



ECONOMIC ASSESSMENT OF FARMERS FIELD SCHOOL TRAINING PROGRAMME WITH ADOPTION OF IPM PRACTICES BY THE RICE GROWERS OF KORBA DISTRICT OF CHHATTISGARH, INDIA

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Abstract

The study was conducted in Korba district of Chhattisgarh, during the year 2011-12. Total 120 farmers were considered as respondents. The data were collected through personal interview with the help of pretested interview schedule and analyzed by using appropriate statistical tools like mean, standard deviation frequency and percentages etc. The finding of the study revealed that the majority of the FFS trained farmers (50.00%) belonged to young age group (up to 35 years), whereas the majority of the FFS untrained farmers (61.66%) belonged to middle age group (36 to 50 years), majority of the FFS trained farmers (33.33%) were having higher secondary level of education, whereas, the majority of FFS untrained farmers (38.33%) were having primary school level of education, the majority (75%) of the FFS trained farmers had medium family size (6 to 10 members) and The majority of the FFS untrained farmers (68.33%) had medium family size (6 to 10 members), the majority of the FFS trained farmers (63.33%) were having medium experience (4 to 8 years), whereas the majority (51.67%) of the FFS untrained farmers had less experience (up to 3 years). The majority of the FFS trained farmers (51.66%) were having medium size of land holding (5.1 to 10 acre) whereas the majority of the FFS untrained farmers (35%) came under small size of land holding (having 2.51 to 5 acre), the majority (43.33%) of the FFS trained farmers were involved in agriculture whereas, the majority (41.66) of FFS untrained farmers were involved in agriculture and labour, majority of the (55%) of FFS trained farmers were involved in 2 to 3 occupations including agriculture whereas FFS untrained farmers are as same, the majority of the FFS trained farmers (41.66%) were having their income ranging from Rs. 30,001 to Rs.50, 0000 (High category) per annum whereas the majority of (45%) FFS untrained farmers earned Rs. 20,001 to Rs. 30, 0000 (Medium category) per annum.

Key words : Socio-personal, socioeconomic characteristics, Korba, Chhattisgarh.

Introduction

Rice plays important roles in both producers and consumers' life in rice cultivated area. About 80% Kharif sown area of plains, 68% of hills and plateau region of Chhattisgarh is occupies by rice. There are acute needs of exploring new technology for substantial growth, development and increasing of food production. Issue of protecting the different crops from the insect, pest and diseases is measure issue in India.

All paddy growers experience pest problems from time to time, and pest management can be a real challenge. Insects, plant diseases, weeds, slugs and other animals can cause significant plant damage.

The IPM is a dynamic approach and process which varies from area to area, time to time, crop to crop and

pest to pest etc. and aims at minimizing crop losses with due consideration to human and animal health besides safety to environment. Live and let live is the philosophy behind IPM. IPM approach has been globally accepted for achieving sustainability in agriculture.

FFS is a group-based learning process that includes hands-on training methods in which farmers test management methods/production technologies for themselves and learn concepts directly. Training also includes communication skills, skills in identification and problem solving, in leadership, in interaction and discussion methods. The field school offers farmers an opportunity to learn by doing, by being involved in experimentation, discussion and decision-making. This strengthens the role of farmers in the research-extension-farmer chain. It also improves the sense of ownership of technological packages and new knowledge and skills.

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The overall objective of the study was to identify and compare FFS trained and FFS untrained farmers and to determine the profitability of IPM technology, which produces the maximum favourable impact on socio-economic condition of the farmers. Keeping this in view, the present study entitled “Economic assessment of farmer’s field school training programme with adoption of IPM practices by the rice growers of Korba district of Chhattisgarh” was designed with the specific objective:

1. To determine the socio-economic profile of the selected trained and untrained farmers of Korba district.

Materials and Methods

The study was conducted in Korba district of Chhattisgarh (India) during the year 2011-12. The Korba district has five blocks *i.e.* (Korba, Kartala, Katghora, Pali and Podiuproda) out of these blocks only 3 blocks *i.e.*, Korba, Katghora and Pali and blocks were selected for the study because sizeable number of FFS trained rice growers were residing in this district. From each selected block, 2 villages (total $3 \times 2 = 6$) were selected randomly on the basis of maximum availability of trained farmers in the villages. From each respective village 10 trained farmers ($10 \times 6 = 60$) were selected randomly. For comparison and to know the impact of FFS training program on adoption of IPM practices in rice 10 untrained farmers (total $10 \times 6 = 60$) were also selected from same village through simple random sampling. In this way, total numbers of 120 respondents were considered for the study. Respondents were interviewed through personal interview. Prior to interview, respondents were taken in to confidence by revealing the actual purpose of the study and full care was taken in to consideration to develop good rapport with them. For the data collection well designed and pre-tested interview scheduled were used. Collected data were analyzed by the help of various statistical tools *i.e.* frequency, percentage, mean and standard deviation, etc.

Results and Discussion

Socio-personal profile of the respondents

Age, education, size of family and experience about integrated pest management were considered as socio-personal characteristics of the respondents. These characteristics were analyzed and are presented in table 1.

Age

The findings on age of the respondents were presented in table 1 and the data reveals that the majority

of the FFS trained farmers (50.00%) belonged to young age group (up to 35 years), followed by 43.33 per cent were under middle age group (36 to 50 years) and 6.67 per cent were of old age group (above 50 years). Whereas, the majority of the FFS untrained farmers (61.66%) belonged to middle age group (36 to 50 years), followed by 25.00 per cent were belonged to young age group (up to 35 years) and 13.34 per cent were belonged to old age group (above 50 years). Thus, it may be concluded that the majority of the respondents in the study area belonged to young age group who are the trained farmers of FFS programme as compare to majority of FFS untrained farmers were belonged to middle age group. Karthikeyan *et al.* (1995), Gupta (1998), Yomota and Tan-Cruz (2007) also noted almost similar findings.

Education of the respondents

The data in table 1 and described that the majority of the FFS trained farmers (33.33%) were having higher secondary level of education, followed by 26.67 per cent were found under the category of high school level of education, 18.34 per cent were above higher secondary level of education, 13.34 per cent have middle level of education, 6.66 per cent were having primary level of education and only 1.66 per cent were illiterate. Whereas, the majority of FFS untrained farmers (38.33%) were having primary school level of education, followed by 20 per cent were having middle school level of education, 15 per cent were found under the category of illiterate, 13.33 per cent were having higher secondary level of education, 10 per cent were having high school level and only 3.34 per cent were having above higher secondary level of education. Finally, results clearly indicated that the majority of FFS trained farmers were having higher secondary level of education as compare to majority of FFS untrained farmers were having primary level of education. Patil (1991) and Jassi *et al.* (1998) also noted almost similar findings.

Size of family

The data regarding size of family table 1 and indicated that the majority (75%) of the FFS trained farmers had medium family size (6 to 10 members), followed by 15 per cent with small family size (up to 5 members) and only 10 per cent had large family size (>10 members). The majority of the FFS untrained farmers (68.33%) had medium family size (6 to 10 members), followed by 20 per cent with large family size (> 10 members) and only 11.67 per cent had small family size (up to 5 members). Rao (2001) also noted almost similar findings.

Experience about IPM

The data on experience of FFS trained farmers and

Table 1 : Socio-personal characteristics of FFS trained farmers and FFS untrained farmers. (n = 120)

S. no.	Independent variables	FFS Trained farmers(n=60)		FFS Untrained farmers(n=60)	
		Frequency	Percentage	Frequency	Percentage
1.	Age				
i.	Young (<35 years)	30	50.00	15	25.00
ii.	Middle (36-50)	26	43.33	37	61.66
iii.	Old age (>50)	04	6.67	08	13.34
2.	Education				
i.	Illiterate	1	1.66	9	15.00
ii.	Primary school(up to 5th class)	4	6.66	23	38.33
iii.	Middle school(6th to 8th class)	8	13.34	12	20.00
iv.	High school(9th to 10th class)	16	26.67	06	10.00
v.	Higher secondary (11th to 12th class)	20	33.33	08	13.33
vi.	Graduate(>12th class)	11	18.34	02	3.34
3.	Family Size				
i.	Small (up to 5 members)	09	15.00	07	11.67
ii.	Medium (6 to 10 members)	45	75.00	41	68.33
iii.	Large (> 10 members)	06	10.00	12	20.00
4.	Experience about IPM				
i.	Less experienced(Up to 3 years)	10	16.67	31	51.67
ii.	Medium experienced (4 to 8 years)	38	63.33	27	45.00
iii.	High experienced(Above 8 years)	12	20.00	02	3.33

FFS untrained farmers are presented in table 1 and the findings indicated that the majority of the FFS trained farmers (63.33%) were having medium experience (4 to 8 years), followed by 20 per cent had high experience (above 8 years) and only 16.67 per cent were having less experience (up to 3 years) regarding IPM because the majority of the FFS trained farmers in the study area were under the young age group. The majority (51.67%) of the FFS untrained farmers had less experience (up to 3 years), followed by 45 per cent with medium experience (4 to 8 years) and only 3.33 per cent of FFS untrained were High experienced (above 8 years). Ortiz *et al.* (2004) also noted almost similar findings.

Socio-economic profile of the respondents

The independent variables i.e. size of land holding, occupation and annual income, were considered as socio-economic characteristics of the respondents.

Size of land holding

The distribution of the respondents according to their land holdings are presented in table 2. The majority of the FFS trained farmers (51.66%) were having medium

size of land holding (5.1 to 10 acre), followed by 21.66 per cent who belonged under small size of land holding (having 2.51 to 5 acre), 18.34 per cent had marginal category of FFS trained farmers (having up to 2.50 acre land holdings), 8.34 per cent were big farmers (above 10 acre) and no FFS trained farmers were under the land less category. Whereas the majority of the FFS untrained farmers (35%) came under small size of land holding (having 2.51 to 5 acre), followed by 31.66 per cent had marginal category of farmers (having up to 2.50 acre land holdings), 28.34 per cent had medium category of FFS untrained farmers (having 5.1 to 10 acre), 5 per cent came under the big farmers (having above 10 acre) and here also no FFS untrained farmers were under the land less category. This finding was strongly supported by Subramaniam *et al.* (1978), Gogoi and Phukan (2000).

Occupation of respondents

Involvement of respondents in various occupations in table 2 shows that the majority (43.33%) of the FFS trained farmers were involved in agriculture, followed by 23.33 per cent were involved in agriculture and labour, while 15.00 per cent of FFS trained farmers were involved

Table 2 : Socio-economic characteristics of FFS trained farmers and FFS untrained farmers.

(n = 120)

S. no.	Independent variables	FFS Trained farmers (n=60)		FFS Untrained farmers (n=60)	
		Frequency	Percentage	Frequency	Percentage
1.	Size of land holding				
i.	Land less farmer	00	00	00	00
ii.	Marginal (up to 2.50 acre)	11	18.34	19	31.66
iii.	Small (2.51 to 5 acre)	13	21.66	21	35.00
iv.	Medium (5.1 to 10 acre)	31	51.66	17	28.34
v.	Big (above 10 acre)	05	8.34	03	5.00
2.	Occupation				
i.	Only Agriculture	26	43.33	21	35.00
ii.	Agriculture + Labor	14	23.33	25	41.66
iii.	Agriculture + Animal husbandry	09	15.00	05	8.33
iv.	Agriculture + Horticulture	06	10.00	04	6.67
v.	Agriculture + Business	04	6.67	03	5.00
vi.	Others	01	1.67	02	3.34
3.	Number of occupation				
i.	Involved in one occupation	25	41.66	20	33.34
ii.	Involved in 2 to 3 occupation	33	55.00	37	61.66
iii.	Involved in more than 3 occupation	02	3.34	03	5.00
4.	Annual income				
i.	Low (up to Rs. 20,000)	21	20.00	21	35.00
ii.	Medium (Rs. 20,001 to Rs. 30,000)	18	30.00	27	45.00
iii.	High (Rs. 30,001 to Rs. 50,000)	25	41.66	10	16.66
iv.	Very high (above Rs. 50,000)	05	8.34	02	3.34

in agriculture and animal husbandry, 10 per cent had adopted agriculture and horticulture, 6.67 per cent were involved in agriculture and business and only 1.67 per cent of FFS trained farmers were involved in other occupation. Whereas, the majority (41.66) of FFS untrained farmers were involved in agriculture and labour, followed by 35 per cent were involved only in agriculture, while 8.33 per cent of FFS untrained farmers were involved in agriculture and animal husbandry, 6.67 per cent had adopted agriculture and horticulture, 5 per cent were involved in agriculture and business and only 3.34 per cent of FFS untrained farmers were involved in other occupation.

Majority of the (55%) of FFS trained farmers were involved in 2 to 3 occupations including agriculture, followed by 41.66 per cent were involved in one occupation with rice cultivation and only 3.34 per cent of FFS trained farmers were involved in more than 3

occupation, whereas majority (61.66%) of FFS untrained farmers were involved in 2 to 3 occupations including agriculture, followed by 33.34 per cent were involved in one occupation with rice cultivation and only 5 per cent of FFS untrained farmers were involved in more than 3 occupation. It clearly indicates that due to lack of sufficient earnings from a single source such as agriculture, the FFS untrained farmers were engaged in other allied activities labour, animal husbandry, horticulture etc. This finding is also supported by Rahman *et al.* (1990).

Annual income of respondents

It is very difficult to assess the average annual income of each individual, as they are not maintaining any records. The attempt was made to collect the annual income of the respondents through discussion and interpretation from different angles. The distribution of the respondents according to their annual income is

presented in table 2. As regard to annual income the majority of the FFS trained farmers (41.66%) were having their income ranging from Rs. 30,001 to Rs.50,0000 (high category) per annum, followed by 30 per cent of FFS trained farmers earned above Rs. 20,001 to 30,000 (medium category) per annum, 20 per cent FFS trained farmers had their annual income less than Rs. 20,000 (low category) and 8.34 per cent of FFS trained farmers had obtained annual income above Rs. 50,000 (very high category).

Whereas, the majority of (45%) FFS untrained farmers earned Rs. 20,001 to Rs. 30,0000 (medium category) per annum, followed by 35 per cent FFS untrained farmers had obtained income less than Rs. 20,000 (low category) per annum, 16.66 per cent had their annual income in the range between Rs. 30,001 to Rs. 50,000 (high category) and only 3.34 per cent FFS untrained farmers had obtained annual income above Rs. 50,000 (very high category).

The results clearly indicated that the majority of the FFS trained farmers belonged to Rs. 30,001 to Rs. 50,000 (high category) annual income group as compare to FFS untrained farmers earned Rs. 20,001 to Rs. 30,000 (medium category). This finding is supported by Patel *et al.* (1995), Bolarinwa and Fakoya (2011).

Conclusion

On the basis of the study, it can be concluded that farmer field school programme is playing a vital role in enhancing the socioeconomic status of farmers with adoption of IPM practices, which can improve the skills of insect pest management and enhances the crop production also.

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