PROBLEM CONFRONTATION OF THE FFS FARMERS IN PRACTICING IPM

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Accepted for publication: September 09, 2008

ABSTRACT

Hoque M. K., Alam M. A., Molla M. M. U., Mosaddeque H.Q.M. and Mollah M.A.F. 2009. *Problem Confrontation of the FFS Farmers in Practicing IPM*. **j. innov.dev.strategy 2(3): 12-17**

This study was conducted farmers in different unions of Bancharampur upazila under Brahmanbaria district during September 15 to October 30, 2006 to determine and describe the problem confrontation in practicing IPM by the FFS farmers. The study also explored the relationships between the selected characteristics of the FFS farmers' with their problem confrontation. The selected characteristics included were age, literacy, family size, farm size, annual income, contact with change agent, organizational participation, cosmopoliteness, knowledge about IPM and agricultural knowledge. Data were collected from a sample of randomly selected 120 FFS farmers from the 6 FFS. In respect of problem confrontation, the findings highlighted that the maximum proportion (43.34 %) of respondents had high while 30.83 % medium and 25.83 % low problem confrontation in practicing IPM. The literacy and knowledge of the farmers about IPM and agricultural knowledge had significant negative correlation with their problem confrontation in practicing IPM. The variable farm size and annual income had a significant positive correlation with their problem confrontation. Rest of the variables, namely age, family size, contact with change agent, cosmopoliteness and organizational participation had no significant relationship with problem confrontation.

Key words: Problem confrontation, FFS farmers, practicing IPM

INTRODUCTION

Agro-chemicals play a vital role in increasing productivity, but its use is now considered hazardous for our eco-system. In fact, the scale and non-judicious use of agro-chemicals for a long period has been damaging for our natural resources such as land, fishes, beneficial insects, soil microbes, etc. The environment problems of developing countries are largely due to over exploitation of lands and now-days this is an issue of multidimensional and international nature. Increased use of pesticides and artificial fertilizers is also causing environmental problems. Farmers are the ultimate users of agro-chemicals to control their crop pests. Bangladesh is not exceptional of this general trend of environmental degradation. Agriculture and environment has a close relationship and interact with each other in such a way that the health of agriculture depends on the proper functioning of environmental process and also upon a respectful agriculture (Conway, 1990). It has been found in different countries of the world that in addition to beneficial effect, the improved agricultural practices have tremendous influence on environmental population and Bangladesh is not exceptional to this (Sattar, 1994). So it is necessary to know the awareness and overall knowledge of the farmers about Integrated Pest Management (IPM) as well as environmental pollution.

Integrated Pest Management (IPM) is an appropriate package of technology for pest management, which is most economical and less hazardous to the environment. As most of the farmers of Bangladesh are poor, they could hardly spare the money for expensive toxic pesticides. IPM educates the farmers to utilize the ready available sources of biological control agents, tolerant genetic resources, modern cultivation practice and mechanical means of control. Above all, IPM has ample scope of making less reliant on chemical control. Through imparting practical IPM field training, the FFS farmers become aware of the harmful effect of pesticides used.

IPM was stared from 1981 through simple demonstration at field level and became popular during the second phase on the FAO's inter-country program in 1989. Farmers who were trained under this program were able to reduce their pesticide use substantially. However, in order to receive such benefits and to see a significant positive impact of IPM in Bangladesh, a large number of farmers need to be trained in IPM.

Already with the lunching of UNDP funded National IPM program, DANIDA's strengthening of plant protection services (SPPS), CARE's "NOPEST" and INTERFISH project, ADB's command area project, FAO's inter-country vegetable IPM program and the involvement of a number of other NGO's in IPM activities are running to ponder over this concept and give sufficient though for its application. So, it is necessary to know about the environment awareness and problem concept of IPM, if applied properly, can reduce the quantity of pesticide of Bangladesh. This will save foreign exchange, reduce farmers production cost and above all, lessen threats on environment. The present study was undertaken to assess the problems of farmers in practicing IPM who got training through Farmers' Field School (FFS). In order to give proper direction to study the following objectives were formulated.

1) To determine and describe some selected characteristics of the FFS farmers.

2) To determine the problem confrontation of the FFS farmers.

3) To explore the relationship between selected characteristics of the FFS farmers problem confrontation in practicing IPM.

MATERIALS AND METHODS

The study was conducted in Bancharampur upazila under Brahmarbaria district. Six Farmers Field School (FFS) were randomly selected in 6 respective village such as Bancharampur, kadamtali, Saifullkandi, khalla, Bancharampur, Ujanchar, A total of 120 FFS farmers were selected at random by taking 20 from each of the 6 Farmers Field School. Data were collected during the period from September to October 2006. The independent variables of this study were age, literacy, family size, farm size, annual income, contract with change agent, completeness, organizational participation, knowledge about 1PM and agricultural knowledge and dependent variable was the problems confrontation of the FFS farmers' in IPM practicing. All these variables were measured by computing appropriate score, variance statistical measures such as range, mean, percentage, standard deviation. Co-efficient of correlation was computed to explore the relationship between dependent and independent variables. Five percent (0.05) level of probability was used to reject any null hypothesis.

RESULTS AND DISCUSSION

Selected characteristics of the FFS farmers (independent variables)

Table 1 indicates that the highest proportion 60.83 percent of the FFS farmers was in the young group, while 32.84 percent and 3.33 percent belonged to middle and old aged category. However, the data also reveal that 96.67 percent of the farmers in the study area were young to middle aged category.

Various agricultural organizations are involved in the transfer of new technology have given emphasis in choosing young to middle aged farmers. Because more or less of them were involved in cultivation and younger people are comparatively more energetic, prompt, enthusiastic and innovative than the older people in our country.

Data furnished in Table 1 indicate that the highest proportion 44.17 percent of the farmers were primary level education whereas second highest 18.33 percent were secondary, 5.00 percent above secondary, 16.67 percent can sign and 15.83 percent illiterate. Majority 67.5 percent of the farmers was found literate from primary to above secondary level. Data also indicate that the average family size (4.84) of the farmers in the study area was lower than the national average of 5.6 (BBS, 2005).

Table 1 show that the highest proportion (40.00 percent) of the farmers belonged to large farm group compared to 38.33 and 21.67 percent small and medium farm group respectively. The average farm size of the farmers was 0.66 hectares, i.e., smaller than national average (0.81 hectares) (BBS, 2005). The highest proportion (48.33%) of the farmers had medium family income, while 19.17 percent low and 32.50 percent had high income. As a result, the majority proportion (80.83 percent) of the FFS farmers family in the study area constitute medium to high income categories (Table 1).

Data presented in Table 1 that 35 percent of the farmers had high contact with change agents while 25.83 percent had medium contact with the change agents. The remaining 39.17 percent of the farmers were low contact with the change agents. About 31 percent of the farmers had medium cosmopoliteness compared to 65.83 percent low and only 3.34 percent high cosmopoliteness. Data also reveal that majority (96.66 percent) of the farmers were medium to low cosmopoliteness. On the other hand 85 percent of the farmers had low to medium organizational participation and only 15 percent of the farmers had high participation in the organization. The highest proportion (98.33 percent) of the farmers were medium to high knowledge about IPM and only 1.67 percent of them low knowledge about IPM (Table 1). Data contained in the Table 1 indicate that the highest proportion (78.33 percent) of the farmers had medium to high agricultural knowledge.

Table 1. Salient features of the farmer's selected characteristics and problem confrontation

Selected characteristics	Scoring method	Possible range of score	Observed range of score	Categories	Farmers (n=120)		Mean	SD
					No.	%		
Age	No. of years	-	15-54	Young (15-35)	73	60.83	32.06	10.28
				Meddle aged 36-50	43	5.84		
				Old above 50	4	3.33		
Literacy	Years of schooling	-	0-12	Illiterate 0	19	15.83	3.24	3.27
				Sign literate 0.5	20	16.67		
				Primary literate 1 to 5	53	44.17		
				Secondary literate 6 to 10	22	18.33		
				Above literate above 10	9	5.00		
Family size	No. of members	-	2-9	Small family 2-4	55	45.83	4.84	1.74
				medium family 5-7	54	45.00		
				large family above 10	11	9.17		
Farm size	Size in hectares	-	0.2-1.75	Small farm 0.20-0.49	46	38.33	0.66	0.32
				medium farm 0.50-0.79	26	21.67		
				large farm above 0.79	48	40.00		
Annual income	In Tk. (1000)	-	20-70	Low income up to 35	23	19.17	44.70	11.90
				medium income 36-50	58	48.33		
				high income above 50	39	32.50		
Contact with change agent	Scaling	0-57	17-40	low contact 17-24	47	39.17	27.29	6.62
				medium contact 25-30	31	25.83		
				high contact above 30	42	35.00		
Cosmopoliteness	Scaling	0-24	10-22	low cosmopoliteness 10-15	79	65.83	15.26	10.34
				medium cosmopoliteness 16-	37	30.83		
				20 high cosmopoliteness > 20	4	3.34		
Organizational participation	Scaling	-	4-40	low participation 4-14	58	48.33	16.59	9.95
				medium participation 15-25	41	36.67		
				high participation above 25	18	15.00		
Knowledge about IPM	Scaling	0-50	19-40	low IPM knowledge below 20	2	1.67	24.87	5.68
				medium IPM knowledge 20-	86	71.67		
				25 high knowledge above 25	32	26.66		
Agricultural knowledge	Scaling	0-50	24-43	low knowledge below 20	26	21.67	29.74	4.63
				medium knowledge 20-25	61	50.83		
				high knowledge above 25	33	27.50		
Problem confrontation	Scaling	0-66	7-23	low problem 7-15	31	25.83	18.03	4.79
				medium problem 16-20	37	30.83		
				high problem above 20	52	43.34		

Problem confrontation of the FFS farmers

The problem confrontation scores on the basis of Practicing IPM of FFS farmers ranged from 7 to 23 with an average 18.03. From the Figure 1 it reveals that 43.34% of the respondents had high problem confrontation while 30.83% medium problem confrontation and 25.83% had low problem confrontation.

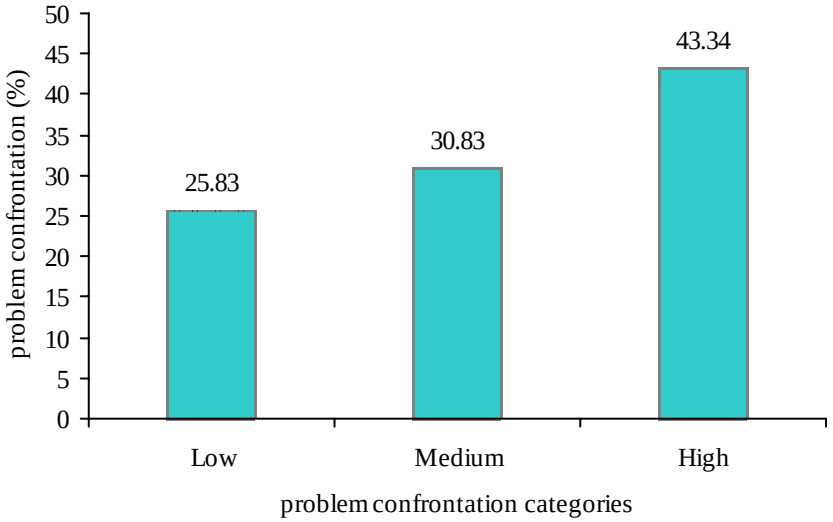

Figure 1. Distribution of the respondents according to their problem confrontation of the FFS farmers in practicing IPM

Relationship between independent and dependent variables

The relationship of the ten selected characteristics of the FFS farmers with their problem confrontation is presented in Table 2. The characteristics included age, literacy, family size, farm size, annual income, contact with change agent, cosmopoliteness, organizational participation, knowledge about IPM and agricultural knowledge.

Table 2. Relationship between the selected characteristics of the respondents with their problem confrontation

Dependent variable	Independent variable	Correlation coefficient (r)
Problem confrontation of FFS farmers	Age	0.025NS
	Literacy	-0.639***
	Family size	0.040NS
	Farm size	0.199*
	Annual income	0.193*
	Contact with change agent	-0.063NS
	Cosmopoliteness	0.053NS
	Organizational participation	0.002NS
	Knowledge about IPM	-0.769**
	Agricultural knowledge	-0.561***

N= 120, Degrees of freedom= 118, NS= Not significant

Table value at 5 percent level = 0.176 * Significant at 0.05 level of probability
Table value at 1 percent level = 0.230 ** Significant at 0.01 level of probability
Table value at 0.1 percent level = 0.292 *** Significant at 0.001 level of probability

Relationship between problem confrontation of the FFS farmers and their selected characteristics

Age of the respondents and their problem confrontation

The null hypothesis was "The age of the FFS farmers is not related with their problem confrontation in practicing IPM''. Table 2 indicates that the age of the FFS farmers had no significant relationship with their problem confrontation in practicing IPM.

Literacy and problem confrontation of the FFS farmer

The null hypothesis was "The literacy of the FFS farmers is not related with their problem confrontation in practicing IPM''. Table 2 indicates that literacy makes a man wise, broadens his outlook and extends his knowledge. Literacy persons are used to have frequent contact with the printed materials and exposed to various sources. So they are not supposed to encounter any sort of problem in practicing IPM.

Family size and problem confrontation of the FFS farmers

The null hypothesis was "The family size of the FFS farmers is not related with their problem confrontation in practicing IPM''. Table 2 indicates that the family size did not play any role on problem confrontation in practicing IPM by the FFS farmers.

Farm size of the respondents and their problem confrontation

The null hypothesis was "The farm size of the FFS farmers is not related with their problem confrontation in practicing IPM''. It is found that the farm size plays a significant role on the problem confrontation in practicing IPM by the FFS farmers (Table 2). A person having big farm size is supposed to get heavily involved in farming business in order to make profit from his land. More he gets involved with farm business; he is likely to face more problems in achieving the goal.

Annual income of the respondents and their problem confrontation

The null hypothesis was "The annual income of the FFS farmers is not related with their problem confrontation in practicing IPM''. The relationship between the two variables was significant which indicated that the annual income plays a great role on problem confrontation in practicing IPM (Table 2).

Contact with change agent and problem confrontation of the FFS farmers

The null hypothesis was "The contact with change agent of the FFS farmers is not related with their problem confrontation in practicing IPM''. The relationship between the two variables was not significant which indicated that the contact with change agent has no effect on problem confrontation in practicing IPM by the FFS farmers.

Cosmopoliteness and problem confrontation of the FFS farmers

The null hypothesis was "The cosmopoliteness of the FFS farmers is not related with their problem confrontation in practicing IPM''. The relationship between the two variables was highly significant (Table 2).

Organizational participation and problem confrontation of the FFS farmers

The null hypothesis was "The organizational participation of the FFS farmers is not related with their problem confrontation in practicing IPM''. Findings of the study show that the organizational participation did not affect on the problem confrontation in practicing IPM by the FFS farmers.

Knowledge about IPM and problem confrontation of the FFS farmers

The null hypothesis was "The knowledge about of the FFS farmers is not related with their problem confrontation in practicing IPM''. The relationship between the two variables was highly negative significant which indicates that knowledge about IPM makes a man wise about argil practices in considering environment all aspect. So, they are not facing any problem in practices IPM.

Agricultural knowledge of the respondents with their problem confrontation

The null hypothesis was "The agricultural knowledge of the FFS farmers is not related with their problem confrontation in practicing IPM''. The relationship between the two variables was negatively significant. Agricultural knowledge as such may not necessarily increase the IPM knowledge. The increase knowledge on IPM of an individual leads him better to face increased problem confrontation in practicing IPM. Because he knows how to practice and maintain IPM considering the surrounding environment.

CONCLUSION

The findings revealed that about two fifth (43.34%) of the respondents had high problem confrontation, three tenth (30.83%) of the respondents had medium problem confrontation and one forth (25.83%) of the respondents had low problem confrontation in practicing IPM. It was found that the IPM knowledge and agricultural knowledge of the

respondents had negative significant influence on their problem confrontation in practicing IPM. It means that those having less knowledge they would confront more problems in practicing IPM.

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