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Small-scale Farmers' Attitude and Problems regarding One House One Farm Approach for their Livelihoods Improvement

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Abstract

Increasing population growth and decreasing land ratio made it difficult for rural people of Bangladesh to maintain their livelihood. Especially the small-scale farmers find it trickier using their scarce resources. One House One Farm approach (OHOF) is designed to utilize the house and farm resources of the small- scale farmers to improve their livelihood. The focus of the study was to determine small-scale farmers' attitude towards OHOF approach for their livelihood improvement and to identify the problems faced by the farmers in adopting OHOF approach. The study was carried out in two Upazilas of Sherpur district of Bangladesh. Data were collected from a sample of 200 farmers. Attitude of farmers' towards role of OHOF approach was measured under fifteen statements using five point Likert scale. The findings revealed that 66% of the farmers had favorable to highly favorable attitude, 28% had unfavorable to highly unfavorable attitude and only 6% had neutral attitude towards OHOF approach. In addition, an attempt was made to investigate the problems faced by the farmers in adopting and practicing that approach and was found that 56% farmers faced severe problem in case of adopting OHOF approach. Among the problems noticed by the farmers, Political affiliation of the farmers and their organizations and Complex loan distribution system were the main problems. The concerned authorities like DAE, BRDB (implementing partner of OHOF approach) and other NGOs should take necessary measure to solve the existing problems to enhance the positive attitude of small scale farmers towards OHOF approach.

Keywords: Attitude, OHOF approach, Small-scale farmers, Livelihood

1. Introduction

With more than 160 million people, Bangladesh remains one of the most overcrowded country in the world. Among this huge population, 64.96% are situated in rural areas and 47.48% account directly for agricultural employment out of total employment (World Bank, 2016). Being an agrarian country, agriculture comprises almost 80% people's involvement contributing 14.10% of the Gross Domestic Product (BBS, 2017). Though the economic condition of Bangladesh is improving, poverty is still a problem for major areas of the country. Especially in case of rural areas, about 53 percent people are classified as poor with nearly 26% people living below the poverty line (BER, 2013). So, without comprehensive development in agricultural sector, improvement of rural livelihood as well as overall development of the country is hardly possible. Understanding this fact, Government of Bangladesh manifest a project named 'One House One Farm' (OHOF) with the vision of 'poverty alleviation and sustainable development through fund mobilization and farming' (Uddin and Jannat, 2016). The project covered 9640 villages in 1928 unions

under 482 upazilas of the country. Some Information the project is given bellow:

- Project Name: One House One Farm
- Providing Ministry: Local Government, Rural Development and Cooperative Ministry
- Implementing Organization: Rural Development and Cooperative Division
- Associated Organization: Bangladesh Rural Development Board, Bangladesh Academy for Rural Development, Rural Development Academy,
- Project Duration: From July, 2009 to June, 2013, under government cost the first phase will be implemented. The second phase of the project will be implemented from July, 2013 to June, 2016.
- Project Cost: Taka 5.927 billion (Ullah, 2011).

The main goal of the project was 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 (Ullah, 2011).

The amount of Small-scale farmers (having cultivated land area (0.21-0.99 ha) (MOA, 2010) is more than 60 million which is about 40% of the total population and 60% of the rural population. The average farm size of small farmers is 0.24 ha (FAO, 2015). They are the main drivers of agricultural activities as the land owners hardly cultivate their lands. Under this project, they were supposed to produce diversified products which will ensure their food security and also economic stability that will lead to improve their livelihood situation. There is evidence that, the project beneficiaries are not happy with this project activity (Islam et al., 2013). So, the impact of this project should be measured to find out the gap between farmers' expectation and project performance. One major approach to determine the impact is to begin with the farmers' attitude. Attitude is the degree of positive or negative effect associated with psychological objects (Okunade and Oladosu, 2006). However, it is pertinent to note that the success of any extension programme depends largely on the attitude of the duo (Clientele & Agent). But essentially, dissemination of technologies compatible with existing farm practices encourage a positive attitude towards change (Rebecca, 2012) and usually leads to actual adoption behavior (Rehman et al. 2007). A favourable attitude raises the probability of technology adoption while a negative attitude depresses it (Meijer et al., 2015) But this measurement of farmers' attitude is not so easy as certain characteristics of farmers influence their attitude towards certain technology or approach (Ogunsumi and Omobolanle, 2011). Though several studies shows that farmers are quite positive towards new approaches (Haque, 2002; Sarkar, 2002; Hussain, 2001; Samad, 2010), the case is not same for small-scale farmers. Sometimes small-scale farmers restrict themselves to new approaches which affect their attitude to new approach (Dzomeku et al., 2009). It is highly needed to see the project's achievement to fulfill its mandate to improve the livelihoods of small-scale farmers by integrating production, marketing and storage activities So, this study was undertaken with a view to determine attitude of small-scale farmers towards role of OHOF Approach for their livelihoods improvement; and the problems encountered by them in adopting and practicing OHOF approach in their locality.

2. Materials and methods

2.1 Study area, population and sampling

The study was conducted in four villages under two upazilas namely, Nalitabari and Nakla of Sherpur district. The project started its first phase at the field level here and these upazilas have widespread poverty and malnutrition among small-scale farmers. These reasons motivated researchers to select the study area. A total of 800 small-scale farmers was involved with OHOF were considered as population of the study. From the population, 200 farmers (50 from each village) were selected as the sample of the study using simple-random sampling method. Sample farmers were interviewed using pre-tested structured interview schedule to collect the data during 05 January to 24 February 2016.

2.2 Selection and measurement of dependent and independent variables

Attitude of farmers towards OHOF approach was the dependent variable of the study which was measured based on fifteen statements. Farmers' attitude for each statement was measured using a five (5) Point Likert Scale. The similar scale was used by Khan (2013) who measured farmers' attitude towards modern jujube cultivation. The statement were measured with 'strongly agree' 'agree', 'undecided' 'disagree' and 'strongly disagree' responses where scores were 5, 4, 3, 2 and 1 respectively. Perceived attitude score for each farmer could thus range from 15 to 75, where 15 indicated strongly disagreement and 75 indicated strongly agreement. Problems faced by the farmers in adopting OHOF approach was measured based on ten selected problems using a four point rating scale. The scoring for the scale was 3, 2, 1 and 0 for High, Medium Low and not at all problem confrontation respectively. The problems were selected based on consultation with the stakeholders and pretesting of various problems. Thus the problem confrontation score of the farmers could range 0 to 30 for ten selected problems. Farmers' age, level of education, farm size, farming experience; annual family income, and extension media contact were

considered as the independent variables. These variables were measured using appropriate scales and scoring system. Different statistical tools were used for data analyses; however, descriptive statistics were used to interpret the data.

3. Results and discussion

3.1 Selected Characteristics of the Small-scale Farmers

The salient features of small-scale farmers' characteristics have been shown in the following Table 1. The majority of the farmers surveyed were found within the age of 50 (79%). Similar findings were found regarding age by Khan and Naz (2016). On an average farmers were found to have eight years of schooling i.e. secondary level education and this finding is supported by Faruk (2011). The literacy rate was quite higher than the national literacy rate of 61.5% (Khatun and Miwa, 2016) as only 5 percent farmers were found illiterate But similar to trend observed by Dev et al (2017) who also conducted research work in similar areas. . The average farm size of the farmers surveyed was 0.62 hectare that is similar to the national average farm size of 0.6 hectare (BBS, 2011). The average annual income of the farmers' in the study area was BDT 64720 (About 770 USD), which is lower than the average household income of BDT 1, 37,748 (HIES, 2010). On an average the farmers were reported about 12 years of farming experience. This was important to understand that most of the farmers surveyed were young to middle so they also have medium experience but receptive to new approaches. The highest proportion of the respondents (60%) was found with medium level of contact with extension services. So the information seeking tendency of the farmers seems to be moderate and similar trend stated by Roy, 2013.

3.2 Farmers' Attitude towards the role of OHOF Approach

Farmers' attitude towards role of OHOF Approach was the main focus of the study. Attitude scores of the farmers varied from 20 to 70 against the possible range of 15 to 75, with a mean of 41.06 and standard deviation 24.18. Based on the observed attitude scores, the respondents were classified into five categories as shown in Table 2.

Data presented in Table 2 indicate that most of the respondents (66 percent) had favorable to highly favorable attitude towards the role of OHOF approach. The favorable attitude of the farmers might be influenced by the opportunity to utilize the small farm area in an integrated way to get maximum output and benefits. Small-scale farmers have limited resources to earn their livelihoods. OHOF approach gives them the chance to improve their earning through effective utilization of every scope from the household area. So, the farmers received the required assistance to their normal living and this may be influenced them to show favorable attitude towards the approach. But the important point is that, respondents' were found with all the level of the attitude categories where 28 per cent were unfavorable to highly unfavorable and 6 percent were neutral in their opinion. So it can be said that attitude response were quite mixed and many of the involved farmers were still not sure about the beneficial outcome of the approach. This might be because of the lack of required follow-up assistance and technical know-how of the farmers to manage the household farm. To have an understanding about the extent of attitude of the respondents for each statement computed mean values have been shown in Table 3.

It is evident from the Table 3 that 'OHOF approach provides opportunity for diversified crop production' has ranked first as the attitude score of the respondents. As this approach gives emphasis to increase income of the participants using the resource to the fullest, it creates a greater scope for diversified crop cultivation. This approach also motivates farmers to cultivate diversified crops and plants to ensure earnings from all season and all available space. 'Nutritional security of the family members enhanced' got second rank in the attitude score with a mean value of 4.26. As this approach involves establishment of farm consisting different components like crop, livestock and fisheries, it ensures supply of proper nutritional contents to the family members.

'Problems to reach all categories of farmers', and 'This approach assists develop homestead gardening' ranked third and fourth respectively as this approach emphasizes maximum production from a farm year-round increasing the overall income of the family. 'Landless farmers get more privilege than other categories of farmers' got the lowest rank. In reality landless farmers were not given due support from the implementing agencies for establishing the farm. Farmers require minimum level of household area to establish a farm. In some cases they were also lack of homestead area which hindered the motto of the project.

Table 1. Salient Features of the Selected Characteristics of the Small-Scale Farmers

Characteristics	Scoring system	Range		Respondent Categories	Respondent's Percentage (n=200)	Mean	SD*
		Possible	Observed				
Age	Years	Unknown	21-70	Young (upto 35)	14.0	43.41	16.15
				Middle age (36-50)	65.0		
				Old (Above 50)	21.0		
Level of education	Years	Unknown	0-12	Illiterate(0)	5.0	7.76	5.29
				Primary (1-5)	36.0		
				Secondary (6-10)	54.0		
				Higher secondary (11-12)	5.0		
Farm size	Hectare	Unknown	0.01-0.94	Landless (<0.02 ha)	14.0	0.62	0.46
				Marginal (0.02-0.2 ha)	70.0		
				Small (0.21-1.0 ha)	16.0		
				Medium (1.01-3.0 ha)	0		
				Large (Above 3.0 ha)	0		
Farming experience	Years	Unknown	8-24	Low (up to 09 years)	51.2	11.36	9.21
				Medium (09-19 years)	45.0		
				High (Above 19 years)	3.8		
Annul family income	'000' Tk.	Unknown	36-251	Low (up to 50)	20.0	64.72	33.29
				Medium (50.1-150)	59.0		
				High (above 150)	21.0		
Extension media contact	Scale score	0-24	4-20	Low (1 to 11)	73.8	10.59	8.23

Table 2. Distribution of Farmers According to Their Attitude Score

Possible range	Observed range	Categories	Farmers (N=200)		Mean	SD
			f	%		
15-75	20-70	Highly unfavourable (up to 15)	26	13	41.06	24.18
		Unfavourable (up to 44)	30	15		
		Neutral (45)	12	6		
		Farourable (up to 60)	86	43		
		Highly favourable (up to 75)	46	23		

3.3 Problems in adopting and practicing OHOF approach

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 4

Data in Table 4 revealed that majority of the farmers (56%) faced severe problems in adopting OHOF approach. Forty one percent faced moderate problems and only 3% of the farmers faced low problems.

Various problems might be faced by the farmers in adopting and practicing OHOF 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 mean value for each statement and it has been arranged in rank order according to their severity of problem. The mean problems score ranged from 2.71 to 1.63 out of 0 to 3.0.

Table 3. Distribution of farmer based on attitudinal statements

Statements	Extent of attitude					Mean	Rank order
	SA	A	U	S	SD		
OHOF approach provides opportunity for diversified crop production	140	55	3	2	-	4.54	**1**
Nutritional security of the family members enhanced	138	46	10	6	-	4.26	**2**
This approach helps increase family income	120	55	10	15	-	4.18	5
Ensure financial security	125	42	18	12	3	4.16	6
Farmers get quality seeds and other input supply from the implementing organization	93	66	10	15	16	3.12	13
It provides facility for loan without interest to poor farmers	87	71	-	18	24	3.09	14
Training provided through this approach helps farmers increase their skill on farming	75	98	12	15	-	3.02	15
Political involvement is required to get loan and input supply	104	63	6	15	12	3.79	9
It enhances mixed farming	99	74	12	11	4	3.24	10
Income generating non-agricultural activities are not included	-	23	10	61	106	3.94	7
This approach assists develop homestead gardening	124	68	8	-	-	4.25	4
Field level agents of BRDB (implementing organization) provide necessary supports	75	60	10	20	40	2.87	8
Since DAE is not involved with this approach, BRDB often face problems to reach all categories of farmers	123	55	7	15	-	4.26	**3**
Limited manpower of BRDB is a main challenge to implement the approach	98	71	21	10	-	3.19	11
Landless farmers get more privilege than other categories of farmers	30	26	12	34	98	3.17	12

SA: Strongly agree, A: Agree, U: Undecided, D: Disagree, SD: Strongly disagree

Table 4. Distribution of farmers based on problems in adopting and practicing OHOF approach

Possible range (Score)	Observed range(Score)	Categories	Farmers (N=200) F	%	Mean	SD
0-30	8-28	Low (up to 10)	6	3	23.76	7.38
		Moderate (10-20)	82	41		
		Severe (>20)	112	56		

Table 5. Extent of problems faced by the farmers in adopting and practicing OHOF approach

Problems	Mean	Rank order
Lack of support from the implementing organization	2.22	8
Unavailability of quality seed saplings and fertilizers	2.50	5
Political affiliation of the farmers and their organizations	2.71	1
Lack of knowledge on mixed farming	2.34	6
Inadequate of training on specific subject matter	2.58	3
Misuse of credit supplied from the government	2.29	7
Complex loan distribution system	2.68	2
List of farmers prepared with political biasness	2.54	4
Less technical support from different organizations	1.78	9
Lack of cooperation among farmers	1.63	10

The Table 5 shows that the statement 'Political affiliation of the farmers and their organizations' got the highest score and hence was considered as the 1st ranked problem. In our country we can see that political power influences majority of the activities. When the participant was selected for the project, political affiliation influences the selection of the farmers which sometimes ignores the main needy persons of the project.

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 'Inadequate of training on specific subject matter' 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.

4. Conclusion and recommendations

Majority of the farmers showed favorable attitude towards role of OHOF approach leads to the conclusion that this approach is accepted by the farmers and it can be expanded to the other suitable regions of the country considering the findings. But some farmers are still not getting the desired output from the involvement of the approach. So, it is needed to explore why they are showing unfavorable attitude and those reasons should be taken into consideration. Based on the findings the following specific recommendations may be put forward i) Arrangement of campaigns by the DAE, BRDB and the local level NGOs to increase mass motivation regarding OHOF approach; ii) Organization of training programmes as well as conduction of result demonstration at different regions of the country by the respective departments; iii) Arranging visit to the model farmers who adopted the approached and got benefited from it. BRDB can establish more model based on One Hose One Farm in areas where farmers' adoption rate is slow. Also, the process for selecting farmers should be more transparent, so that actual needy farmers could get benefit from this approach.

References

1. BBS. (2017). 'Statistical Yearbook of Bangladesh. Bangladesh Bureau of Statistics', Statistics Division. Ministry of Planning, Government of the People's Republic Bangladesh.

2. BBS. (2012). 'Statistical Yearbook of Bangladesh'. Bangladesh Bureau of Statistics, Statistics Division. Ministry of Planning, Government of the People's Republic Bangladesh.

3. BBS. (2011).Yearbook of Agricultural Statistics of Bangladesh. Bangladesh Bureau of Statistics, Statistics Division, Ministry of Planning, Government of People's Republic of Bangladesh, Dhaka.

4. BER. (2013). Bangladesh Economic Review, Finance Division, Ministry of Finance, Government of the People's Republic of Bangladesh, Dhaka.

5. BRDB. (2009). Annual report of Bangladesh Rural development Board 2009. Ministry of Local administration, Rural Development and Cooperatives. Government of the People's Republic of Bangladesh.

6. Dev, D.S., Hoque, M.J., and Miah, M.A.M. (2017). Problems Faced by the Participant Farmers in the Training Process: A Case of Climate Risk Management Training in Agriculture. International Journal of Social Science. 6(2): 143-151. doi: 10.5958/2321-5771.2017.00016.

7. Dzomeku, B.M., Armo-Annor, F. and Adjei-Gyan, K. (2009). Smallholder Farmers' Attitude towards Biotechnologically Developed Musa Hybrids in Ghana. Agriculture: Africa's „engine for growth' - plant science and biotechnology hold the key', Rothamsted Research, Harpenden, UK.

8. FAO (2015). The economic lives of data from nine countries. Food and Agriculture Organization of the United Nations Rome.

9. Faruk, M. O. (2011). Commercial potato growers' contact with information sources through mobile phone. (unpublished Master's Thesis).Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

10. Haque, M. Z. (2002). Attitude of Rural Women towards Homestead Agriculture in a Selected Area of Panchagarh (unpublished master‟s thesis). Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

11. HIES. (2010).Household Income and Expenditure Survey. Bangladesh Bureau of Statistic. Ministry of Planning, Government of People's Republic of Bangladesh. Dhaka.Bangladesh.

12. Hussain, M. M. (2001). Farmers‟ attitude towards Fish-rice Programme of CARE in MuktagachaUpazila of in a Selected Area of district (unpublished master‟s thesis). Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

13. Islam, I., Haque, M. J., Miah, M. A. M. and Sheheli, S. (2013). Competency assessment of the farmers on the application of 'one house one' farm approach, Progressive Agriculture, 24: 291-299.

14. Khan, M. A. A. (2013). Farmers' attitude towards modern jujube cultivation (unpublished master's thesis). Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

15. Khan, J. H. and Naz, ,N. (2016).Pattern of Commuting: A Case Study in Aligarh City International Journal of Humanities and Applied Social Science, 1 (3).55-68.

16.

17. Khatun, N. and Miwa , J. (2016). An Autonomous Learning System of Bengali Characters Using Web-Based Intelligent Handwriting Recognition, Journal of Education and Learning, 5(3):122-138.

18. Meijer, S.S., Catacutan, D., Ajayi, O.C., Sileshi, G.W., & Maarten, N. (2015). The role of know ledge, attitudes and perceptions in the uptake of agricultural and agro forestry innovations among smallholder farmers in sub-Saharan Africa. International Journal of Agricultural Sustainability, 13 (1), 40-54

19. MOA. (2010). Ministry of Agriculture, Government of Bangladesh. New Agricultural Extension Policy (Dhaka: MOA).

20. Okunade, E.O. and Oladosu I.O. (2006). Rating of Extension Teaching Methods for Training Female Farmers in Osun state, Nigeria. Proceedings of 10thAnnual Conference of Agricultural Extension of Nigeria.

21. Ogunsumi and Omobolanle, L (2011). Attitude of farmers towards improved agricultural technologies in south-west Nigeria. African Journal of Biotechnology, 10(50): 10108-10115.

22. Rebecca, A. A. (2012). Attitude of women farmers towards agricultural extension services in Ifelodun local government area, Osun State. American journal of social and management sciences, 3(3): 99-105.

23. Rehman, T., McKemey, K., Yates, C.M., Cooke, R.J., Garforth, C.J., Tranter, R.B., Park, J.R., & Dorward, P.T. (2007). Identifying and understanding factors influencing the uptake of new technologies on dairy farms in SW England using the theory of reasoned action. Agricultural Systems, 94 (2), 281 -293.

24. Roy, D. (2013). Effectiveness of Farmer Field School for Soil and Crop Management (unpublished Master's Thesis).Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

25. Samad, M.A. (2010). Farmers‟ Attitude towards Aerobic Rice Cultivation (unpublished master‟s thesis). Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

26. Sarkar, B. (2002). Attitude Rice Growers towards the Use of Di-ammonium Phosphate (DAP) on Rice Cultivation in a Selected Area of Rajbari District (unpublished master‟s thesis). Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

27. Uddin, M. T. and Jannat, A. (2016). Farmers' livelihood through 'one house oneFarm' approach in selected areas ofMymensingh district of Bangladesh. SAARC J. Agri., 14(2): 90-106.doi: http://dx.doi.org/10.3329/sja.v14i2.31248

28. Ullah, S. M. A. 2011. Farmers' perception of 'OHOF' approach. M.S. thesis, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

29. World Bank 2016. World Bank collection of development indicators. Available at: https://tradingeconomics.com/bangladesh/employment-in-agriculture-percent-of-total-employment-wb-data.html (searched date: 04 October, 2017)