J. Agrofor. Environ. 7 (1): 77-80, 2013 ISSN 1995-6983

Problem faced by the farmers' in practicing one house one farm approach

S.M.A. Ullah, M.G. Farouque and M.Z. Rahman
Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh
E-mail: asiksm@gmail.com

Abstract: One House One Farm approach is the most suitable and emerging integrated farming technique in Bangladesh. The focus of the study was to identify and describe farmers' problems in practicing One House One Farm approach and to explore the relationships between the selected characteristics of the farmers with their problems in practicing One House One Farm approach. The study was carried out in two unions of Mymensingh sadar upazila. Data were collected from a sample of 60 farmers during July to August, 2011. Farmers' problems in practicing One House One Farm approach were first identified through several focus group discussions with the respective farmers in the study area and twelve problems were identified. Pearson's Product Moment Coefficient Correlation (r) was computed in order to explore the relationships between the farmers' characteristics and their problems. The selected characteristics were age, year of schooling, household size, farm size, family income, training received, extension media contact, family members' cooperation and agricultural knowledge. However, descriptive statistics such as mean, standard deviation and range were used to describe the variables. The findings revealed that 72% of the farmers had severe problem, 28% had moderate problem and none of the farmers faced low problem in practicing this approach. Among the twelve problems 'biasness in enlisting landless and poor farmers', 'complex loan distribution process' and 'lack of extension support from different organizations' were ranked in the first, second and third position respectively, while 'lack of cooperation among the farmers' was the last ranked problem. The correlation test showed that, household size, farm size, family income, training received and extension media contact of the farmers had significant relationships with their problems in practicing One House One Farm approach.
Key words: Problem, farmer, one house, one farm approach

Introduction

Climate change is a reality and no longer a future concern. South Asia is the most vulnerable region of the world to climate change and Bangladesh ranks high in the list of most vulnerable countries on the earth. Bangladesh's high vulnerability to climate change is due to its geographical location in South Asia, its flat deltaic topography with very low elevation, its extreme climate variability that is governed by monsoon and which results in acute water distribution over space and time, its high population density and poverty incidence and its majority of population being dependent on crop agriculture which is highly influenced by climate variability and change (Pender, 2008). Extension service can work in reducing poverty and changing cropping pattern to a more environment friendly one. Integrated framing can help to reduce the poverty of the country as well as preclude the climate change. One House One Farm approach is the most suitable and emerging integrated farming technique in Bangladesh.

The requirements to ensure sufficient production and conservation of the rural areas are developments of village organization, provision of need based training and capital to the villagers, increase savings, involvement of rural people in the local government authority and its sustainability. 'One House One Farm' project is undertaken for the generation and sustainability of overall management of different production programs as well as marketing, preservation and storage of produced commodities at field level at the vision of development of the rural areas of Bangladesh as well as coping with the challenges of climate change.

Farmers are the main executor and beneficiaries of this project. Bangladesh Rural Development Board (BRDB) is the leading executing agency of this project. The duration of the project is seven years starting from July, 2009 to June, 2016 worth of 5.927 billion taka. The main goal of this project is to reduce the poverty from 40% to 20% within 2015 by developing every family as a unit of sustained economy by maximum utilization of human and economic capitals. About five million poor rural families will be benefitted from this project (Anon. 2011).

The farmers can produce diversified products which will ensure their food security and also economic stability. Integration of products in a balanced way will also ensure resource recycling. For the successful adoption and sustainability of this project it is very important to know the problem faced by the farmers in practicing One House One Farm approach. Keeping these facts in mind, the present study had been undertaken to determine the farmers' problems in practicing One House One farm approach and to explore the relationships between the selected characteristics of the farmers with their problems in practicing One House One Farm approach.

Materials and Methods

Study Area, Population and Sample: The study was conducted in Akua and Bhabokhli union under Mymensingh Sadar upazila. From each union five villages were selected. The villages were fixed by Bangladesh Rural development Board (BRDB). The villages under Akua union were Dhakkhinpara, Moralpara, Chukietola, Udanbarara, Moddhobarara and the villages under Bhabokhali union were Ponghagra, Churkhai, Nehaelakanda, Unayarpar and Sutiakhali. The population of the study was the farmers who received training from BRDB under One House One Farm project. Akua and Bhabkhali union BRDB trained 80 farmers. Among them sixty farmers were considered randomly as sample of the study. From each village six farmers were selected. Akua union comprised 30 farmers and Bhabkhali union comprised 30 farmers. Thus the sample size was 60. Data were collected from the farmers through personal interview during July to August, 2011.

Variables and their measurement: Problems faced by the farmers in practicing One House One Farm approach was the main focus of the study. To identify the problems faced by the farmers in practicing One House One Farm approach two Focus Group Discussions (FGDs) were done in two unions Akua and Bhabkhali. From the FGDs 12 problems were identified. The problems were set against a

4-point rating scale. The scale had four points such as high, medium, low and not at all and the corresponding scores were given as 3, 2, 1 and 0 respectively. The problem confrontation score of a respondent could range from 0 to 36. Here, 0 indicating no problem and 36 indicating very high problem in practicing One House One Farm approach. Again problem confrontation index was computed for each of the farmers by using the following formula (Roy, 2009). Problem Confrontation Index = $3\times P_h + 2\times P_m + 1\times P_i + 0\times P_n$. Where, P_h = Total number of the farmers expressed 'high' for each problem, P_m = Total number of the farmers expressed 'medium' for each problem, P_l = Total number of the farmers expressed 'low' for each problem, P_n = Total number of the farmers expressed 'not at all' for each problem.

Selected characteristics of the farmers namely age, year of schooling, household size, farm size, family income, training received, extension media contact, family members' cooperation and agricultural knowledge of the farmers were also considered as variables for describing the socio-economic condition.

Data collection and Analysis: Data were collected by the researcher himself through focus group discussion (FGD), case study and personal interview from the farmers of the selected villages. Firstly two FGDs were done in two unions to identify the problems of the farmers and get an idea of the field situation. The interview was conducted with the respondents individually in their respective houses using pretested structured interview schedule. The analysis of the data was performed using SPSS (Statistical Package for Social Sciences) software.

Results and Discussion

Problems faced by the farmers in practicing One House One Farm approach: The problem confrontation score of the farmers ranged from 13 to 34 against the possible range of 0 to 36 with an average of 26.33 and standard deviation of 7.54. Based on the problem scores the farmers were classified into three categories i.e. low, moderate and severe. The distribution of the farmers according to their problem scores has been shown in Table 1. The Table revealed that majority of the farmers (72%) faced severe problems in practicing One House One Farm approach. Only 28% faced moderate problems and none of the farmers faced low problems. Various problems might be faced by the farmers in adopting and practicing One House One Farm approach. But the problems should be explored with their variation of extent or magnitude. The extent of the problems perceived by the farmers was assessed in this regard. Problem score for each statement was calculated by using problem confrontation index and it has been arranged in rank order according to their severity of problem. Mean was also calculated of the problem scores. The problems having mean score higher than 2.0 indicated that they are severe to the farmers and the problems having mean score between 1.0 to 2.0 indicated moderate problem in practicing of One House One Farm approach. The problems score ranged from 167 to 105 and mean ranged from 2.78 to 1.75.

Table 1. Distribution of farmers according to their problems in practicing One House One Farm approach

Possible range	Observed range	Categories	Farmer		Mean	SD
			No.	%		
0-36	13-34	Low (<12)	0	0	26.33	7.54
		Moderate (12-24)	17	28		
		Severe (>24)	43	72		
		Total	60	100		

Table 2. Extent of problems faced by the farmers in adopting One House One Farm approach

Problems	Extent of problems				PCI	Mean	Rank order
	Severe	Moderate	Low	Not at all			
Biasness in enlisting landless and poor farmers	47	13	0	0	167	2.78	1
Complex loan distributing process	42	16	2	0	160	2.67	2
Lack of extension support from the organizations	39	18	3	0	156	2.60	3
Unavailability of quality seed, saplings and fertilizer	37	19	4	0	153	2.55	4
Lack of training on specific topics	33	15	11	1	140	2.33	5
Political affiliation of the farmers	23	30	7	0	136	2.27	6
Misuse of the credit supplied from the govt.	19	31	7	3	126	2.10	7
Lack of knowledge on mixed farming	14	34	11	0	121	2.02	8
Untimely training and input supply	21	22	9	8	116	1.93	9
Selling small amounts of products in the market	19	23	8	8	111	1.85	10
Less tech. support from different organizations	7	32	21	0	106	1.77	11
Lack of cooperation among the farmers	17	21	12	10	105	1.75	12

Table 2 shows that the statement 'Biasness in enlisting landless and poor farmers' got the highest score and hence was considered as the 1st ranked problem. In our country we can see that incase of enlisting the poor and landless farmers the actual farmers are ignored in most of the causes due to their less power in the society. When the poor farmers don't get support from the implementing agency then the project will not be successful.

The statement 'Complex loan distributing process' got the second highest score and hence was considered as the 2nd ranked problem. This is due to the complex and lengthy loan distribution systems of our country. The statement 'Lack of extension support from the organizations' got the third highest score and hence was considered as 3rd ranked position. Lack of cooperation among the farmers and less technical support was considered as low problem by the farmers.

Selected characteristics of the farmers

Farmers have diversified nature and different characteristics. The characteristics of different farmers might have differential influence on the problems of the farmers. For this research only nine characteristics of the farmers were selected. The selected characteristics are age, year of schooling, household size, farm size, family income, training received, extension media contact, family members' cooperation and agricultural knowledge. The salient findings of the characteristics of the farmers are presented in Table 3. Data presented in Table 3 reveals that majority of the farmers (55%) were middle-aged and the highest portion of farmers (38%) had education up to primary level. Considering all members of a farm family the finding indicated the tendency of village people to form nuclear family instead of large working family. The findings of the table indicate that a high majority (81%) of the farmers belonged to the category of small farm size and the economic situation of the farmers were not good, where 76% of the farmers had low and medium family income. The table demonstrates that the amount of agricultural training received by the farmers in terms of days is at a satisfactory level with the average of 26.71 days. An overwhelming majority of 44% of the farmers had cooperation from the family members at medium level.

Table 3. Characteristic profile of the farmers

Characteristics (Measuring units)	Range		Respondents			Mean	SD
	Possible	Observed	Categories	No	%		
Age (Year)	Unknown	23-71	Young (18-35)	6	10	41.53	16.12
			Middle-aged (36-50)	33	55		
			Old (>50)	21	35		
Year of Schooling (Year)	Unknown	0-15	Illiterate (0)	8	13	7.09	5.13
			Primary education (1-5)	23	38		
			Secondary education (6-10)	19	32		
			Higher secondary (11-12)	7	12		
			Higher education (>12)	3	5		
Household size (Number)	Unknown	2-14	Small (upto 4)	5	8	6.13	1.87
			Medium (5-6)	31	52		
			Large (>6)	24	40		
Farm size (Hectare)	Unknown	0.11-1.87	Marginal (0.02-0.20)	4	7	0.67	0.39
			Small (0.21-1)	49	81		
			Medium (1.1-3.0)	7	12		
			Large (>3.0)	0	0		
Family Income (000' Tk.)	Unknown	24-253	Low (<50)	17	28	45.47	31.33
			Medium (50-100)	29	48		
			High (>100)	14	24		
Agricultural training received (Days)	Unknown	3-65	Short duration (<20)	21	35	26.71	17.47
			Mid duration (20-40)	33	55		
			Long duration (>40)	6	10		
Family members' cooperation (score)	0-32	7-30	Low extent (<10)	11	18	20.24	11.24
			Medium extent (10-21)	26	44		
			High extent (>21)	23	38		
Extension media contact (score)	0-24	3-22	Low (<8)	21	35	9.25	9.11
			Medium (8-16)	27	45		
			High (>16)	12	20		
Agricultural knowledge (score)	0-30	6-28	Poor (<10)	4	7	16.33	9.97
			Moderate (10-20)	44	73		
			Good (>20)	12	20		

Data indicates that among the total farmers 45% of them had medium extension contact and 35% of the farmers had low extension medium contact. Data indicates that 73% of the farmers had moderate agricultural knowledge, 7% of them had low agricultural knowledge and the rest of the farmers had high agricultural knowledge. This finding provides a clue that farmers knowledge level were moderate in the research area.

Relationship between the selected characteristics of the farmers and their problems in practicing One House One Farm approach

Relationship between the selected characteristics of the farmers and their problems in practicing One House One farm approach were ascertained by the Pearson's product moment coefficient of correlation (r) and the summary of the results has been presented in Table 4. Out of the nine selected characteristics, result showed that five characteristics namely; household size, farm size, family income, training received and extension media contact of the farmers had significant relationships with their problems in practicing One House One Farm approach. However, the rest of the characteristics selected for the research shown no significant relationship with their problems in practicing One House One Farm approach.

The finding of the study indicates that household size has an impact on the problem of the farmers. The farmers having large families face relatively less problem in practicing One House One Farm approach. In case of large families, the family members can help in different farming activities and other income generating activities more than small families. As a result the farmer faces less problem in practicing integrated farming technologies such as One House One Farm approach. Similar findings were also found by Imran and Afrad (2011) and Akhter (2008) and Rahman *et al.*,(2008) in their respective studies. Farm size of the farmers has significant relationship with the problem they face in practicing One House One Farm approach. Due to large farming area they can practice different farming commodities which makes integrated farming easier. This result is consistent with Afrad and

Haque (2009) and Rahman(2000). The study reveals that family income is significantly related with the problem faced by the farmer. The more the income of the farming family, the less they face problems. Similar findings were also found by Imran and Afrad (2011) in their respective studies.

Table 4. Coefficient of correlation (r) between the selected characteristics of the farmers and their problems

Focus Variables	Characteristics of the farmers	Computed r values for farmers	Tabulated r value with 58 d.f.	
			0.05 level	*0.01 level*
Problem Faced by the Farmers in Practicing One House One Farm approach	Age	0.120	0.214	0.299
	Year of schooling	0.086		
	Household size	- 0.254*		
	Farm size	- 0.643**		
	Family income	- 0.357**		
	Training received	- 0.248		
	Family members' cooperation	0.131*		
	Extension media contact	- 0.266		
	Agricultural knowledge	-0.205		

Agricultural training received by the farmers has significant relationship with the problem faced by the farmers in practicing One House One Farm approach. The main cause is training increases the skill and knowledge of farmers and improves their outlook which makes them more interested and efficient to practice this approach. Media contact enables an individual to gain more information and broaden his outlooks. High media contact means more farmers being enlightened and consequently having broader outlooks and progressive attitudes. Media contact enables individuals to come more in contact with different kinds of communication media namely, interpersonal, group and mass. This study reveals that, extension media contact had a negative effect on the problem of the farmers. When the extension contact is high, the farmers faced less problems in practicing One House One farm approach. Karmaker (2004), Hosen (2005) and Kabir *et al.* (2011) found similar findings in their respective studies.

Integrated farming technologies like One House One Farm is very important and effective to mitigate the challenges of climate change in Bangladesh. The present study reveals that majority of the farmers (72%) are facing severe problems in practicing One House One Farm approach. The top ranked problems faced by the farmers are biasness in enlisting farmers, complex loan distribution and lack of extension support. The government should take necessary steps regarding these problems. Out of the nine selected characteristics; household size, farm size, family income, training received and extension media contact of the farmers had significant relationships with their problems in practicing One House One Farm approach. In the future, for successful implementation of One House One Farm approach the government should develop policies considering the above characteristics of the farmers. So it can be concluded that farmers are facing severe problems in practicing this approach and probable actions regarding training, extension contact and income generating activities must be taken by the government for the successful implementation of integrated farming to coupe the challenges of climate change.

References

Afrad, M. S. I. and Haque, M. E. 2009. Problems Affecting Availability of Arsenic Free Drinking Water. Bangladesh Journal of Extension Education 21 (1&2): 1-8.

Akhter, S. 2008. Problems Faced by Rural Women in Participating Homestead Waste Management towards Achieving IPNS. Bangladesh Journal of Extension Education 20 (1&2): 67.

Anonymous. 2010. *Draft of Project Summary: One House One farm Approach*. Bangladesh rural Development Board (BRDB). Ministry of Local Government, Rural Development and Cooperatives. Government of the People's Republic of Bangladesh.

Rahman, M. H. 2000. Constraints Faced by the Farmers in Practicing Organic Farming in Selected Areas of Bangladesh. Bangladesh Journal of Extension Education 11 & 12 (1&2): 75-82.

Rahman, M. Z., Kashem, M. A., Rahman, M. H. and Haq, A. B. M. A. 2008. Peoples Participation in Coastal Biodiversity Management Activities in St. Martins Island. Bangladesh Journal of Extension Education 20 (1&2): 109-116.

Hosen, M. S. 2005. Barriers to Entrepreneurial Income Generating Activities Faced by Rural Women in ASA. M. S. Thesis, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

Imran, H. A. and. Afrad, M. S. I. 2011. Problems Confronted by the Displaces due to River Erosion. Bangladesh Journal of Extension Education 23 (1&2): 67-73.

Kabir, K. H., Kashem, M. A. and Miah, M. A. M. 2011. Constraints Faced by the Nursery Owners in Production of Saplings. Bangladesh Journal of Extension Education 23 (1&2): 53-60.

Karmaker, S. 2004. Constraints Faced by the Farmers in Adopting Aquaculture Technologies. M. S. Thesis, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh

Pender, J.S. 2008. What is climate change? And how it will affect Bangladesh. *Briefing Paper. (Final Draft).* Dhaka, Bangladesh : Church of Bangladesh Social Development Programme.

Roy, B. S. 2009. Farmers' Perception of the Effect of IPM for Sustainable Crop Production. M.S. Thesis, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.