

ROLE OF INDIVIDUAL CONTACT METHODS IN DISSEMINATION OF AGRICULTURAL TECHNOLOGIES

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ABSTRACT:- The present study was conducted in 2010. For this purpose, seven districts from the central region of Khyber Pakhtunkhwa including Charsadda, Hangu, Kohat, Mardan, Nowshera, Peshawar and Swabi were selected. Data were collected on various aspects of individual contact methods in diffusion of agricultural technologies from 280 randomly selected farmer respondents. Researchers collected the data with the help of a pretested and validated interview schedule using survey technique. The results show that majority of the farmer respondents is aware of the farm visits (66.43%), demonstrations being conducted (62.50%) and home visits made by the extension staff (60.71%) as extension methods for dissemination of agricultural technologies among the farming community, whereas only 31.78% and 22.85% of the farmer respondents are aware of the office call and telephone calls, respectively, for diffusion of information regarding latest agricultural technologies. However, awareness regarding personal letters as an extension method among the farming community was proved as the lowest (18.93%) entity in the study area. The extent of the use of individual contact methods namely farm visits, demonstrations, home visits and office call bearing mean values 2.85, 2.81, 2.79 and 2.68, respectively were ranked as 1st, 2nd, 3rd and 4th, respectively. Similarly, the mean values of the extent of the use of telephone calls and personal letters being used for diffusion of agricultural technologies among the farming community were 2.49 and 2.45 and ranked as 5th and 6th in order of precedence, respectively. It is therefore, suggested that farm visits, demonstrations and home visits may be used for diffusion of the latest agricultural technologies among the farming community to increase production of crops and thus improve living standard of the people.

Key Words: Extension Methods; Individual Contact Methods; Diffusion of Agricultural Technologies; Dissemination; Pakistan.

INTRODUCTION

Agriculture accounts for 21% of GDP, and absorbs 45% of the country's total labour force. Majority (60%) of the country's population live in rural areas that directly depend for its livelihood on this sector (GoP, 2011-12). It also contributes a huge

share of raw material to industry and other value-added products (GoP, 2006-2007). Despite this massive contribution, crop production in Pakistan is among the lowest as compared to the world's averages (Khan, 2004) and also below the yields obtained by progressive farmers locally as well as attained in

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other developing countries.

The reasons for low yields in Pakistan are non-adoption of latest agricultural technologies and poor farm management by farmers (Farooq et al., 2007), lack of information adapted to local needs and lack of technical knowledge at farm level (Abbas et al., 2008), which can be enhanced considerably if the latest agricultural technologies are communicated to the farmers through an efficient extension method. Whereas, effectiveness of a method depends upon selecting the right method, at the right time (Kerkhof, 1990). However, different extension methods have been effective, in different situations and at different levels in adoption process. Group and individual contact methods are some of the extension methods through which messages regarding latest agricultural technologies can be communicated to the farming community. However, home visits, personal letters, telephone calls and informal contacts have been used by the extension workers to contact farmers (Bleine, 2005).

Research accomplished in the same regards by Muhammad and Garforth (1995) has shown that exposure of farmers to information is most likely to be an important factor that influences their adoption behaviour. Likewise, Mahmood and Sheikh (2005) stated that awareness is the first step in the adoption process. For this purpose agricultural extension is one of the means available to help farmers for their capacity building. It is a unique service in the sense that it gives access to small farmers and rural poor living far from the urban areas in addition to technology transfer. In

past, several extension approaches have been implemented in Pakistan for improving the living standard of poor rural farmers. The village cooperative movement (VCM), village aid programme (V-AID), basic democracy system (BDS), integrated rural development programme (IRDP) and training and visit (T&V) programme were launched in country from time to time, but all these programmes partially succeeded in achieving the required objectives and were abolished one after the other (GoP. 2003.). However Khan and Akram (2012) found that agricultural extension organizations are assigned the most important task of educating and disseminating the latest agricultural technologies among the farmers, using various extension teaching methods like: individual, group and mass contact methods.

The information given by extension field staff (EFS) through different extension methods is also not considered very effective (Bajwa et al., 2008). While disseminating new technologies among farmers, different extension methods are employed by extension field staffs which play an important role (Muhammad, 1994). Mgbada (2006) found that women farmers rated individual method contact and the use of radio as the most important and most effective sources of agricultural information to them while the extension agents rated individual, group and mass media contact method as being important and effective. Similarly, Arshed et al. (2012) concluded that individual contact methods were ranked highest in the effectiveness of dissemination of agricultural information to maize growers.

The present study was designed

to examine the effectiveness of individual contact methods in diffusion of agricultural technologies among the farming community.

MATERIALS AND METHOD

This study was conducted in the Agriculture Department (Extension) of Khyber Pakhtunkhwa, Pakistan during 2010. Registered farmers of FFS residing in seven districts including Charsadda, Hangu, Kohat, Mardan, Nowshera, Peshawar and Swabi were selected for study. A list of registered FFS member farmers was obtained from the agriculture department of the respective districts. A total of 280 FFS farmer respondents were selected from the study area by choosing 40 farmers from each of the study districts. Sample size was determined by using table of Fitzgibbon and Morris (1987). Data were collected through survey method using a pre-tested and validated questionnaire. Likert scale was used to measure the use and extent of use of various extension methods by FFS farmers during FFS session. The scale used was 1 = Poor, 2 = Fair, 3 = Medium, 4 = Good 5 = Excellent.

The data thus collected were analyzed using computer software called Statistical Package for Social Sciences (SPSS).

RESULTS AND DISCUSSION

The data (Table 1) show that 66.43%, 62.50% and 60.71% of the farmer respondents are aware of the farm visits, demonstrations that are laid out and home visits, respectively made by the extension staff as extension methods for dissemination of agricultural technologies among

Table 1. Percentage of respondents based on their awareness regarding extension methods used by EFS staff

Extension method	No.	%
Farm visits	186	66.43
Demonstrations	175	62.50
Home visits	170	60.71
Office call	89	31.78
Telephone calls	64	22.85
Personal letters	42	15.00

Source: Field data

n=280

the farming community, whereas only 31.78% and 22.85% of the farmer respondents are aware of the office call and telephone calls, respectively for getting information regarding latest agricultural technologies. However, awareness regarding personal letters as an extension method among the farming community was the lowest (15.00%) entity in the study area.

The data indicated that majority (66.42%) of the farmer respondents obtained information from farm visits of extension field staff followed by 59.64% and 54.28% respondents who obtained information from demonstrations and home visits of extension field staff, respectively whereas, office call and telephone calls were used by 47.86% and 41.78% of the farmer respondents, respectively for obtaining information regarding agricultural technologies (Table 2). The findings of the study are supported with those of Abbas et al. (2008) who stated that overall, 59% respondents considered demonstration method as the best extension method.

The weighted score, mean, standard deviation and rank order of use of extension methods were calculated

Table 2. Percentage of respondents based on the extent of use of extension methods

Extension method	No.	%
Farm visits	186	66.42
Demonstrations	167	59.64
Home visits	152	54.28
Office call	134	47.86
Telephone calls	117	41.78
Personal letters	31	11.07

Source: Field data n=280

by multiplying the relative score values allotted to each category of scale with its frequency counts (Table 3).

The data revealed that mean values of the extent of the use of individual contact methods such as farm visits, demonstrations, home visits and office call were 2.85, 2.81, 2.79 and 2.68 with weighted scores of 798, 791, 780 and 743 which were ranked as 1st, 2nd, 3rd and 4th, respectively. Similarly, the mean values of the extent of the use of telephone calls and personal letters being used for diffusion of agricultural technologies among the farming community were 2.49 and 2.45 and were ranked as 5th and 6th in order of precedence,

respectively.

The effectiveness of farm visits, demonstrations, home visits and office call ranged between fair and medium but tended towards medium category. These findings are almost supported by those of Khan et al. (2012) who stated that farm/home visit was ranked as 1st with mean value 0.73 ± 1.364 , followed by group discussion with mean value 0.51 ± 1.14 . Demonstration plots were ranked as 3rd with mean value 0.48, followed by office calls which ranked as 4th with mean value 0.42, respectively. Irfan et al. (2006) stated that individual and group contacts like personal, face-to-face extension methods, which come under categories, have their own strengths and weaknesses. One of their limitations is that they cover limited number of farmers in the community. Ponniah et al. (2008) stated that approach of individual contact method is most effective for activities undertaken by or within the full control of the individual farmer or household. In this regard, discussion with the whole family highlights more problems, and more experience is brought to the discussion. They

Table 3. Weighted score mean, standard deviations and rank order of the farmers perception regarding effectiveness of extension methods used by EFS

Extension method	Rank order	Weighted score	Mean	SD
Farm visits	1	798	2.85	1.30
Demonstrations	2	791	2.81	1.33
Home visits	3	780	2.79	1.32
Office call	4	743	2.68	1.20
Telephone calls	5	709	2.49	1.21
Personal letters	6	702	2.45	1.27

Source: Field data n=280
 1=Poor, 2=Fair, 3= Medium, 4= Good and 5=Excellent

added that through these methods the unclear messages that have not been fully understood can easily be clarified; the extension officer is able to secure cooperation and inspire confidence in the family through personal contact with them; it facilitates immediate feedback on the effectiveness of the measures discussed and it may be the best way to ensure that everyone in the family participates in decision-making. They also described some disadvantages of the individual contact methods like expensive in terms of time and transport; only a few farmers may be visited, and sometimes they may be mainly the extension worker's friends; and the area covered is small since all the effort is concentrated on a few farmers.

It can be concluded from the study that majority of the farmer respondents are aware of the farm visits, demonstrations and home visits made by the extension staff as extension methods for dissemination of agricultural technologies, whereas, a good number of the respondents are aware of the office call and telephone calls, respectively for diffusion of information regarding agricultural technologies among the farming community. But the awareness regarding personal letters being used as an extension method proved as the lowest entity. However, popular number of the farmer respondents used farm visits, demonstrations and home visits as extension tools whereas, office call and telephone calls were used by less than 50% of the farmer respondents for dissemination of agricultural technologies among the farming community. The use of individual contact methods such as farm visits, demonstrations,

home visits and office call established as effective methods being used by extension field staff for the diffusion of agricultural technologies. However, telephone calls and personal letters were considered as secondary extension methods being applied for dissemination of agricultural technologies among in the study area. Therefore, in present scenario the use of mobile phone has been increased so this device can use as an effective tool for transfer of timely information to the farmers and now literacy rate has also been increase significantly so extension organizations can also use personal letters easily in the rural areas for literate people.

LITERATURE CITED

- Abbas, M., T. T. Lodhi, A. Bashir, and M.A. Mehmood. 2008. Dissemination of wheat production technologies and interface of outreach efforts with farmers. *J. Agric. Res.* 46(1):99-108.
- Arshed, A. B., K. M. Chaudhry, A. Iqbal, and A. Hussain. 2012. Effectiveness of extension education methods used by Rafhan Maize Products for information dissemination to maize growers of Central Punjab, Pakistan. *Pakistan J. Food Sci.* 22 (1):36-39.
- Bajwa, M.S., M. Ahmad, T. Ali, and M. Z. Iqbal. 2008. Effectiveness of Farmers Field school approach for information dissemination of agricultural technology in Punjab. *J. Agric. Res.* 46(3): 291-297.
- Bleine T. W. 2005. Applied extension research in an era of devolution. *J. Ext.* 43 (2):152-160.
- Farooq, S., S. Muhammad, K. M. Chaudhary, and I. Ashraf. 2007. Role of print media in the dis-

- emination of agricultural information among farmers. *Pakistan J. Agric. Sci.* 44 (2): 378-380.
- Fitzgibbon, C.T., and L.L. Morris. 1987. *How to design a programme evaluation*. Newbury Park CA: Sage.
- GoP. 2003. *Economic Survey 2002-2003*, Finance Division, Economic Advisor's Wing, Islamabad.
- GoP. 2006-2007, Finance Division, Economic Advisor's Wing, Islamabad.
- GoP. 2011-12, Finance Division, Economic Advisor's Wing, Govt. of Pakistan, Islamabad.
- Irfan, M., S. Muhammad, G.A. Khan, and M. Asif. 2006. Role of mass media in the dissemination of agricultural technologies among farmers. *Int. J. Agri. Biol.* 8(3):417-419.
- Kerkhof, P. 1990. *Agroforestry in Africa: A survey of project experience*. London: Panos Institute.
- Khan, A., and M. Akram. 2012. Farmers' perception of extension methods used by Extension Personnel for dissemination of new agricultural technologies in Khyber Pakhtunkhwa, Pakistan. *Sarhad J. Agric.* 28(3):511-520.
- Khan, S. R. A. 2004. Wheat production scenario. *Daily Dawn*, Jan 12: 3.
- Mahmood, M.A., and A. D. Sheikh. 2005. Crop yields from new technologies. P: III. *Daily Dawn* March 28: April 3, 2005.
- Mgbada, J. U. 2006. Effectiveness of Information Sources on Improved Farming Practices to Women Farmers in Enugu State, Nigeria. *Global Approaches to Extension Practice.* 2(1): 67-78.
- Muhammad, S. 1994. An effective communication model for the acceptance of new agricultural technologies by the farmers in the Punjab, Pakistan. Ph.D. Thesis, DAERD. University of Reading, U.K.
- Muhammad, S., and C. Garforth. 1995. Farmers' information exposure and its impact on their adoption behaviour. *Pakistan J. Agri. Sci.* 32: 262-265.
- Ponniah, A., R. Puskur, S. Workneh, and D. Hoekstra. 2008. Concepts and practices in agricultural extension in developing countries: a source book. *Intl. Livestock Res. Inst. (ILRI)*, Addis Ababa, Ethiopia.