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FARMERS' CHARACTERISTICS ASSOCIATED WITH THE PARTICIPATION IN LIVESTOCK AND POULTRY DEVELOPMENT ACTIVITIES OF BAUEC

M. A. Alam[1], S. Sarkar[2], M. S. Islam[3], M. K. Hoque[4] and M. A. F. Mollah[5]

ABSTRACT

The study was undertaken to assess the influence of the farmers' characteristics on their participation in livestock and poultry development activities of BAUEC. Random sampling method was used to collect the data through personal interview method from 120 farmers of nine villages of Mymensingh district. Significant positive relationship was found between age, family size, farm size, annual income, attitude towards BAUEC and agricultural knowledge of the respondents and their participation in livestock and poultry development programme. About two fifth (40.80%) of the respondents had low participation, 28.30% had medium and 30.90% had high participation in livestock and poultry development activities of BAUEC.

Key words: Farmers, participation, livestock & poultry, BAUEC

INTRODUCTION

Agriculture is the backbone of the economics of Bangladesh. About 84 percent of the total population live in rural areas and are directly or indirectly engaged in a wide range of agricultural activities. Agriculture sector plays a vital role in the economy of the country accounting for 23.50 percent of total GDP (BBS, 2004). Agriculture sector comprises crops, forests, fisheries and livestock. The crop sub-sector dominates the agriculture sector contributing about 72.00% of total production. Fisheries, livestock and forestry sub-sectors contribute 10.33%, 10.11% and 7.33%, respectively (BBS, 2004). Not only that agriculture sector generates 63.2% percent of total national employment, of which crop sector shares nearly 55.00%. Inspite of being so importance of this sector, it is not yet contributing as much as it could. A great deal of research and development is required to make Bangladesh agriculture sustainable. In this regard Bangladesh Agricultural University Extension Center (BAUEC) village development society programmes can be considered as playing a crucial role in generating income and self-employment opportunities for the rural area. BAUEC has the responsibility to motivate, educate and help farmers to make all-round development by their local and own resources through six development components such as crop, livestock and fish development, adult education, health and family planning and cottage industries (BAUEC, 2001). Farmers' active in the activities of aforesaid development components is urgently necessary to bring about sustainable agricultural development, specially in the livestock component. Success in rural development can be achieved only if all groups are fully integrated into and actively support the developmental process (Ullrich, 1981). Successful BAUEC village development programme depend crucially on the degree of rural farmers participation in different development activities. However, farmers' participation largely depends upon their personal and socio economic characteristics. So, BAUEC farmers' characteristics

[1]Scientific Officer, [5]Senior Scientific Officer, Jute Research Regional Station, BJRI, Kishoreganj, [2]Associate Professor, Agricultural Botany Department, Sher-e-Bangla Agricultural University, Dhaka-1207, [3]Senior Scientific Officer, Bangladesh Jute Research Institute, Dhaka-1207, [4]Managing Director, Modern Agro Tech Services, Sreepur, Gazipur.

associated with their participation in *livestock and poultry* development activities in improving their socio-economic status.

MATERIALS AND METHODS

Locale of the study and population sampling: Data were collected from nine villages of BAUEC farmers' societies under Mymensingh sadar upazila. Villages were selected by random sampling technique. The nine villages are Daribhabokhali, Bhabokhali, Suhila, Char Raghurampur, Char Kalibari, Sutiakhali, Boyra, Mirzapur and Char Ishwardia. A list of the farmers of nine villages was made and found to be 481. Twenty five percent of the farmers were selected from each of the nine villages by using a table of random number as per Blalock (1960). A total of 120 farmers out of 481 were selected. A reserve list of 12 farmers was also prepared, so that the farmers of this list could be used for interview if any farmers included in the original sample were not available during the collection of data. Interview schedule was used for data collection. The content validity of the interview schedule was established by a panel of experts and its reliability and suitability were also determined for pertinent data.

Measurement of the variables

Age: Age of respondent rural farmer referred to the period of time from his birth to the time of interview.

Education: Education was measured on the basis of the level of formal schooling. If a respondent passed the final examination of class five, his education score was taken as 5. If some one can not write, or can not sign, his education score was taken as 0.

Family size: Family size was measured by the number of the members in the family of a respondent including himself, his wife, children and other dependents.

Farm size: Farm size of a respondent was estimated in terms of full benefite. The farm size was measured in terms of hectares by using the following formula.

Farm size = a+b+c-d+1/2(e+f)+g

Where,

a = Homestead area including vegetable plots
b = Cropped area (owned)
c = Cropped area leased in
d = Cropped area leased out
e = Cropped area shared in (borga)
f = Cropped area shared out (borga)
g = Own pond.

Annual income: Annual income of a respondent was determined on the basis of his total earnings from agriculture, service, business and other sources.

Organizational participation: Organizational participation was measured on the basis of the nature of one's participation in different organization. The respondents were asked to mention the nature of participation i.e. no participation, ordinary member, executive committee member, officer of the executive committee. Score assigned to these responses were 0, 1, 2 and 3, respectively. And also asked the duration of participation i.e. nil period, upto 5 years, 6-10 years and 11 years or above. Score assigned to these responses were 0, 1, 2 and 3, respectively.

Organizational participation score of the respondents were measured by the following formula.

Organizational participation score = Position score (P) *x* Duration score (D)

Extension service contact: Extension service contact score of a respondent was calculated on the basis of his extent of contact with four sources of information. The respondents were asked to mention the number of contact made with different individuals, media and activities on daily, weekly, monthly, yearly or not at all basis. Weights assigned to these responses were 4, 3, 2, 1 and 0, respectively. Score obtained for use of 16 selected extension media by a respondent farmer were summed together to compute his extension exposure score.

Cosmopoliteness: Cosmopoliteness scores of the respondents were determined on the basis of visit by them to eight different places. Farmers indicated whether they visited those places frequently, occasionally, rarely or not at all. Weights assigned to these responses were 3, 2, 1 and 0, respectively. The cosmopoliteness score of an individual was determined by adding the weights for his responses to all eight places as shown in interview schedule.

Livestock and poultry knowledge: Livestock and poultry knowledge of scores of respondents was determined on the basis of their responses to 10 questions related to *livestock and poultry* production. A weight of 2 was assigned for each question. The *livestock and poultry* knowledge scores could range from 0 to 20, where 0 indicates no *livestock and poultry* knowledge and 20 indicates very high level of *livestock and poultry* knowledge.

Attitude towards BAUEC livestock and poultry development activities: Attitude of a farmer towards BAUEC *livestock and poultry* related activities was used to refer to his belief, feeling and action tendency towards the various *livestock and poultry* production aspects of BAUEC. It was measured by constituting of 12 statements consisting of six positive and six negative statements. A statement was considered positive, if it is possessed an idea favorable towards the BAUEC. On the other hand, a statement was considered negative, if it was unfavorable towards the BAUEC. The respondent were asked to express their opinion i.e., fully agree, agree, no comments, disagree, fully disagree. Scores assigned to these responses were 5, 4, 3, 2, 1 and 0, respectively, if the statement was positive. A reverse scoring method was followed in case of statements considered negative. Attitude score of a respondent was determined by summing the scores obtained by himself for all the items in the scale.

Descriptive statistics such as number, frequency distribution, range, average and standard deviation were calculated to explore the relationship between selected farmer's characteristics and the *livestock and poultry* related activities of BAUEC.

RESULTS AND DISCUSSION

Characteristics of the farmer

Data in Table 1 show that age of the farmers ranged from 18-50 years with an average of 33.58 indicating that the study group was moderately heterogeneous. More than 50.00% respondents had young aged group, this leads to understanding that the phenomena with regard to the major *livestock and poultry* development programme of BAUEC would be reflected more in the present study by the young aged group. In respect of education, a major proportion 48.30% farmers had secondary education and one third i.e., 34.30% of the farmers had primary education. As regard to family size, it ranged from 2 to 8 with an average 4.34. Majority of them (43.40%) had medium family. The farm size of the respondents of the study area ranged from 0.10 – 2.0 hectare with an average 0.98 hectare. The highest proportion (50.00 %) of the respondent family had medium farm, while marginal and small farm were 6.70% and 43.30%, respectively. No large farm family was found, but average farm size (0.98 ha) of the respondents is greater than national average (0.712 ha) (BBS, 2004).

Table 1. Selected characteristics of the farmers of BAUEC

Characteristics	Scoring rank	Range (Years)	Mean (Years)	Categories	Farmers	
					Number	Percent
Age	Number of Year	18-50	33.58	Young (18-32 yrs)	61	50.80
				Middle age (33-49 yrs)	51	42.50
				Old 50 & above	8	6.70
Total					120	100
Education	Years of schooling	0-11	5.16	Illiterate (0)	10	8.30
				Sign literate (0.5)	8	6.60
				Primary edu. (1-5)	41	34.30
				Secondry edu. (6-10)	58	48.30
				Higher secondry and above (11 to above)	3	2.50
Total					120	100
Family size	Number of members	2-8	4.34	Small (<4)	46	38.30
				Medium (4-6)	52	43.40
				Large (>6)	22	18.30
Total					120	100
Farm size	Area in hectares	0.1-2.0	0.98	Marginal (<0.5)	8	6.70
				Small (o.51-1.0)	52	43.30
				Medium (1.01-3.0)	60	50.0
Total					120	100
Annual income	Total earnings (taka in thousand)	20-120	69.74	Low (<53)	39	32.50
				Medium (53.01-98)	62	51.70
				High (>98)	19	15.80
				Total	120	100
Organizational participation	Nature of participation in different organization	1-50	25.18	Low (<17)	43	35.80
				Medium (18-34)	38	31.50
				High (>34)	39	32.70
Total					120	100
Extension service contact	Number of contacts	2-43	24.76	Low (2-15)	29	24.30
				Medium (16-29)	45	37.50
				High (>29)	46	38.20
Total					120	100
Cosmopoliteness	Number of visits to eight places	1-20	12.27	Low (1-7)	25	20.80
				Medium (8-14)	43	35.70
				High (15-20)	52	43.50
Total					120	100
Livestock and poultry knowledge	Number of response to question	11-16	13.66	Low (11-13)	53	44.17
				Medium (14-16)	47	39.16
				High (>16)	20	16.67
Total					120	100
Attitude towards BAUEC livestock related activities	Number of response to positive or negative	18-50	32.44	Slightly positive (18-28)	38	31.73
				Moderately positive (29-39)	50	41.67
				Highly positive (>39)	32	26.60
Total					120	100

Analysis of the respondent characteristics also revealed that a large proportion (51.70%) of the farmers was in medium income group and only 15.80% were in high income group. The average income of the respondents is higher (69.74 thousand taka) than the average per capita income of the country i.e., 444 US dollar, which is approximately 26 thousand taka (BBS, 2004). This might be due to the fact that the respondents of the study area were not engaged in agriculture only. They also earned from other sources such as service, business etc, which facilitate them for higher income.

Majority of the respondent (35.80%) had low organizational participation followed by medium (31.50%) and high (32.70%) organizational participation, respectively. More than two-third of the respondent had high and medium extension contact with different activities, agents and media. The highest proportion (43.50%) of the respondent had high cosmopoliteness compared to 35.70% having medium and 20.80% low cosmopoliteness. About half of the respondent (44.17%) had low knowledge, while 39.16% had medium and only 16.67 % had high level of *livestock and poultry* related knowledge.

Attitude of the respondent towards BAUEC *livestock and poultry* development activities was found to range from 18-50 with a mean attitude score was 30.84. The majority (42.80%) of the respondents had moderately positive attitude towards BAUEC *livestock and poultry* development activities and 22.60% respondents showed highly positive response towards BAUEC *livestock and poultry* development activities. Existence of highly positive attitude among the farmers indicates that they were well benefited by the participation in BAUEC *livestock and poultry* development activities.

Participation of farmers in livestock and poultry development activities of BAUEC

The participation scores on the basis of *livestock and poultry* development activities of the farmers ranged from 9 to 24 with an average 16.08. From the Figure 1, it was revealed that 40.80% of the respondents had lower participation in *livestock and poultry* development activities of BAUEC and 28.30% of the respondent had medium participation in *livestock and poultry* development activities of BAUEC as compared to 30.90% had high participation. Finding indicates that more than two fifth of the respondents had lower participation in *livestock and poultry* development activities of BAUEC.

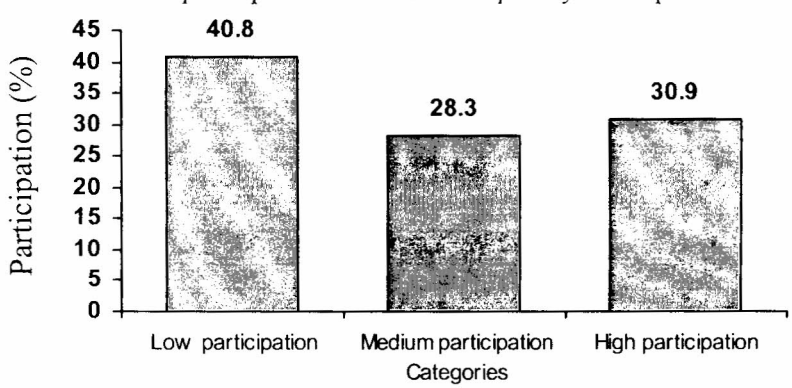

Figure 1. Distribution of respondents according to their participation in *livestock and poultry* development activities of BAUEC

Relationship between selected characteristics of the respondents with the participation of livestock and poultry development activities

Both dependent and independent variables were analyzed in ordinal scales. Spearman rank order correlation co-efficient were computed to determine the strength of association between the

respondents characteristics and their participation in *livestock and poultry* development activities of BAUEC.

Table 2. Relationship between the characteristics of farmers and their participation in livestock and poultry development activities

Dependent variable	Independent variable	Correlation co-efficient (r values)
Participation in livestock and poultry development activities of BAUEC	Age	0.956***
	Education	- 0.443***
	Family size	0.786***
	Farm size	0.261**
	Annual income	0.215*
	Organization participation	0.071^{NS}
	Extension service contact	0.015^{NS}
	Cosmopoliteness	0.037^{NS}
	Livestock and poultry knowledge	0.867**
	Attitude towards BAUEC	0.905***

^{NS} = Not significant, * = Significant at 0.05 level, ** = Significant at 0.01 level, *** = Significant at 0.001 level

From the Table 2, it is revealed that there was a significant positive relationship between age of the respondents and their participation in *livestock and poultry* development activities. That is, the level of farmer age had great influence in accepting the *livestock and poultry* development related technology. The young and middle aged farmers of BAUEC are more involved in livestock and poultry development programme. A negative significant relationship was found between education of the farmers and their participation in *livestock and poultry* development programme. This means that the farmers with lower levels of education had more participation in *livestock and poultry* development activities of BAUEC. Farmers having bigger farm size may be considered for agricultural training in income generating activities, since their involvement in income generating activities is higher than those who have small farm size. Family size, farm size and annual income had significant and positive relationship with the participation in *livestock and poultry* development programme of BAUEC. It indicates that the farmers with higher family member, larger farm size and higher income had higher tendency to adopt or participation in *livestock and poultry* development activities. Participation or adoption of *livestock and poultry* development activities had no statistically significant relationship with the organizational participation and cosmopoliteness of the respondent. However, the positive relationship indicated that the farmers with higher organizational participation and cosmopoliteness had higher trends to adopt *livestock and poultry* development activities than those of the lower organizational participation and cosmoploiteness. Insignificant relationship was found between extension service contact of the respondents and their participation in *livestock and poultry* development activities. The respondent had got training from different NGOs on the *livestock and poultry*. *Livestock and poultry* knowledge of the respondents had positive impact on the participation of *livestock and poultry* development activities. The higher level of *livestock and poultry* knowledge, greater could be the adoption of *livestock and poultry* development technology. Positive and significant relationship was found between attitude towards BAUEC of the respondents and the adoption of *livestock and poultry* development technology (r = 0.905). BAUEC has helped to develop socio economic status of the respondent. The respondent believed that BAUEC activities were very useful and effective in their social life.

Before dissemination of an innovation extension agency or introducer of the innovation must consider the client system's personal and socio economic characteristics. If the extension agent are aware about the influence of characteristics of farmers will help them to motivate farmers to adopt improved *livestock and poultry* production technology. Knowing this information about the farmers on their adoption behaviour would result in easy access to them by the extension agent. Based on the findings of this study following conclusions are drawn:

- Higher proportion (40.80%) of the respondents had low participation in *livestock and poultry* development activities of BAUEC.
- Majority of the respondents of BAUEC was young to middle aged group and young aged members were more involved in *livestock and poultry* development activities. Significant positive relationship were found between age of the respondents and their participation in *livestock and poultry* development programme indicating that it may be necessary for the extension to work more with the younger farmer.
- BAUEC should consider to bring literate farmers in livestock and poultry development programme.
- Hence, it may be concluded that most of the farmers in the medium farm category, they are involved with BAUEC activities for direct benefit in different income generating activities.

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