



Research Article

Farmers' Perception Regarding Training Programs being held by EFS related to Agricultural Demonstration Plots in Tehsil Samundari, Faisalabad

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Abstract

The heart of the study was to test out the usefulness of demonstration plots and reveal improvement in agricultural activities. Moreover, the objectives of the study were to focus on the training session being held by EFS during demonstrations and to identify the farmers' perceived effectiveness regarding agricultural technologies gained through demonstration plots. This study was carried out in Tehsil Samundari District Faisalabad. The population of the study comprises all farmers' who have got training sessions regarding Demonstration plots. A sample frame of 310 farmers was constructed by enlisting those farmers; who attend training sessions regarding demonstration plots was obtained from the agriculture department. The sample size of the study was 120 farmers. To collect the required information, an interview schedule was developed. The data were analyzed with the help of SPSS (statistical package for social sciences. Farm visits and lectures were the approach or teaching method which was mostly used for training farmers while demonstration, brainstorming and group assignment were least used by extension field staff (EFS) during a training session.

Keywords: Demonstration plots, Agricultural extension, Training sessions.

Introduction

Agriculture constitutes the largest sector of our economy. The majority of the population, directly or indirectly, is dependent on this sector. It contributes about 19.8 percent of Gross Domestic Product (GDP) and addresses the needs of 42.3 percent country's total labour force (Govt. of Pak., 2017).

Agricultural Extension

Agricultural extension is a bridge that decreases the distance between research and the farming community. The latest research even of very high quality is useless until it is properly disseminated to the farming community. Agricultural extension reduces the communication gap and strives for the betterment of the farmers (Abbas *et al.*, 2003). It is a system which equips farmers with improved and new agricultural technologies and integrates these new ideas into their farming practices. In this system, the extension worker plays an important role by not only transmitting new techniques to the farmers but also motivating them to adopt these new technologies related to the new farming practices (Ahmad *et al.*, 2007).

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Demonstration Plots

A demonstration plot is one of the best methods to improve yield. This method is used as a tool by the extension worker to effect desirable changes in the behaviour of rural masses, arrange the best learning situations, and provide opportunities in which useful communication and interaction take place between extension workers and farmers.

“Seeing is believing”. At the initial stage of a national or regional program, several small demonstration plots should be set up for both public and private land. On public land, there should be few practical problems in implementing an ideal plan with results that will show the farmers what can be achieved and what can be confidently anticipated. However, farmers are more likely to be convinced by results from plots on their neighbours’ farms. They usually trust their fellow farmers more than they do the government. Setting up the plots and implementing the demonstrations may be more difficult on private lands. The results may be less perfect but they will be seen to be closer to what the farmer can hope to achieve on his land. A demonstration plot can be used as training grounds both for farmers and technicians. In some countries, several hundred demonstration plots have been set up at the start of the national conservation program. The effectiveness of farmer education and training depends largely on the quality of the local extension officers and of the agencies which support them. Unfortunately, in developing countries, extension agencies and their officers are usually faced with many constraints and problems (Ted, 1989).

Need of Demonstrations

Agriculture plays an important role in reducing poverty and serves as an engine for growth in developing countries. Additionally, it contributes to the socio-economic well-being of the people through food production and employment (Aker, 2010). It is estimated that 70% of the labour force in sub-Saharan Africa (SSA) work in agriculture while 67% of the labour force in South Asia are employed in the same sector (Maxwell, 2001). Based on its importance, several countries in SSA including Tanzania have put efforts to improve the sector. These efforts include the provision of extension services to change farmers' attitudes to enhance their efforts on productivity (FAO, 1993).

Specific Objectives:

- To find out the various training session held by the Agriculture department during a demonstration in the study area

Literature review

Mukherjee (2003) has also opined that depending on the identification and use of the farming situation, specific interventions may have greater implications in enhancing systems productivity. However, workers should consider the consequences if the demonstration fails, and choose the demonstration technique carefully (Kang and Sang, 2004).

Gollin *et al.* (2005) have found that despite the availability of yield-enhancing technologies, adoption rates in Sub Saharan agriculture remain low. A growing literature identifies information failures as an impediment to the technological diffusion process in agriculture. Ali (2006) has found that common hurdles, in the way of extension field staff in using demonstrations effectively for the dissemination of information include non-cooperation of farmers, financial constraints, non-availability of needed material conservative attitude of farmers, prevalent customs and traditions, belief in fatalism, rivalries among the farmers and inadequate allowances.

Akroyd and Smith (2007) have detailed that less documented are the modalities through which information can best diffuse and boost the adoption of productive farming practices. Agricultural extension services are designed to facilitate the diffusion of innovations from

the lab to the farm. In developing countries, they account for large shares of government expenditures on agriculture. These substantive investments are seldom supported by causal evidence regarding their effectiveness as a whole, or of a particular modality (Anderson and Feder, 2004). Contact farmers who serve as points of contact between extension agents and other farmers are ubiquitously used as messengers of information in developing countries. The efficacy of the contact farmer modality rests on two key assumptions. First, extension agents will effectively train contact farmers to adopt and demonstrate new technologies to peers.

Rajput (2007) has narrated those demonstrations are considered to be the foundation stone of extension teaching. They are based on the basic principle of 'seeing believes. In a demonstration, an improved practice is presented in terms of its practical application under a specific situation. Successful demonstrations are very effective in convincing people and getting practices adopted by them. Demonstrations may be regarded as the most effective tool in the hands of the extension worker for technology transfer. It involves the three important processes of learning: seeing, hearing and doing, so it is highly convincing.

Muhammad (2008) conducted a study showing result demonstration is one of the most powerful extensions of teaching methods particularly useful for those farmers who are illiterate and believe in seeing. The result demonstration teaches farmers that new practices or input should be adopted by comparing them with a commonly used local practice. This technique is often used in such situations where farmers are not ready to believe and accept what is being said by the extension worker. The purpose of using the result demonstration is to prove that the new practice is superior to the one currently being used and to persuade extension clientele to try the new practice. A successful demonstration can produce positive results for extension workers and develop confidence in them. It is a teaching method, that extension workers who are new to an area, might want to use to establish their credibility in the community.

Khan *et al.* (2009) have discussed that assumptions behind demonstration methods are "Seeing is believing" its activities are "recalled" easily by farmers, farmers desire to "Try out" practices first, as "Practice makes a man perfect", "What a man does himself he cannot doubt." and many other additional possible benefits. Farmers, Extension and industry personnel, and researchers have a common interest in on-farm demonstration and research plots for studying various soil and crop management practices. Demonstration and research plots usually are designed to compare differences in tillage methods, herbicide treatments, varieties or hybrids, fertilizer sources or rates, methods of chemical application, and other crop production inputs. Properly designed plots can satisfy wide interests, and conceivably yield more useful information if planners consider the guidelines that follow. These guidelines are for establishing on-farm demonstration or research plots, recording site characteristics and observations, and evaluating results. Depending on treatments or management practices, all or some of these guidelines should be considered. Demonstration plots always proved the extension of the well-known proverb 'seeing is believing' in effectively transferring improved technology, know-how and do-how to the respondent farmers. This research work endorses the effectiveness of the demonstration method; therefore, its continuation is recommended for the assimilation of the late adopters and laggards.

Alam (2000) stated that several factors like improper seedbed preparation, poor quality of seed, late sowing, the high price of fertilizers, irregular and ill-timed irrigation, weed competition, disease and insect control, cultural practices and harvesting losses were reasons for the low yields of major crops. The production of major crops was comparatively less as compared to other developed countries. There existed a considerable gap between the potential yield and actual yield in the country, which can be narrowed

through the adoption of new technology for the major field operations i.e. land preparation, plantation and irrigation, harvesting and storing. In Pakistan, the yield of major crops is considerably low as compared to other advanced countries.

Roy (2003) conducted a survey and reported that many of the respondents desired training in the field of vegetable cultivation, crop farming, dairy farming and the use of modern technologies respectively to raise their awareness level in vegetable production. By raising awareness among farming communities, most of the problems faced by them regarding vegetable cultivation can be minimized and their production can be enhanced.

Von (2004) reported that chemical plant protection had made important advances in recent decades not only in effectiveness but also in decreasing undesirable side effects. Increasing growth in the demand for food and raw materials requires a further increase in crop productivity that cannot be attained without chemical plant protection. Agricultural extension workers and the private sector were working hard in providing information and guidelines to the farmers but these efforts were not up to the mark. The situation was made more critical by the challenges posed by the appearance of weeds, new pests and diseases, and the development of resistance. For this reason, the development of 'intelligent' and environment-friendly plant protection agents will continue to play a key role in plant protection.

Ajay (2005) concluded that plants come into contact with pesticides in the field when these are applied in soil, weeding, harvesting, and when gathering firewood or vegetables or in their homes when pesticides are used to kill mosquitoes, cockroaches, and flies. Storing pesticides may lead to exposure and dangerous health concerns. Although inhalation, contact, and oral routes of exposure are most common, pesticide residues in food and water may increase indirect exposure. Mishandling pesticides also harm the natural environment. Both harmful and useful organisms are killed and substances released from chemical reactions pollute the environment, leading to climate change, pest resistance and biodegradation.

Bala *et al.* (2006) indicated that there was a big gap in the adoption of new agricultural technologies between self-help beneficiary and non-self-help beneficiary groups. It was reported that the importance of different agricultural technologies was the same for both the beneficiary groups. For vegetable farming, the selection of hybrid varieties seed and line sowing were the most important agronomic practices among both beneficiaries' groups. Seed treatment and pre-sowing soil treatment were the practices where a maximum adoption gap was observed among both groups.

Lleivellyn and Powel (2007) studied that extension programs to encourage cotton growers to reduce reliance on herbicides by adopting integrated weed management (IWM) practices have met with limited success. More than 65% of respondents declared herbicides for the control of weeds as the best method.

Materials and Methods

It was very hard and extremely expensive to collect data relating to the problems under investigation from the entire population. Thus, sampling appears to be the only way to overcome this problem to get representative information from a large population. The present study was conducted in tehsil Samundari. This tehsil consists of 133 villages, and 29 Union Councils (UCs), Out of which 5 fall in an urban area while the remaining 24 belong to rural areas. Tehsil Samundari has a DDO office comprising 3 Markaz, having a demonstration plots grower. A sample frame of 310 farmers was constructed by enlisting those farmers; who attend training sessions regarding demonstration plots was obtained from the agriculture department. By keeping the confidence level 95 % and confidence interval 7, A sample size of 120 farmers was concluded through www.surveysystem.com. To collect the required information, an interview schedule was developed. To find out the validity of the interview schedule, it was pre-tested on 12 respondents, necessary

changings were made based on pre-testing to give it a final shape. The farmers were interviewed by the researcher personally at their homes and farms. The data were analyzed with the help of SPSS (statistical package for social sciences).

Results and Discussion

The various training sessions conducted by EFS during demonstrations in the study area

The instructor used some training methodologies during a training session to transfer his knowledge or deliver lectures. These different educational training methodologies play a vital role in the diffusion of information and new technologies. Respondents were asked about these training methodologies which were used during training sessions. The data collected is given in the following Table 1.

Table 1. Training methods used by EFS during training programs regarding demonstration plots.

Training Methods		Yes		No		Total	
		F	%	F	%	F	%
Demonstration		4	3.3	116	96.7	120	100.0
Group discussion		25	20.8	95	79.2	120	100.0
Lecture		109	90.8	11	9.2	120	100.0
Field trip		41	34.2	79	65.8	120	100.0
Farm visit		116	96.7	4	3.3	120	100.0
Brain storming		4	3.3	116	96.7	120	100.0
Group assignment		4	3.3	116	96.7	120	100.0
Use of audio-visual aids	Charts	1	0.8	119	99.2	120	100.0
	White board	0	0.0	120	100.0	120	100.0
	Multimedia projector	1	0.8	119	99.2	120	100.0
	Flip chart	0	0.0	120	100.0	120	100.0

Table 1 shows that farm visit was the approach or teaching method which was mostly used for training farmers while demonstration, brainstorming and group assignment were methods of teaching least used by extension field staff (EFS) for the training of farmers to adopt improved practices of farming. About nine of ten respondents stated that lectures are used for the training of farmers. The field trip is at the 3rd position and group discussion occupies the 4th position as the training method used by extension field staff (EFS) for the adoption of improved technologies and practices. EFS was not using audio-visual aids properly for the dissemination of information among the farming community. Only one farmer stated that charts and multimedia projectors were used while the use of whiteboard and flip chart was not indicated by any respondent.

Table 2. Level of the effectiveness of training methods used by EFS during training regarding demonstration plots.

Training method		Weighted score	Mean	Std. Dev.	Rank
Farm visit		431	3.59	.541	1
Lecture		429	3.57	.773	2
Field trip		123	1.02	.447	3
Group discussion		72	0.66	.332	4
Demonstration		16	0.13	.000	5
Brain storming		16	0.13	.000	5
Group assignment		12	0.10	.000	6
Use of audio-visual aids	Multimedia projector	4	0.03	-	7
	Charts	1	00	.	8
	Flip chart	-	-	-	-
	Whiteboard	-	-	-	-

Table 2 is based on the weighted score computed by multiplying the score value allotted to each category of the scale with the frequency count. The ranking of the respondents according to their reaction to different training methodologies is also given in Table 2. According to the respondent's response, farm visit was placed at 1st position with a mean of 3.59 among all other training methodologies used by EFS because respondents learnt more through this method. Lecture, field trips and group discussion were given 2nd, 3rd and 4th positions with mean values of 3.57, 1.02 and 0.66 respectively. While 5th position was given to demonstrations and brainstorming with the same mean value of 4.00. Similarly, group assignments, multimedia projector, and charts were ranked at 6th, 7th, and 8th positions with mean values of 3.00, 4.00, and 1.00 respectively. These results are more or less conflicted with those of Talib (2012) who resulted in that method demonstration, farm visit and group discussion were ranked 6th, 7th and 8th position respectively.

Schedule of training methods used by EFS during training regarding demonstration plots

The training programme utilizes participatory methods and helps farmers develop their analytical skills, critical thinking and creativity. It also helps them learn to make a better decisions. The information provided by the extension field staff through different extension methods is also considered averagely effective. During the dissemination of new technologies to farmers, different extension methods used by extension field staff play an important role. The selection of the best method suitable for dissemination of information lies upon the extension which extension method should be appropriate at a certain stage. Extension teaching methods are considered tools in the hands of extension field staff to disseminate agricultural technology among the farming community. Different extension methods play different roles according to their nature, with the purpose and nature of farmers upon whom these methods are applied. The agricultural extension also served as a channel through which farmers' problems can be identified for research and modification of agricultural policies to benefit the rural communities (FAO, 2002). It is a general opinion that government agencies have been making rigorous efforts to promote the welfare of the rural community and trying to bridge the yield gap of crops and launching various agricultural extension programs in Punjab-Pakistan.

Table 3. Schedule of training methods used by EFS during training regarding demonstration plots.

Training session	Yes		No		Weekly		Fortnightly		Monthly		Twice a year	
	F	%	F	%	F	%	F	%	F	%	F	%
Demonstration	4	3.3	116	96.7	0	0	0	0	0	0	4	100
Group discussion	25	20.8	95	79.2	0	0	4	16	6	24	15	60
Lecture	109	90.8	11	9.2	7	6.4	9	8.2	23	21.1	70	64.2
Field trips	41	34.2	79	65.8	0	0	8	19.5	12	29.2	21	51.2
Farm visit	116	96.7	4	3.3	13	11.2	37	31.8	34	29.3	32	27.5
Brain storming	4	3.3	116	96.7	0	0	0	0	0	0	4	100
Group assignment	4	3.3	116	96.7	0	0	0	0	0	0	4	100
Use of Charts	1	0.8	119	1	0	0	0	0	0	0	1	100
audio- Whiteboard	0	0.0	120	0	0	0	0	0	0	0	0	0
visual Projector	1	0.8	119	1	0	0	0	0	0	0	1	100
aids Flip charts	0	0.0	120	0	0	0	0	0	0	0	0	0

Table 3 revealed that about 4 respondents fraction of 3.3% of them said that demonstrations held twice a year, whereas in group discussion only 16% said that training sessions held fortnightly 24 % responded was about monthly and the majority of respondents 60% revealed that this session held twice a year out of the total response of 25, 109 respondents

believed that Lecture techniques held in which only 6.4% said that it held on weekly basis 8.2% proved that it held on fortnightly, 21.1% revealed monthly and 64.2% vote for twice a year. Field trips are held monthly said by 19.5%, 29.2% said that it held every month whereas the majority of the respondents 51.2% said that they are held twice a year out of 41 respondents. Farm visits held in the majority in which 11.2% said that it is held every week, 31.8% said it held on fortnightly, 29.3% response was that it held on monthly were near to 1/4th that becomes 27.5% response was that it is held twice a year on every season startup out of the total response of 116 respondents. Other methods of training sessions which fall in audio-visual aids like charts and multimedia projector are in the fraction that is only 0.8 which occurs only twice a year.

Conclusion and Recommendations

It revealed from the research that the majority of the farmers have believed that demonstration plots of wheat and sugarcane are in majority being planted in their area and a fraction of other crops like maize, cotton, pulses and vegetables. It also reported that a huge majority of farmers believed that EFS has a regular schedule of training sessions regarding demonstration plots, almost one-third of the respondents said that monthly visits were performed by the EFS while the majority of the respondents reported that seasonal visits and lectures were made by extension personnel during the campaign of demonstration plots. The preferred areas of training were seed selection, disease management, fertilizer management and insect pest management. Farmers were found to be extra careful in seed selection because it can give them maximum yield if all the inputs are applied properly. The farm visit was a commonly used teaching method among all other tactics for training. A large number of farmers indicated huge improvement in seed selection, land preparation, use of animal waste, poultry manure, fungicide use, knowledge, attitude, yield per unit area and income after participating in training sessions imparted by the extension field staff (EFS).

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