



Effectiveness of group contact methods in diffusion of agricultural technologies among the farming community

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Abstract

The present study was conducted in 2010 to examine the effectiveness of group contact methods in diffusion of agricultural technologies among the farming community of Khyber Pakhtunkhwa, Pakistan. For this purpose, seven districts of the central region of the province were selected. Data were collected from 280 randomly selected farmers through “survey” method with the help of a pre-tested interview schedule and were analyzed using descriptive statistics. The results of the study show that main group extension methods through which the farmers got sources of agricultural information were demonstrations, group discussions, field days and lectures of extension field staff. However, demonstrations were perceived to be the most effective method for dissemination of agricultural technologies with mean value 2.91 followed by group discussions and field days which were ranked 2nd and 3rd with mean values 2.58 and 2.33, respectively. A good number (46.07%) of respondents never visited agricultural demonstrations, whereas, 26.07% respondents occasionally visited these demonstrations while, 20.36% respondents rarely visited demonstrations. Only a small number of respondents (7.5%) regularly visited demonstrations laid out in the study area. Most (45.36%) of the respondents never participated in group discussions regarding latest agricultural technologies although, a good number of respondents (32.85%) rarely participated in group discussions, and 16.43% respondents took part in such discussions occasionally whereas, only a fraction of the respondents (5.36%) regularly participated in group discussions. Quite a few respondents (37.50%) rarely attended field days for latest agricultural technologies, 34.64% respondents occasionally attended, 18.57% never attended field days whereas, 9.29% respondents regularly attended field days organized in the area. Most of the respondents (40.36%) never attended lectures of extension field staff regarding agricultural technologies, 25.36% rarely attended such lectures, and 23.21% occasionally attended the lectures. Only a small number (11.07%) of respondents regularly attended the lectures of extension field staff.

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Introduction

Despite being predominantly an agricultural country, the yield per hectare in Pakistan is among the lowest as compared to the world's averages (Khan, 2004) and is also much lower than that obtained by local progressive growers. The low yields in Pakistan are attributable inter alia to factors like: non-adoption of latest agricultural technologies and poor farm management by farmers (Farooq *et al.*, 2007), as well as lack of information adapted to local needs and deficient technical knowledge at farm level (Abbas *et al.*, 2008).

Furthermore, agricultural sector performance remains low and constrained due to weak linkages among institutions in disseminating modern technology to the farming community (Farooq and Ishaq, 2005). In fact, the low yield can be increased if the farmers are exposed to latest agricultural information/technologies by extension organizations. Research accomplished by (Muhammad & Garforth, 1995) has shown that exposure of farmers to information is most likely to be an important factor that influences their adoption behaviour. So, the larger exposure will certainly enhance their awareness regarding the latest recommendations which lead the farmers to put these recommendations into practice in a precise way. It means that the latest agricultural technologies should be communicated to the end users effectively.

However, effective delivery largely depends upon the choice of the right extension method, at the right time (Kerkhof, 1990) and its intelligent use by the extension worker. Various extension methods have so far been found to be effective, in different situations and at different stages in the adoption process. Group extension methods are regarded as cost effective through which messages regarding latest agricultural technologies can be communicated to the farming community effectively and efficiently. So group contact methods are used to reach large number of farmers in short time. These methods are predominantly helpful in awaking large number of

people regarding new ideas and practices (Behrens and Evans, 1984).

Keeping in view the significance of group extension methods, the present study was planned to examine the effectiveness of group contacts including demonstrations, group discussions, field days and lectures of extension field staff in the dissemination of agricultural technologies among the farming community of the Khyber Pakhtunkhwa, Pakistan.

Materials and methods

Study area

The study was carried out in the central region of Khyber Pakhtunkhwa province comprising Peshawar, Charsadda, Nowshera, Mardan, Swabi, Kohat and Hangu districts.

Population and sample

Using the Table for sample size (Fitzgibbon and Morris, 1987), a random sample of 40 farmers was selected from the list of contact farmers obtained from Agriculture Department (Ext.) of the respective district, thereby making a total of 280 farmer respondent.

Data collecting instruments

The researchers collected the data using "survey" method. An interview schedule was developed keeping in view the study objectives. Validity of the interview schedule was checked by the experts from the Agriculture Department (Ext.) of the Khyber Pakhtunkhwa province and University of Agriculture, Faisalabad. The interview schedule was also pre-tested for its reliability at field level.

Measurement of variable

A five-point Likert scale ranging from 1-5 was used to determine the effectiveness of various aspects of group extension methods. Weighted scores were computed by multiplying the score values allotted to each category of the scale with the frequency count and their adding up the scores against each item. The ranking was done based on the means values

Results and discussion

Group extension methods

Data in Table 1 show that among various group extension methods which served as sources of agricultural information for the respondents were

demonstrations (85.36%), group discussions (66.78%), field days (58.57%) and lectures of extension field staff (45.72%).

Table 1. Distribution of respondents according to group extension methods as their sources of agricultural information.

Group extension methods	No.	%
Demonstrations	239	85.36
Group discussions	187	66.78
Field days	164	58.57
Lectures of extension field staff	128	45.72

Source: Field datan=280

Table 2. Ranking of group contact methods based on effectiveness as perceived by respondents.

Group contact methods	Rank order	Score	Mean	SD
Demonstrations	1	809	2.91	1.15
Group discussions	2	735	2.58	1.27
Field days	3	676	2.33	1.30
Lectures of extension field staff	4	658	2.31	1.05

Source: Field datan=280

Table 3. Frequency of visits/participation in various group extension methods by respondents.

Frequency	Demonstrations		Group discussion		Field days		Lectures of EFS	
	No.	%	No.	%	No.	%	No.	%
Regularly	21	7.50	15	5.36	26	9.29	31	11.07
Occasionally	73	26.07	46	16.43	97	34.64	65	23.21
Rarely	57	20.36	92	32.85	105	37.50	71	25.36
Never	129	46.07	127	45.36	52	18.57	113	40.36
Total	280	100	280	100	280	100	280	100

Source: Field datan=280

It clearly depicts that demonstrations were the most popular group extension method followed by group discussion for dissemination of agricultural information/technologies among farmers. Lectures of extension field staff were the least preferred group extension method used as information source by the respondents.

Group contact methods

The results of the present study are supported by those of Rahman (2006) who concluded that the methods used to disseminate the messages of agricultural extension among the farming community comprise: planning a program, laying various

demonstrations, conducting field days, arranging trainings for farmers', farm walks, tours and visits which motivate farmers, holding meetings, and facilitating FFS' training sessions .

Table 2 reveals that demonstrations were ranked as the most effective method for diffusion of agricultural information/technologies among the farming community and as ranked 1st with mean value 2.91 followed by group discussions, field days and lecture of extension field staff which were ranked 2nd, 3rd and 4th with mean values 2.58, 2.33 and 2.31, respectively by the respondents.

The mean values show that demonstrations and group discussions ranged from low to satisfactory categories but tended towards satisfactory category whereas field days and lectures of extension field staff fell between low and satisfactory categories with tendency towards low category.

Although the ranking of demonstrations was the highest, yet it was below satisfactory. It means that still there is a lot of scope for improvement.

These results are strongly supported by those of Muhammad *et al.* (1990) who concluded that method /result demonstrations were more effective teaching methods than all other methods as reported by a large majority of the respondents. Moreover, based on the effectiveness of teaching methods/ media, result demonstrations got the highest score and was ranked at the top among other methods. Khan *et al.* (2009) who found that demonstrations plots on agricultural activities was an effective tool used for dissemination of agricultural technologies among the farmers.

Participation in various group extension methods by respondents

Table 3 shows that most (46.07%) of the respondents never visited in agricultural demonstrations, whereas, slightly more than one-fourth (26.07%) respondents occasionally visited these demonstrations. About one fifth (20.36%) respondents rarely visited demonstrations while a small number (7.5%) of the respondents regularly visited demonstrations regarding agricultural technologies laid out in the study area.

Table III show that a most (45.36%) of the respondents never participated in group discussions, a good number of respondents (32.85%) participated rarely, whereas 6.43% respondents took part in such discussions occasionally. Only 5.36% respondents participated in group discussions.

Table III shows that most (37.50%) of the respondents rarely attended field days for latest agricultural technologies, 34.64% respondents

occasionally attended field days whereas 18.57% never attended the field days. Only 9.29% respondents regularly attended field days for latest agricultural technologies in the area. These results are supported with those of (Khan *et al.*, 2008; Amudavi *et al.*, 2009) who stated that technology dissemination has been facilitated by a series of dissemination pathways including farmer field schools, field days, farmer teachers, fellow farmers, print media, public meetings and radio programs.

Table III show that most (40.36%) of the respondents never attended the lectures of extension field staff for latest agricultural technologies, about one fourth (25.36%) respondents rarely attended such lectures whereas, 23.21% occasionally attended lectures. Only a small number (11.07%) of respondents regularly attended the lectures of extension field staff for latest agricultural technologies.

Conclusions and recommendations

It can be concluded from the study that among various group extension methods, farmer respondents got agricultural information from the demonstrations, group discussions, field days and lectures of extension field staff. Among these, demonstrations proved to be the most effective source used for dissemination of agricultural technologies followed by group discussions and field days. The lectures of extension field staff were however perceived as the least effective method for dissemination of agricultural technologies. However a good number (46.07%) of the respondents never visited agricultural demonstrations, whereas only 7.5% of the respondents regularly visited demonstrations regarding agricultural technologies laid out in the area. Likewise, most (45.36%) of the respondents never participated in group discussions for learning the latest agricultural technologies, 18.57% respondents never attended field days whereas, only 9.29% respondents regularly attended field days for latest agricultural technologies in the area. Quite a few (40.36%) respondents never listened to the lectures of extension field staff for latest agricultural technologies, only 11.07%

respondents regularly listened to the lectures. It is quite clear from the analysis that all group extension methods fell below average level of satisfaction. Therefore, it seems very critical for the extension organization to look into the situation seriously and try to improve these extension methods through imparting training to their field staff.

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