CHAPTER IV

FINDINGS AND DISCUSSIONS

The findings of this study and their logical interpretations have been systematically presented in different sections of this chapter according to the objectives of the study. The first section deals with the improvement of socio-economic status of the CIG farmers. The second section deals with the selected characteristics of the CIG farmers. The third section deals with the relationships between selected characteristics of the respondent and their socio-economic status improvement.

4.1 Improvement of Socio-economic Status

This section deals with the improvement of socio-economic status of the CIG farmers. The improvement of socio-economic status in terms of four aspects of socio-economic status and the overall improvement of Socio-economic Status is described in this section.

Table 4.1 Aspects wise distribution of the farmers (N=105)

Improvement of socio-economic status	Range		Respondents			Mean	SD
	Possible	Observed	Category	Frequency	Percent		
Social aspects	0-12	0-12	Low (up to 4)	15	14.3	6.95	2.57
			Medium (5-8)	73	69.5		
			High (above 8)	17	16.2		
Economic aspects	0-12	0-12	Low (up to 4)	27	25.7	5.62	2.47
			Medium (5-8)	66	62.9		
			High (above 8)	12	11.4		
Technological aspects	0-12	1-12	Low (up to 4)	13	12.4	7.07	2.39
			Medium (5-8)	72	68.6		
			High (above 8)	20	19.0		
Food security aspects	0-12	1-12	Low (up to 4)	21	20.0	6.27	2.81
			Medium (5-8)	59	56.2		
			High (above 8)	25	23.8		

4.1.1 Improvement of social aspects

The possible range of improvement score of social aspects of the farmers could range from 0 to 12 whiles the observed range of 0 to 12 with an average of 6.95 and standard deviation of 2.57 (Table 4.1). They were classified into three categories namely ‘low’ (up to 4), ‘medium’ (5-8), and ‘high’ (above 8). The highest proportion (69.5 percent) of the respondents had medium status of improvement of social aspects followed by 14.3 percent had low and 16.2 percent had high improvement of social aspects.

4.1.2 Improvement of economic aspects

The possible range of improvement score of economic aspects of the farmers could range from 0 to 12 whiles the observed range of 0 to 12 with an average of 5.62 and standard deviation of 2.47 (Table 4.1). They were classified into three categories namely 'low' (up to 4), 'medium' (5-8), and 'high' (above 8). The highest proportion (62.9 percent) of the respondents had medium status of improvement of economic aspects followed by 25.7 percent had low and 11.4 percent had high improvement of economic aspects.

4.1.3 Improvement of technological aspects

The possible range of improvement score of technological aspects of the farmers could range from 0 to 12 whiles the observed range of 1 to 12 with an average of 7.07 and standard deviation of 2.39 (Table 4.1). They were classified into three categories namely 'low' (up to 4), 'medium' (5-8), and 'high' (above 8). The highest proportion (68.6 percent) of the respondents had medium status of improvement of technological aspects followed by 12.4 percent had low and 19.0 percent had high improvement of technological aspects.

4.1.4 Improvement of food security aspects

The possible range of improvement score of food security aspects of the farmers could range from 0 to 12 whiles the observed range of 1 to 12 with an average of 6.27 and standard deviation of 2.81 (Table 4.1). They were classified into three categories namely 'low' (up to 4), 'medium' (5-8), and 'high' (above 8). The highest proportion (56.2 percent) of the respondents had medium status of improvement of food security aspects followed by 20.0 percent had low and 23.8 percent had high improvement of food security aspects.

A comparative observation of the Table 4.1 shows that the highest variation among the farmers existed regarding food security aspects having a standard deviation of 2.81. On the contrary, the lowest variation of standard deviation 2.39 was in technological aspects. Improvement of socio-economic status regarding the rest two aspects namely –social, economic was 2.57 and 2.47, respectively.

4.1.5 Overall improvement of socio-economic status

The possible range of overall improvement of socio-economic status of the farmers could range from 0 to 48 whiles the observed range of 2 to 48 with an average of 25.90 and standard deviation of 9.64 (Table 4.2).

Table 4.2 Categorization of the farmers according to the improvement of socio-economic status

Range		Farmers			Mean	SD
Possible	Observed	Category	Freq.	Percent		
0-48	2-48	Low (up to 16)	17	16.2	25.90	9.64
		Medium (17- 32)	71	67.6		
		High (above 32)	17	16.2		

The improvements of socio-economic status scores were classified into three categories namely 'low' (1-16), 'medium' (17-32), and 'high' (33-48). The highest proportion (67.6 percent) of the respondents had medium improvement of socio-economic status followed by 16.2 percent had low and 16.2 percent had high improvement of socio-economic status. The findings indicated that more than half (67.6 percent) of the respondent had medium improvement of socio-economic status.

4.2 Selected Characteristics of the CIG Farmers

The 10 selected characteristics of the farmers such as age, education, family size, farm size, farming experience, annual income, training experience, organizational participation, desirability, and use of information sources were the explanatory variables of this study. The findings of the characteristics of the farmers are presented in Table 4.3 and have been discussed in subsequent sub-sections. The respondents were classified in suitable categories for describing their selected characteristics.

4.2.1 Age

Age of the farmers was found to vary from 22 to 60 with an average of 40.37 and a standard deviation of 9.50. Based on their age the farmers were classified into three categories namely 'young' (up to 35) 'medium' (36-55) and 'old' (above 55). Data presented in Table 4.3 indicated that 62.9 percent of the farmers fell in the medium aged category, whiles 31.4 percent fell in the young aged category and 5.7 percent in the old age category. From the table it is indicate that 94.3 percent of the farmers were young to middle-aged category. Rural society of Bangladesh maintain traditional norms, values, custom and this is very much favorable for medium aged farmers to become involve in various organizational activities. Also they are likely to influence highly for family and community decision-making because they are energetic and well acquainted with farm and non-farm activities.

Table 4.3 Descriptive statistics of selected characteristics of CIG farmers (N=105)

Characteristics	Scoring method	Range		Categories	Respondents		Mean	SD
		Possible score	Observed		No.	%		
Age	Actual year	Unknown	22-60	Young (up to 35)	33	31.4	40.37	9.50
				Medium (36-55)	66	62.9		
				Old (above 55)	6	5.7		
Education	Year of schooling	Unknown	0.50-10.00	Can sign only (0.5)	60	57.1	3.39	3.71
				Primary (1-5)	14	13.3		
				Secondary (6-10)	31	29.5		
Family size	No. of members	Unknown	3-9	Small (up to 4)	49	46.7	4.81	1.29
				Medium (5-6)	44	41.9		
				Large (above 6)	12	11.4		
Farm size	Hectare	Unknown	0.02-4.08	Marginal (up to 0.2)	25	23.8	0.45	0.46
				Small (0.21-1.0)	75	71.4		
				Medium (1.1-3.0)	4	3.8		
				Large (above 3.0)	1	1		
Farming experience	Year	Unknown	1-30	Fair (up to10)	34	32.4	15.75	8.44
				Good (11-20)	48	45.7		
				High (above 20)	23	21.9		
Annual income	(‘000’ Tk.)	Unknown	90-530	Low (up to 100)	11	10.5	165.59	62.94
				Medium (100.001-225)	81	77.1		
				High (above 225)	13	12.4		
Training experience	Day	Unknown	1-6	Short (up to 2)	95	90.5	1.72	1.29
				Mid-term (3 - 4)	2	1.9		
				Long (above 4)	8	7.6		
Organizational participation	score	Unknown	1-9	Low (up to 3)	49	46.7	3.95	2.28
				*Medium (4-6)	39	37.1		
				High (above 6)	17	16.2		
Desirability	Score	0-12	0-12	Low (up to 4)	12	11.4	8.54	3.04
				Medium (5-8)	38	36.2		
				High (above 8)	55	52.4		
Use of information sources	Score	0-45	7-38	Low (up to 15)	30	28.6	19.68	6.77
				Medium (16-30)	66	62.9		
				High (above 30)	9	8.6		

4.2.2 Education

Exposure to formal education is very important for shaping-up the behavior of an individual. The family educational scores of the farmers ranged from 0.5 to 10, the mean being 3.39 years and standard deviation is 3.71 years. Based on education scores, the farmers were classified into 'can sign only' (0.5), 'primary education' (1-5), and 'secondary education' (6-10) category presented in Table 4.3. Data presented in Table 4.3 indicate that 57.1 percent farmers under can sign only while 13.3 percent primary, 29.5 percent had secondary education category. Data also indicated that 42.8 percent farmers are primary to secondary education category and it can be said that the education of the sample farmers may be lower rather national average literacy rate of 51.77 (BBS, 2018).

4.2.3 Family size

The family size of the respondent ranged from 3 to 9, with an average of 4.81 and standard deviation of 1.29. On the basis of their family size, the respondents were classified into three categories i.e. small, medium and large size. Distribution of the respondents according to their family size has been shown in Table 4.3. Data presented in Table 4.3 show that the highest proportion (46.7 percent) of the farmers had small family size, compared to 41.9 percent of them had medium family size and 11.4 percent of them had large family size.

The findings indicate that most of the farmers (88.6 percent) were in small to medium family size category. Family is a fundamental social unit or social groupings. The members of which are united by bonds of kinship. The importance of the family in determining the character and structure of the society is tremendous. Family background directly or indirectly influences a person's behavior, social position and outlook of life. It could be a good source of farmers through participation in CIGs.

4.2.4 Farm size

Farm size of the CIG farmers ranged from 0.02 to 4.08 hectares, with an average of 0.45 hectares and standard deviation of 0.46. On the basis of their farm size, the farmers were classified into four categories i.e. marginal, small, medium and large farmer (DAE, 1999). Distribution of the respondents according to their farm size has been shown in Table 4.3. Data presented in Table 4.3 show that the highest proportion of the farmers (71.4 percent) had small farm size where, 23.8 percent, 3.8 percent and 1 percent of them had marginal, medium and large farm size, respectively. The findings indicate that majority (71.4 percent)

of the farmers had small sized farm. This means that overall farm size of the farmers of the study area was small compared to the farmers of other areas of Bangladesh. In might be an indication that the small farm holders were more interested to receive latest agricultural information from CIGs.

4.2.5 Farming experience

Farming experience of the farmers ranged from 1 to 30 years, with an average of 15.75 years and standard deviation of 8.44. On the basis of their experience, the farmers were classified into three categories i.e. fair experience (up to 10), good experience (11-20), high experience (above 20). Distribution of the farmers according to their farming experience has been shown in Table 4.3. Data presented in Table 4.3 show that less than half of the farmers (45.7 percent) had Good farming experience, while 32.4 percent and 21.9 percent of them had fair and high farming experience, respectively. The finding indicates that majority (45.7 percent) of the farmers had good farming experience because farmers of the study area are involved in various farm activities for their livelihood.

4.2.6 Annual income

The annual income of the beneficiaries ranged from 90 to 530 thousand taka with a mean of 165.59 thousand taka and standard deviation of 62.94 thousand taka. On the basis of annual income the respondents were divided into three categories namely ‘low’ (up to 100), ‘medium’ (100.1-225) and ‘high’ (above 225) income category. The distribution of the farmers according to their annual income is shown in Table 4.3. Data indicates that the highest proportion (77.1 percent) of the farmers had medium income followed by 10.5 percent having low income and 12.4 percent had high annual income. Majority (77.1 percent) of the respondents belonged to medium income categories. Findings reveal that the annual income of the respondents was medium because most of the family members are not involved in income generating activities.

4.2.7 Training experience

Training received of the respondents in the study area ranged from 1 to 6 days with an average of 1.72 and standard deviation of 1.29. On the basis of training received, the respondents were classified into three categories as short term training (1 to 2 days), mid-term training (3 to 4 days) and long-term (5 to 6 days) training received are presented in Table 4.3. Data revealed that 90.5 percent having short-term training received, 7.6 percent of

the farmers had long-term training received and 1.9 percent of them had mid-term training received. Findings indicated that majority of the farmers (90.5 percent) had short-term training experience. These results are not enough for the improvement of socio-economic status of the farmers. Thus the department of agricultural extension and authority of the CIG farmers may arranged training program for the farmers.

4.2.8 Organizational participation

The observed scores of organizational participation of the respondent farmers ranged from 1 to 9. The average scores were 3.95 and standard deviation was 2.28. The respondent farmers were classified into three categories namely 'low' (1 to 3), 'medium' (4 to 6) and 'high' (7 to 9) according to their responses is shown in the Table 4.3. The table shows that the highest proportion (46.7 percent) of the respondents had low organizational participation followed by 37.1 percent had medium and 16.2 percent had high organizational participation. The finding indicates that the farmers of the study area were not adequately participated with different types of organizations. The rural society of Bangladesh maintain traditional norms, beliefs, customs and these tradition not allowed the farmers to involve in different organizations more intensively.

4.2.9 Desirability

The desirability scores of the respondent's could ranged from 0 to 12, against the possible range of 0 to 12. The mean of 8.54 and standard deviation is 3.04 (Table 4.2). On the basis of desirability scores the farmers were categorized into three groups namely 'low' (0-4), 'medium' (5-8) and 'high' (9-12) as shown in Table 4.3. This table shows that highest proportion (52.4 percent) of the respondents had high desirability while 36.2 percent having medium desirability and 11.4 percent had low desirability. It can be seen from the findings that an overwhelming majority (52.4 percent) of the farmers had high desirability. Such findings are quite logical because most of the respondent farmers are closely attached with farming activities and these experiences increase their desirability.

4.2.10 Use of information sources

The observed range of use of information sources is 7 to 38 and the possible range is 0 to 45 with a mean of 19.68 and standard deviation of 6.77. The respondents were classified into three categories namely 'low' (up to 15), 'medium' (16-30) and 'high' (31-45) according to their responses as shown in the Table 4.3.The data in Table 4.3 indicates that most of the respondent farmers (62.9 percent) had medium use of different information sources as

compared to 28.6 percent had low use and 8.6 percent had high use. The findings were indicating that the CIG farmers had moderate use of different information sources and thus initiative should take for more involvement of the CIG farmers to take different extension program.

4.3 Relationship between the Selected Characteristics and Focus Issue

This section deals with the findings of the relationships between the selected characteristics and focus issue of the study. The selected characteristics of the farmers are: age, education, family size, farm size, farming experience, annual income, training experience, organizational participation, desirability, and use of information sources. The focus issue is improvement of socio-economic status of farmers. Pearson's Product Moment Correlation of co-efficient (r) was used to determine the relationships between the selected characteristics and focus issue and to accept or reject the null hypothesis. Five percent (0.05) and one percent (0.01) level of significance was used as the basis for acceptance or rejection of a null hypothesis. A summary of the correlation analysis is presented in Table 4.4 and the correlation matrix in the Appendix-B.

4.3.1 Relationships between age and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between age of the farmers and their socio-economic status improvement was 0.032 (Table 4.4). Based on the computed 'r' value the relationship between age and improvement of socio-economic status of farmers was not significant. Hence, the concerned null hypothesis could not be rejected. The researcher concluded that age had no significant relationship with their socio-economic status improvement at five percent level of significance.

4.3.2 Relationships between education and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between education of the respondents and their improvement of socio-economic status was 0.447 (Table 4.4). Based on the computed 'r' value the relationship between education and improvement of socio-economic status of the respondents was significant at 0.01 level of significance with 103 df. and followed a positive relationship. Hence, the concerned null hypothesis could be rejected. Thus, it could be said that there is a positive correlation between educations of the respondents with their

improvement of socio-economic status through participation in CIGs at one percent level of significance.

Table 4.4 Relationships between the selected characteristics and focus issue

Focus issue	Selected characteristics	Computed values of 'r' with 103 df.	Tabulated value of 'r'	
			0.05 level	0.01 level
Improvement of socio-economic status	Age	0.032	±0.191	±0.249
	Education	0.447**		
	Family size	-0.006		
	Farm size	0.263**		
	Farming experience	0.045		
	Annual income	-0.068		
	Training experience	0.306**		
	Organizational participation	0.365**		
	Desirability	0.351**		
	Use of information sources	0.418**		

*Correlation is significant at the 0.05 level and **Correlation is significant at the 0.01 level

4.3.3 Relationships between family size and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between family size of the respondent farmers and their improvement of socio-economic status was -0.006 (Table 4.4). Based on the computed 'r' value the relationship between family size and improvement of socio-economic status of the respondents was not significant. Hence, the concerned null hypothesis could not be rejected. The researcher concluded that family size had no significant relationship with their improvement of socio-economic status at five percent level of significance.

4.3.4 Relationships between farm size and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between farm size of the respondents and their improvement of socio-economic status was 0.263 (Table 4.4). Based on the computed 'r' value the relationship between farm size and improvement of socio-economic status of respondents was significant at 0.01 level of significance with 103 df. and followed a positive relationship. Hence, the concerned null hypothesis could be rejected. Thus, it could be said

that there is a positive correlation between farm size of the respondents with their improvement of socio-economic status through participation in CIGs.

4.3.5 Relationships between farming experience and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between farming experience of the respondents and their improvement of socio-economic status was 0.045 (Table 4.4). Based on the computed 'r' value the relationship between farming experience and improvement of socio-economic status of respondents was not significant. Hence, the concerned null hypothesis could not be rejected. From the above result, it could be concluded that, farming experience has no significant relationship with their improvement of socio-economic status at five percent level of significance.

4.3.6 Relationships between annual income and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between annual income of the respondents and their improvement of socio-economic status is -0.068 (Table 4.4). Based on the computed 'r' value the relationship between annual income and improvement of socio-economic status of respondents is not significant. Hence, the concerned null hypothesis could not be rejected. From the above result, it could be concluded that, annual income had no significant relationship with their improvement of socio-economic status at five percent level of significance.

4.3.7 Relationships between training experience and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between training experience of the respondents and their improvement of socio-economic status is 0.306 (Table 4.4). Based on the computed 'r' value the relationship between training experience and improvement of socio-economic status of respondent is significant at 0.01 level of significance with 103 df. and followed a positive relationship. Hence, the concerned null hypothesis could be rejected. Thus, it could be said that there is a positive correlation between the training experiences of the respondents with their improvement of socio-economic status at one percent level of significance.

4.3.8 Relationships between organizational participation and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between organizational participation of the respondents and their improvement of socio-economic status is 0.365 (Table 4.4). Based on the computed 'r' value the relationship between organizational participation and improvement of socio-economic status of respondents is significant at 0.01 level of significance with 103 df. and followed a positive relationship. Hence, the concerned null hypothesis could be rejected. Thus, it could be said that there is a positive correlation between the organizational participation of the respondents with their improvement of socio-economic status at one percent level of significance.

4.3.9 Relationships between desirability and improvement of socio-economic status of CIG farmers

The computed value of coefficients of correlation between the desirability and improvement of socio-economic status is 0.351 (Table 4.4). Based on the computed 'r' value the relationship between desirability and improvement of socio-economic status of the respondents is significant at 0.01 level of significance with 103 df. and followed positive relationship. Hence, the concerned null hypothesis could be rejected. Thus, it could be said that there is a positive correlation between the desirability of the respondents with their improvement of socio-economic status at one percent level of significance.

4.3.10 Relationships between use of information sources and improvement of socio-economic status of CIG farmers

The computed correlation coefficient between use of information sources of the respondents and their improvement of socio-economic status is 0.418 (Table 4.4). Based on the computed 'r' value the relationship between use of information sources and improvement of socio-economic status of respondents is significant at 0.01 level of significance with 103 df. and followed positive relationship. Hence, the concerned null hypothesis could be rejected. The researcher concluded that use of information sources had a significant positive relationship with their improvement of socio-economic status at one percent level of significance.