RESEARCH ARTICLE

Adoption Level of Scientific Poultry Rearing in Ri-Bhoi District of Meghalaya.

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ABSTRACT

To study the relationship between socio economic status and adoption level of scientific poultry rearing in Meghalaya exploratory research was conducted in Bhoirymbong and Umsning block, where a total of 100 farmers has been considered for the study. A pre-tested interview schedule was developed and data were collected through interview technique. The results showed that the relationship of adoption level by the poultry farmers with their socio-economic status, correlation coefficients were calculated which indicated that in the pooled sample adoption level exhibited positively and highly significant relationship with education (r=0.333**, P<0.01) and extension contact (r=0.258**, P<0.01) whereas mass media exposure (r=0.224*, P<0.05) and farm size (r=0.202*, P<0.05) exhibited positively significant relationship with adoption level. Annual income from other source (r = -0.409**, P<0.01) showed negatively and highly significant relationship with adoption level. Family size (r = -0.218*, P<0.05) exhibited negatively significant relationship with adoption level. Majority (94.00 %) of the respondents adopted intensive system with total confinement in the poultry shed followed by (6.00 %) semi-intensive system.

Key words: *Poultry farmers; Rearing Pattern.*

Poultry industry forms a major portion and is one of the fastest growing sectors in the agriculture sector in India. It is a powerful tool for alleviation of rural poverty, eradication of malnutrition and employment generation (Livestock Production Statistics of India 2019, BAHS and 20th LC 2019). Poultry rearing has been practiced since time immemorial but still remained confined as a backyard venture to the rural society. Poultry production has taken a quantum leap in the last four decades, emerging from conventional farming practices to commercial production system with state-of-the-art technological interventions. Poultry enterprise has emerged as an important supplementary enterprise of the farming community of the state of Meghalaya. It has helped to increase extra income of the farmers in the urban and semi urban areas of the state. Poultry industry in Meghalaya is still at a very nascent stage with a slow pace. In Ri-Bhoi District of Meghalaya, indigenous poultry farming and scientific poultry rearing are practice together in rural households which are being traditionally taken up to supplement income generation. At present due to the inclination and shift in dietary habits by the majority of the populace to poultry products, a greater number of educated and unemployed youths have taken up poultry farming as the primary source of income. The youths are being provided the basic training on poultry farming through different development agencies, NGO's and Governmental entities in which most of them were successful in their enterprises. The Government of Meghalaya, through the Department of Veterinary and Animal Husbandry,

for the past four and half decades till date has done an excellent job in promoting poultry farming to greater heights in both eggs and meat production. Keeping this background in mind the study was undertaken to know the relation analysis between socio economic status and adoption level of scientific poultry rearing pattern in Ri-Bhoi District of Meghalaya

METHODOLOGY

The study was conducted in Ri-Bhoi district of Meghalaya. Ri-Bhoi district of Meghalaya state comprises of four developmental blocks out of which two blocks were purposively selected namely Bhoirymbong and Umsning block on the basis of poultry population. The basic information of the study area was obtained after consultation with the local Veterinary Officers, the key informants and the available secondary sources. A total number of 1362 poultry households were involved in poultry farming from the selected blocks. From each block 50 (fifty) number of respondents were selected which made the total sample size of 100 (one hundred). The respondents were selected through proportionate stratified random sampling method from the eight villages i.e., four villages from each block. A pre-tested, reliable, and valid interview schedule was developed and information on various socio-personal aspects was sought from these respondents by using interview technique. The researcher personally visited the residences of the respondents during the period from December 2020 to February 2021. The respondents were interviewed one at a time by the researcher himself. The correlation test and percentages were calculated to interpret the results.

RESULTS AND DISCUSSION

In order to ascertain the relationship of adoption level by the poultry farmers with their socio-economic status correlation coefficients were calculated and presented in Table 1

It was evident from Table 1 that out of 18 variables only three variables viz. farm size (r=0.421**, P<0.01), extension contact (r=0.366**, P<0.01) and education (r=0.268**, P<0.01) showed positively and highly significant relationship with adoption level in Bhoirymbong block whereas training (r=0.253*, P<0.05) exhibited positively significant relationship with adoption level. Annual income from other sources (r= -0.230**, P<0.01) showed negatively and highly significant relationship with adoption level. Family size (r = -0.205*, P<0.05) exhibited negatively significant correlation with adoption level.

The positively and highly significant relationship of farm size with the adoption level was indicative of the fact that due to larger farm size improved practices were adopted which led them to derived substantial profits and income sustainability in the poultry enterprises. In the farm land area other activities like agriculture, horticulture, fisheries, apiculture were also practiced which gave more income to the farmers.

The positively and highly significant relationship of extension contact with the adoption level towards scientific poultry farming implied the positive approach that they could gathered latest information and technologies from extension functionaries. The contributing factors to these are trust on the extension statutory network and dedication of field functionaries. Further they could also learn regarding the emerging issues of health, hygiene and environment etc. All these together help them to achieve higher adoption level of improved practices.

On the other hand, education was found to be positively and highly significant relationship with the adoption level pointed to the fact that the respondents through formal education understood the world around and updated themselves with the current happenings in their areas of interest. This applied to poultry farming as well, the more educated better the understanding on their poultry farms operations. Normally only those practices which they learned that is advantageous for them was adopted right away. The education gathered enhanced and empowered them to face any obstacles that arise in the farming activities with reasonable solutions.

Similarly, positively significant relationship of training with the adoption level towards scientific poultry farming implied to the fact that they gathered more information on poultry farming through training due to which improved practices were adopted.

On the other hand, annual income from other sources by the respondents showed negatively and highly significant relationship with the adoption level of scientific practices in poultry farming. It indicated that they were not depended on poultry farming solely

Table 1. Correlation analysis of relationship between adoption level of scientific practices of poultry farmers with their socio-economic status

Independent variables	'r' value		
	Bhoirymbong block	Umsning block	Pooled
Age	-0.014[NS]	-0.032[NS]	-0.035[NS]
Family size	-0.205*	-0.228*	-0.218*
Education	0.268**	0.375**	0.333**
Occupation	-0.007[NS]	0.100[NS]	0.048[NS]
Social participation	0.145[NS]	-0.175[NS]	0.004[NS]
Experience	0.070[NS]	0.043[NS]	0.058[NS]
Farm size	0.421**	0.083[NS]	0.202*
Flock size	0.019[NS]	-0.072[NS]	0.017[NS]
Land holding	0.164[NS]	-0.058[NS]	0.022[NS]
Mass media exposure	0.098[NS]	0.354**	0.224*
Extension contact	0.366**	0.182[NS]	0.258**
Sources of Information	-0.066[NS]	0.252*	0.121[NS]
Training	0.253*	0.001[NS]	0.160[NS]
Annual income from poultry	0.142[NS]	0.160[NS]	0.126[NS]
Annual income from livestock	0.147[NS]	0.006[NS]	0.027[NS]
Annual income from poultry and livestock	0.148[NS]	0.149[NS]	0.131[NS]
Annual income from other sources	-0.230**	-0.506**	-0.409**
Total annual income from all sources	0.043[NS]	-0.204*	-0.127[NS]

[NS] Non-significant; *Significant at 5% level of probability, **Significant at 1% level

as the income from other sources could sufficed their basic requirements. Therefore, they had not adopted the improved practices seriously.

The family size was found to be negatively significant with the adoption level of improved practices. The reasons might be that family members were engaged in different income sources and not depended on poultry farming for their livelihood. Hence it was natural that they were not interested in improved practices.

In Umsning block out of the 18 variables only two viz. education (r=0.375**, P<0.01) and mass media exposure (r=0.354**, P<0.01) showed positively and highly significant relationship with adoption level as was evident from Table 1 whereas information source (r=0.252*, P<0.05) exhibited positively significant relationship with adoption level. Annual income from other sources (r= -0.506**, P<0.01) showed negatively and highly significant relationship with adoption level. Family size (r=-0.228*, P<0.05) and total annual income from all sources (r = -0.204*, P<0.05) exhibited negatively significant relationship with adoption level.

The positively and highly significant relationship of education with the adoption level was due to the

reason similar as mentioned in Bhoirymbong block.

The positively and highly significant relationship of mass media exposure with the adoption level might be explained by the fact that it played a significant role in the society. By being connected to mass media, the respondents could gather information related to poultry which encouraged them to marched forward and thereby attained higher confident in the adoption of scientific practices of poultry farming.

The positively significant relationship of information source of the respondents with the adoption level towards scientific poultry farming indicated that they trusted family members, friends or relatives, neighbors/peer groups, livestock dealers/sellers and veterinary officials who were their main sources of information thereby they equipped themselves with the knowledge and gained confidence for adoption of improved scientific practices of poultry farming.

On the other hand, annual income from other sources was found to be negatively and highly significant relationship with the adoption level. The reasons were similar to those mentioned earlier in Bhoirymbong block.

Similarly, family size was found to be negatively significant relationship with the adoption level. The reasons were similar to those mentioned earlier in Bhoirymbong block.

Also, total annual income from all sources was found to be negatively significant relationship with the adoption level. This indicated that they were not depended on poultry farming solely as the total income from all the sources barring poultry income were sufficed their basic requirements and family upbringing. Therefore, they had not adopted the improved practices seriously.

In pooled sample adoption level exhibited positively and highly significant relationship with education (r=0.333**, P<0.01) and extension contact (r=0.258**, P<0.01) as shown in Table 4.32 whereas mass media exposure (r=0.224*, P<0.05) and farm size (r=0.202*, P<0.05) exhibited positively significant relationship with adoption level. Annual income from other source (r = -0.409**, P<0.01) showed negatively and highly significant relationship with adoption level. Family size (r = -0.218*, P<0.05) exhibited negatively significant relationship with adoption level.

The education and extension contact showed positively and highly significant relationship with their adoption level. The reasons were similar to those mentioned earlier in Bhoirymbong block.

The mass media exposure and farm size showed positively significant relationship with their adoption level. The reasons were similar to those mentioned earlier in Umsning block and Bhoirymbong block respectively.

On the other hand, annual income from other sources showed negatively and highly significant relationship with the adoption level. The reasons were similar as mentioned in both the blocks. Family size was also found to be negatively significant relationship with the adoption level. The reasons for were similar with those mentioned earlier in both the blocks.

The present findings were similar to the findings of *Kannadhasan et al. (2017), Nath et al. (2012), Kushwah et al. (2016), Samantaray et al. (2020)* and *Singh et al. (2021).*

System of rearing of poultry has a direct bearing on economy, health and hygiene and total productivity. Therefore, system of rearing is an indicator of social progress the farmers had made. System of rearing in the present context refers to method or technique of raising poultry birds. Table 2 revealed that (90.00 %), (98.00 %) and (94.00 %) of the respondents adopted intensive system followed by (10.00 %), (2.00 p%) and (6.00 %) semi-intensive system in Bhoirymbong block, Umsning block and pooled sample respectively.

The reason might be that poultry farming was widely adopted as a hub in Ri-Bhoi district which was

Table 2. Frequency distribution of respondents on the basis of their system of rearing

Block	System of rearing pattern		
	Intensive	Semi-Intensive	Extensive/ Free Range
Bhoirymbong	45 (90)	5 (10)	0 (0)
Umsning	49(98)	1 (2)	0 (0)
Pooled	94 (94)	6 (6)	0 (0)

Figures in parentheses indicate percentage.

a promising way out for income generation and to utilize their kitchen waste and vegetables. Further, they also provided protection to the birds from predators so they had adopted intensive and semi-intensive rearing systems. The present finding was in line with those of *Kugonza et al. (2008).* However, the finding was conflicting with those of *Gupta et al. (2006), Natukunda et al. (2011), Nath et al. (2012), Deka et al. (2013), Mohamed et al. (2016)* and *Abadi (2017).*

CONCLUSION

The relationship of adoption level by the poultry farmers with their socio-economic status, correlation coefficients were calculated which indicated that in the pooled sample adoption level exhibited positively and highly significant relationship with education (r=0.333**, P<0.01) and extension contact (r=0.258**, P<0.01) whereas mass media exposure (r=0.224*, P<0.05) and farm size (r=0.202*, P<0.05) exhibited

positively significant relationship with adoption level. Annual income from other source (r = -0.409**, P<0.01) showed negatively and highly significant relationship with adoption level. Family size (r = -0.218*, P<0.05) exhibited negatively significant relationship with adoption level. Majority (94.00 %) of the respondents adopted intensive system with total confinement in the poultry shed and provided feed and water twice a day followed by (6.00 per cent) semi-intensive system – characterized by keeping them in the shed during night and leaving them for scavenging during the day time in a limited area manner under supervision. Hence, emphasis is to be given to empower them through capacity building and enhance productivity for better remuneration for their produce.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

REFERENCES

Abadi, T. (2017). Perception of farmers on exotic chicken breeds and its management condition in   North western zone Tigray, Ethiopia. *World Scientific News*, **86** (3) : 168-179.

Deka, P., Borgohain, R. and Deka, B. (2013). Status and constraints of backyard poultry farming amongst tribal community of Jorhat District in Assam. *Asian J. Animal Sci.*, **8** (2) : 86 91

Gupta, J.J.; Doley, S. and Yadav, B.P.S. (2006). Study in rural poultry production in Meghalaya. *Indian J.Poultry Sci.*, **4** (1) : 108-110.

Kannadhasan, M.S.; Sudeepkumar, N.K. and Rajini, R.A. (2017). Adoption of recommended feeding practices in backyard poultry farming. *Intl. J.Sci., Enviro. and Tech.,* **6** (2) : 1175 – 1181

Kushwah, S.; Sohane, R. K. and Singh, A. K. (2016). Adoption level and constraints faced by Backyard Poultry Farmers in Bihar. *J. Multidis. Adv. Res.*, **5** (1) : 01- 05.

Kugonza, D.R.; Kyarisiima, C.C. and Iisa, A. (2008). Indigenous chicken flocks of Eastern Uganda: I. Productivity, management and strategies for better performance. *Livestock Res. for Rural Dev.*, **20** (137).

Mohamed, A.; Hailemariam, S.; Gebremedhin, G. and Gebeyew, K. (2016). Challenges and opportunities of small-scale poultry production system in Jigjiga Zone, Somali regional state, Ethiopia. *Poultry Fish Wildlife Sci.*, **4** (1) : 144.

Natukunda, K.; Kugonza, D.R. and Kyarisiima, C.C. (2011). Indigenous chickens of the Kamuli Plains in Uganda: II. Factors affecting their marketing and profitability. *Livestock Res. for Rural Dev.*, **23** (10).

Nath, B.G.; Pathak, P.K. and Mohanty, A.K. (2012). Constraints analysis of poultry production at Dzongu Area of North Sikkim. *Iranian J. of Applied Sci.*, **2** (4) : 397-401.

Samantaray, S.K.; Ranabijuli, S.; Mohanty, B.; Satapathy, B.; Panda, P.K. and Behera, M.R. (2020). Adoption level of scientific backyard poultry practices: A socio-technical analysis in the state of Odisha. *The Pharma Inno. J.,* **9** (8) : 104-108.

Singh, A.K.; Debbarma, A.; Baishya1, A.; Sarkar, D.; Mohanta, K. P. and Anil (2021). Insights of improved backyard poultry farming in India with special reference to hilly regions: A review. Intl. J.Livestock Res., **11** (3) : 1-16

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