultry farming practices

Table 2: Distribution of respondents according to their adoption level of improved poultry farming practices (N=436)

Category	No. of Respondents (f)	Percentage (%)
Low (< 0.33)	213	42.60
Medium (0.33 to 0.66)	199	39.80
High (> 0.66)	88	17.60

Adoption level of the respondents was assessed through development of adoption index ranging from 0 to 1. This index was developed on the basis of adoption score obtained

for different recommended practices from each respondent on three point continuum scale. Result is presented in table 2 which depicts that approximately same number of the respondents (i.e.42.60 per cent and 39.80 per cent) were found in low and medium level of adoption for recommended poultry farming practices followed by only 17.60 per cent of the respondents have found in high level of adoption for recommended poultry farming practices. These findings are supported by findings of Bunkar *et al.*, (2021)^[2].

Factors affecting the adoption level of the respondent for improved poultry farming practices

Table 3: Relationship between the characteristics of the respondents and their adoption level for improved poultry farming practices

S. No.	Explanatory Variable	Correlation coefficient "r"
1.	Age (X1)	0.106
2.	Education Status (X2)	0.092*
3.	Family size (X3)	0.127
4.	Land holding (X4)	0.217
5.	Annual income (Rs.) (X5)	0.144
6.	Experience in Poultry farming (X6)	0.096*
7.	Flock size (X7)	0.642*

In order to study the nature of relationship between socio-economic characteristics and extent of adoption poultry farming practices correlation co-efficients were calculated with. The results are given in Table 3. From the table, it is seen that out of seven independent variables under consideration namely; age, education, family size, annual income, land holding, poultry farming experience and flock size, three variables *viz* education status, experience in poultry farming and flock size were found having positively significant correlation with the extent of adoption of poultry farming practices as evident from their corresponding 'r' values having significant at 0.05 levels of probability. Rahman (2007)^[7] and Singha *et al.*, (2016)^[10] observed that adoptions of improved livestock (piggery) farming technologies were associated with education and farming experience.

Conclusion

It can be concluded that some of the practices although assumed very important in terms of potential growth of poultry farm, were poorly adopted. Extension programmes conducted for the backyard poultry farmers need to strengthen such that adoption level of recommended poultry farming practices can be improved, significantly. Innovations from poultry farming having complicated components or required more time and labors were difficult for farmers to apply recommended specific practices in their farming systems. The findings also indicate that the characteristics of the farmers such as education status, experience in poultry farming and flock size of the respondents had significant association with the adoption level of poultry technologies. These factors should be focused to speed up the development of poultry sector in rural areas, which is not only helping in generation of cash income but also have nutritional, cultural and social impact on the rural society. This is message for extension agencies and other concerned departments to influence these crucial factors in order to bring about desirable changes in the adoption behaviour of farmers towards recommended poultry farming practices. Through a

comprehensive effort farmers should be motivated for adoption of recommended improved poultry farming practices such that their profitability from poultry farming can be improved.

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