Agriculture Update
Volume 7 | Issue 3 & 4 | August & November, 2012 | 254-257

Research Article

Effectiveness of Front Line Demonstrations changes in knowledge, attitude and skill among farmers

■ **R.P. MEENA, B.L. MEENA, R.H. MEENA AND C.M. BALAI**

ARTICLE CHRONICLE :
Received:
28.05.2012;
Revised :
14.08.2012;
Accepted:
15.09.2012

SUMMARY : Convincing the farmers about major advance in agriculture technologies is challenging task for extension personnel and is key adoption of these technologies by the farmers. Taking into account the consideration, frontline demonstrations were carried out in a systematic manner on farmers' field to show the worth of production technologies and management practices of crops and convincing them about potentialities of improved production technologies and management practices for further adoption. In all 350 FLDs were conducted in year 2009-10 and effectiveness of front line demonstrations in terms of changes in knowledge, attitude and skill among farmers was measured.

How to cite this article : Meena, R.P., Meena, B.L., Meena, R.H. and Balai, C.M. (2012). Effectiveness of front line demonstrations in changes in knowledge, attitude and skill among farmers. *Agric. Update,* **7**(3&4): 254-257.

KEY WORDS :
Front line demonstrations, Knowledge, Attitude, Skill

Author for correspondence :
R.P. MEENA
Krishi Vigyan Kendra (M.P.U.A.&T.), RAJSAMAND (RAJASTHAN) INDIA
Email: kvkrjsd@yahoo.co.in
See end of the article for authors' affiliations

BACKGROUND AND OBJECTIVES

A critical challenge for agricultural extension lies with conveying the major advance in agriculture technologies to farmers efficiently and in a timely manner. Transferring knowledge and information to and inculcating positive attitude in farmers about improved agricultural technologies are keys to agricultural development. For this, several extension approaches have come to play to generate more widespread and rapid agricultural knowledge diffusion and thereby more cost effective approaches to agricultural extension as well. Front Line Demonstration is one such approach that shows the worth of newly released crop production and protection technologies and its management practices and convincing them about their potentialities for further adoption. According to Rogers (1995), this positive impact bridges the gap between what is known and what is effectively put to use by creating better understanding of the sources of new ideas which are then spread to the receivers. Through their own wisdom, farmers are able to make rational decisions about farm practices, whether generated on-station or on-farm (Asiabaka and James, 1999). Through these decision making mechanisms, technologies promoted through FLDs can be up-scaled by development workers to a larger population.

Front Line Demonstration is the new concept of field demonstration evolved by the Indian Council of Agricultural Research with the inception of the technology mission on oilseed crops during mid-eighties. The field demonstrations conducted under the close supervision of scientists of the National Agriculture Research System are called Front Line Demonstrations (FLDs) because the technologies are demonstrated for the first time by the scientists themselves before being fed into the main extension system of the State Department of Agriculture. The main objective of Front Line Demonstrations is to demonstrate newly released crop production and protection technologies and its management practices in the farmers' field under different agro-climatic regions and farming situations. While demonstrating the technologies in the farmers' field, the scientist are required to study the factors contributing higher crop production, field constrains of production and thereby generate production data and feedback information. Front Line Demonstrations are

conducted in a block of two or four hectares land in order to have better impact of the demonstrated technologies on the farmers and field level extension functionaries.

Realizing the fact, 350 frontline demonstrations were carried out in a systematic manner on farmers' field to show the worth of production technologies and management practices of crops namely mustard, gram, maize, sorghum, wheat and barley convincing them about potentialities of improved production technologies and management practices for further adoption. After the completion of FLDs, their effectiveness was evaluated in terms of change in knowledge, skill and attitude of farmers.

RESOURCES AND METHODS

The study was conducted in Rajsamand district of Rajasthan in India. The study employed a survey research methodology with the *ex-post facto* research design. A multi-staged sampling procedure was used to select FLD farmers and non-FLD farmers from Rajsamand district of Rajasthan. FLD farmers were selected from lists of farmers who had participated in FLD during the year 2009-10. A systematic random sample of 175 farmers was selected from FLD list.

One of the basic principles of impact evaluation design is selection of a control group (Bamberger *et al.*, 2004). Non-FLD farmers were selected to serve as a control group and were defined as those who had not participated in any FLD activities. Sampling of non-FLD farmers was purposively conducted in villages bordering each FLD villages. In each of these villages lists of farmers were obtained from and equal number that of FLD farmers per village were randomly selected. The process resulted in the selection of 175 farmers who had not participated in FLD. The final sample consisted of 175 FLD farmers and 175 non-FLD farmers for a total sample size of 350.

Data collection was conducted through interviews using a structured interview schedule to FLD and non-FLD farmers. The crop production technology knowledge of FLD and non-FLD farmers was also assessed through administering a simple test to all the respondents. The test consisted of questions on common agricultural knowledge and on the technologies demonstrated through FLDs. The statements were read to respondents carefully by the interviewer and the responses were recorded. All the interviews took place on individual farms and assessment of knowledge, skill and attitude was easily cross-checked with the actual practices on each individual respondent's fields. The Likert Scale method for assessing responses was adapted to quantify responses on the level of knowledge acquisition, skill and change in attitude. Both descriptive and inferential statistics were employed in data analysis.

OBSERVATIONS AND ANALYSIS

Knowledge level of respondent farmers on 11 dimensions of crop production and protection technologies and its management practices *viz.*, varieties, soil and land preparation, seed rate, seed treatment, bio fertilizers, method of sowing, spacing, critical stages of irrigation, manure and fertilizers, weeding and weedicide, insect pest disease and control was analyzed and presented in Table 1. It was observed that the FLD farmers had more knowledge compared to non-FLD farmers. In the overall knowledge, about 75 per cent of FLD farmers had medium to high level of the knowledge of all the technologies disseminated. Whereas more than 80 per cent of the non FLD farmers had medium to low level knowledge of

Table 1 : Distribution of respondent according to their knowledge level

Dimensions of crop production technology	Knowledge score											
	FLD farmers (n=175)						Non-FLD farmers (n=175)					
	Low		Medium		High		Low		Medium		High	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Varieties	26	14.86	86	49.14	63	36.00	37	21.14	79	45.14	59	33.71
Land preparation	28	16.00	98	56.00	49	28.00	38	21.71	94	53.71	43	24.57
Seed rate	15	8.57	91	52.00	69	39.43	71	40.57	88	50.29	16	9.14
Seed treatment	24	13.71	80	45.71	71	40.57	93	53.14	72	41.14	10	5.71
Bio fertilizers	47	26.86	72	41.14	56	32.00	101	57.71	65	37.14	9	5.14
Sowing of seed	15	8.57	84	48.00	75	42.86	18	10.29	87	49.71	70	40.00
Spacing	43	24.57	93	53.14	39	22.29	74	42.29	83	47.43	18	10.29
Irrigation	36	20.57	85	48.57	54	30.86	79	45.14	67	38.29	29	16.57
Fertilizer application	41	23.43	90	51.43	44	25.14	61	34.86	83	47.43	31	17.71
Weed management	46	26.29	94	53.71	35	20.00	45	25.71	99	56.57	31	17.71
Pest management	29	16.57	85	48.57	61	34.86	100	57.14	60	34.29	15	8.57

all the technologies. On the specific technologies, bio fertilizers, spacing, critical stages of irrigation, insect pest disease and control there appeared to be some crucial differences in level of knowledge of both FLD and non FLD farmers. Generally, FLD and non FLD farmers appeared quite knowledgeable on the technologies in the use of suitable varieties, land preparation, seed sowing and weed management. These technologies were not very new in the area and technologies appeared to improve/update existing farmer knowledge on them. These findings are in conformity with the findings of Singh and Ratan Singh (1995). They observed that non demonstrating farmers had comparatively lower level of knowledge than the demonstrating farmers in all components of linseed production technology.

The mean scores of the test for assessing knowledge level on the crop production technologies were significantly higher for FLD farmers compared to non-FLD farmers (Table 2). This shows positive impact of frontline demonstration on knowledge of the farmers that have resulted in higher knowledge of improved farm practices. Similar findings have also been reported by Pathak *et al.* (1979) they observed significant difference in the knowledge level between demonstrating and non-demonstrating farmers. The results so arrived might be due to the concentrated educational efforts made by the scientists, demonstrating farmers were exposed to the scientists, who conducted demonstrations on their field with their active participation. They had attended trainings, meetings, and field days related to crops under demonstration organized by scientists.

Data reported in Table 3 reveal that a good number of FLD farmers had favourable attitude towards newly released production and protection technologies and its management practices of crops under demonstrations. The most significant attitudinal change reported was that of bio fertilizers, balance use of fertilizers, seed treatment, integrated management of pests and weeds. It was also noted from Table 3 that 73.13 per cent of non FLD farmers indicated unfavourable to neutral attitude. Further, it is interesting to note that none of the FLD farmers showed unfavourable attitude production and protection technologies and its management practices of crops under demonstrations. Favourable attitude of FLD farmers might be attributed to appropriate educational and advisory services by scientists. Findings of this study are in accordance with findings of Dhaka and Mann (2003).

It was observed from Table 4 that the FLD farmers were more skilled compared to non-FLD farmers. In the overall skill, about 85 per cent of FLD farmers had medium to high level of skill in production and protection technologies and management practices of crops. Whereas, majority of the non-FLD farmers had low to medium skill level. On the specific technologies, seed treatment, making vormicompost, application of bio fertilizers, identification of insect pest and symptoms of disease, solving crop protection problems with fewer pesticides, explaining pest problems to the scientist and extension workers officer, communicating pest problems to fellow farmers, identifying plant disease symptoms, the use of the correct fertilizer were appeared to be some aspects differences in level of skill of both FLD and non FLD farmers. Generally, FLD and non FLD farmers appeared quite skilled on the technologies in the selection of suitable varieties, land preparation, seed sowing, spacing, irrigation management.

Table 2: Mean knowledge score of FLD and non-FLD farmers

Group	Mean score	Standard deviation	*t*-value
FLD farmers	66.75	9.55	7.44*
Non-FLD farmers	54.18	8.60	

* indicates significance of value at P=0.05

Table 3 : Distribution of respondent according to their attitude towards improved farming practices

Attitude	Respondents			
	FLD farmers (n=175)		Non-FLD farmers (n=175)	
	No.	%	No.	%
Favourable	139	79.43	47	26.86
Neutral	36	20.57	82	46.85
Unfavourable	0	0.00	46	26.28

Table 4 : Distribution of respondent according to their skill

Category	Skill					
	Low		Medium		High	
	No.	%	No.	%	No.	%
FLD farmers (n=140)	24	13.71	92	52.57	59	33.71
Non-FLD farmers (n=140)	66	37.71	84	48.00	25	14.29

Authors' affiliations :

B.L. MEENA, R.H. MEENA AND C.M. BALAI, Krishi Vigyan Kendra (M.P.U.A. & T.), RAJSAMAND (RAJASTHAN) INDIA

REFERENCES

Asiabaka, C.C. and James, B.D. (1999). Farmer field schools for participatory cassava IPM technology development in West Africa. In G. Renard, S. Krieg, P. Lawrence, and M. Von Oppen (Eds.), *Farmers and scientists in a changing environment: Assessing research in West Africa*. Weikersheim, Germany: Margraf Verlag.

Bamberger, M., Rugh, J., Church, M. and Fort, L. (2004). Shoestring evaluation: Designing impact evaluations under budget, time and data constraints. *American J. Evaluation*, **25** (1) : 5-37.

Dhaka, B.L. and Mann, J.S. (2003). Attitude of farmers towards technologies suggested under IVLP. *Indian J. Ext. Edu*., **39** (1&2), 94-96.

Pathak, S., Pal, M.K. and Roy, M.L. (1979). Impact of national demonstration on knowledge, attitude and adoption level of farmers in West Bengal. *Indian J. Ext. Edu*., **15** (1&2) : 49-54.

Rogers, E.M. (1995). *Diffusion of innovations* (4th Ed.). New York: The Free Press.

Singh, R.K. and 'Ratan' Singh, R.P. (1995). Effects of frontline demonstrations on linseed in Ranchi district. M. Sc. (Ag.) Thesis, Dept. of Extension, Ranchi Agriculture College, Ranchi, JHARKHAND (INDIA).