

SOCIO-ECONOMIC CHARACTERISTICS OF FARMERS AND THEIR PARTICIPATION IN ACTIVITIES OF MODEL FARM SERVICES CENTERS IN KHYBER PAKHTUNKHWA, PAKISTAN

Sher Muhammad*, Ijaz Ashraf*, Amir Khatam**, and Naima Nawaz***

ABSTRACT:- Model Farm Services Centers (MFSCs) can be viewed as a new extension strategy introduced in all the 24 districts of Khyber Pakhtunkhwa (KPK) to lead farming communities towards sustainable agriculture by putting emphasis on the delivery of demand-based services through their active involvement. This improved situation regarding availability of agricultural inputs and good decision making may result in active participation by farmers in farm related activities. The present paper focuses on farmers' participation in various activities of MFSCs as influenced by their socio-economic characteristics. The target population of current study consisted of the member farmers of the MFSCs in four districts of KPK having different ecological mix cropping zones. Data were collected with the help of a validated and reliable interview schedule through a research team comprising of four members who were properly trained for the purpose. Highest farmers' participation was perceived in supply of inputs and was ranked 1st with mean value 3.10. There existed a highly significant association between age, education, land holding, and tenancy status of the respondents and their participation in various activities being carried out under MFSCs. It is recommended that relatively young, educated, big and owner farmers may be given priority for registration in MFSCs so that they could avail full benefits of MFSCs through active participation.

Key Words: Extension strategy; MFSCs, socio-economic characteristics, participation

INTRODUCTION

Economy of Pakistan is predominantly agro-based; agriculture contributes more than 20% of national GDP and also provides employment to 45% rural people of the total work force. It also contributes significantly to national growth as supplier of raw materials to agro-based industry. About 60% of country's population is directly or indirectly connected with

agriculture for their livelihood (GoP, 2014). However, there exists a large gap between the potential and average yield of crops produced by farmers. This yield gap can reasonably be minimized by diffusing modern agricultural technologies among the farming communities (Khatam et al., 2013). This responsibility is shouldered by the agricultural extension agencies through building farmers' capacity in improved crop manage-

* Institute of Agri. Extension and Rural Development, University of Agriculture, Faisalabad, Pakistan.

**Agriculture Department of Extension, KPK, Pakistan.

***Department of Rural Sociology, University of Agriculture, Faisalabad, Pakistan.

Corresponding author: gilluaf707@uaf.edu.pk

ment skills and practices. To achieve this objective many extension approaches have so far been used in the country to enhance farm productivity in general and farmers' profitability in particular. Most of the extension approaches tried earlier were top-down, involving no participation at grass roots level. Thus they could not be fully effective to achieve their objectives. Keeping in view the importance of participation at grass roots level, the focus of extension has been shifted from top-down to bottom up for enhancing farmers' participation in planning, implementation and evaluation of various extension programmes. In this context Crowder (1996) suggested a series of recommendations to improve local extension including the formation of partnership based on collaboration among extension units, non-governmental organizations and universities. Moreover, training of extension agents may help them to shift from top down to community based approaches; functioning of decentralized approach by involving local people in decisions making besides developing strong linkages at all level to facilitate information and knowledge sharing. Similarly, Rivera (1998) stated that agricultural extension around the world was experiencing structural reforms as countries make the transition from centralized to decentralized and privatized agricultural extension systems. World Bank (1997) described some of the benefits of partnership including increased productivity, reduced poverty and an improved quality of life. It is especially because of this mutual advantage that partnership between and among the state, the

private sector, and the civil society has become a subject of development discourse. World Bank (2000) found in a study that only 6 out of 19 countries showed varying levels of success towards de-centralizing their extension systems. For example Colombia, China, Philippines and Indonesia considerably decentralized their extension services whereas Poland and Tunisia showed some evidence of de-centralization. The study further concluded that decentralization reforms of agricultural extension devolved planning, financing, and management responsibilities to local and regional governments provided users the opportunity for greater influence over programs. Community based approaches to development increased the share of resources that reach intended beneficiaries and improve chances of project sustainability.

Farmers Field School (FFS) is an example of a participatory extension approach being followed throughout Pakistan. Kenmore (2002) stated that the FFS approach represents a paradigm shift in agricultural extension i.e. the training program utilizes participatory methods to help farmers to develop their analytical skills, critical thinking and creativity, and help them learn to make better decisions. On the same lines, Government of KPK, Department of Agriculture announced in its Agricultural Policy-2005 that public-private partnership would be strengthened throughout the province through creating enabling environment and incentive mechanism for agriculture and livestock. It was also decided that special attention will be given towards farmers' access to agricultural techno-

logies on the forum of Farm Services Centers (Govt. of KPK, 2005).

MFSCs are part of the extension strategies recently introduced in all the 24 districts of KPK as modified form of Farm Services Centers established at district level. These are expected to lead farming communities towards sustainable agriculture by putting emphasis on the delivery of demand-based services through active involvement of farming communities. MFSCs serve farming communities under one-window operation administered by their registered farmers. This whole process makes the resource-poor farmers as good decision makers regarding their inputs, crops and various farm management practices which ultimately make them active participants in various farm related activities. How far, this approach has been effective in enhancing farmers' participation in various activities of MFSCs is probably an important area of investigation. The present paper focuses on farmers' participation in various activities of MFSCs as influenced by their socio-economic characteristics.

MATERIALS AND METHOD

The population for the study consisted of the member farmers of the MFSCs in four districts of KPK having different ecological mix cropping zones. From each districts 100 member farmers of the MFSCs were randomly selected thus, making a total of 400 farmer respondents from the entire population. Data were collected with the help of a validated and reliable interview schedule through a research team comprising four members who were properly

trained for the purpose. A five point Likert scale (1-5) was used to assess farmers' participation level in various activities. Participation level was determined on the basis of weighted score, which was computed by multiplying the score value allotted to each category of the scale with the frequency count. The collected data were analyzed using Statistical Package for Social Sciences (SPSS). Chi-square test was applied to determine relationship between dependent and independent variables.

RESULTS AND DISCUSSION

Farmers' participation in various activities of MFSCs

MFSCs are established on participatory approach where farmers are expected to actively take part in different activities. Without their active participation, the desired outcome of MFSCs is unlikely to achieve. The respondents were asked to rate the level of their participation in various activities and their responses in this regard are presented in Table 1.

Table 1 shows the extent of participation of the respondents in various activities of MFSCs. A good number (42.3, 38.3 and 35.8%) of the respondents gave no response with regard to arrangements of tours/field trips of farmers; arrangement of exhibitions, farmers' days and conflicts resolution. Participation in other activities was rated as medium by most of the respondents. About 39% respondents rated participation in training of farmers as high in extension activities conducted by MFSCs. Similarly, about one-fourth (24.5%) respondents rated participation in supply of inputs as high.

Table 1. Farmers' participation in various activities of MFSCs

Activities	V.low (1)		Low (2)		Medium (3)		High (4)		V.high (5)		No response	
	f	%	f	%	f	%	f	%	f	%	f	%
Training of farmers	44	11.0	38	9.5	123	30.8	15.4	38.5	5	1.3	36	9.0
Supply of inputs	19	4.8	77	19.3	185	46.3	98	24.5	4	1.0	17	4.3
Developing linkages with line agencies	68	17.0	47	11.8	139	34.8	53	13.3	4	1.0	89	22.3
Motivation and development of farmers organi- zations	50	12.5	52	13.0	75	18.8	10.0	25.0	1	0.3	122	30.5
Confidence building	49	12.3	41	10.3	122	30.5	57	14.3	7	1.8	124	31.0
Conflicts resolution	57	14.3	50	12.5	102	25.5	47	11.8	1	0.3	143	35.8
Provision of agricul- tural machinery on rent basis	85	21.3	61	15.3	78	19.5	55	13.8	5	1.3	116	29.0
Arrangement of tour/ field trips of farmers	59	14.8	36	9.0	91	22.8	42	10.5	3	0.8	169	42.3
Arrangement of exhibi- tions, farmers' days etc.	59	14.8	37	9.3	83	20.8	65	16.3	3	0.8	153	38.3

Based on the said data, ranking of different activities was done, which is given in Table 2.

The data regarding rank of activities at MFSC showed that highest farmers' participation was reported in supply of inputs, which was rated 1st with mean value of 3.10. However, other activities mentioned ranked from 2 till 9 with varying values of mean and standard deviations (Table 2). Training of farmers, developing linkages with line agencies, motivation and development of farmers' organizations, confidence building, provision of agricultural machinery on rent basis, arrangement of exhibitions, farmers' days etc, conflicts resolution and arrangement of tour/field trips for farmers were ranked below average as evident from their mean values. It clearly indicates that farmers'

participation, which is ideally expected to be very high under MFSCs approach, was actually much lower than the expectations in almost all activities. The highest ranking of supply of inputs to the respondents may be due to the inputs' availability on controlled prices at the MFSCs. It may also be due to the quality assurance by the service centres association between socio-economic characteristics of respondents and their participation in various activities of MFSCs

In order to see whether or not any relationship existed between independent and dependent variables, Chi-square test was applied. Age, education, land holding and tenancy status were treated as independent variables while participation of farmers in various activities of MFSCs was considered as dependent variable.

SOCIO-ECONOMIC CHARACTERISTICS OF FARMERS AND THEIR PARTICIPATION

Table 2. Mean, standard deviation, weight scores and rank of activities at MFSC based on farmers' participation

Activities of MFSCs	WS	Mean	SD	Rank
Supply of inputs	1140	3.10	1.03	1
Training of farmers	1130	2.98	0.84	2
Developing linkages with line agencies	811	2.61	1.05	3
Motivation and development of farmers organizations	784	2.82	1.12	4
Confidence building	760	2.75	1.05	5
Provision of agricultural machinery on rent basis	686	2.42	1.16	6
Arrangement of exhibitions, farmers days etc.	657	2.66	1.14	7
Conflicts resolution	656	2.55	1.04	8
Arrangement of tour/ field trips for farmers	587	2.54	1.10	9

The data in this regard are presented in Tables 3-6.

Data given in Table 3 indicate that a highly significant association was found between age of the respondents and their participation in various activities being carried out under MFSCs. This relationship depicts that with the increase in age, participation of respondents in various activities of MFSCs also increased.

Table 4 shows that education of the respondents had a highly significant

Table 3. Association between age of respondents and their participation in various activities of MFSCs

Age (years)	Participation of farmers in various activities			Total
	Low	Medium	High	
<= 30	11.9%	15.7%	27.0%	18.0%
31 - 40	19.4%	20.0%	24.6%	21.3%
41 - 50	36.6%	32.1%	23.8%	31.0%
51 - 60	20.9%	17.1%	16.7%	18.3%
61+	11.2%	15.0%	7.9%	11.5%
Total	100.0%	100.0%	100.0%	100.0%

Chi-square = 16.95 d.f: 8 **Significant,

Table 4. Association between education of respondents and their participation in various activities of MFSCs

Education (years)	Participation of farmers in various activities			Total
	Low	Medium	High	
Illiterate	31.3%	30.0%	20.6%	27.5%
Primary	10.4%	6.4%	7.9%	8.3%
Middle	10.4%	12.1%	9.5%	10.8%
Matric	26.1%	22.9%	21.4%	23.5%
Intermediate	12.7%	11.4%	6.3%	10.3%
Graduate+	9.0%	17.1%	34.1%	19.8%
Total	100.0%	100.0%	100.0%	100.0%

association with their participation in various activities being carried out under MFSCs. This relationship reflects that with the increase in education, participation of respondents in various activities of MFSCs also increased.

Table 5 shows that land holding by the respondents had a highly significant association with their participation in various activities of MFSCs. This relationship reflects that with the increase in land holding, participation of respondents in various activities of MFSCs also increased.

Table 5. Association between land holding of respondents and their participation in various activities of MFSCs

Land holding (acres)	Participation of farmers in various activities			Total
	Low	Medium	High	
<= 0	8.2%	12.9%	0.8%	7.5%
1 - 5	51.5%	36.4%	36.5%	41.5%
6 - 10	23.1%	27.9%	25.4%	25.5%
11 -15	7.5%	9.3%	17.5%	11.3%
16+	9.7%	13.6%	19.8%	14.3%
Total	100.0%	100.0%	100.0%	100.0%

Chi-square = 15.47, d.f: 4, **Significant

Table 6. Association between tenancy status of respondents and their participation in various activities of MFSCs

Tenancy status	Participation of farmers in various activities			Total
	Low	Medium	High	
Owner	47.8%	57.1%	74.6%	59.5%
Owner cum Tenant	31.3%	19.3%	18.3%	24.9%
Tenant	13.8%	12.3%	6.4%	10.8%
Total	100.0%	100.0%	100.0%	100.0%

*Chi-square = 15.47, d.f: 4, **Significant*

Data given in Table 6 indicate that a highly significant association was found between tenancy status and their participation in various activities being carried out under MFSCs. It means that owner cultivators participated more as compare to owner-cumtenants and tenants.

CONCLUSIONS AND RECOMMENDATIONS

Highest farmers' participation was perceived in supply of inputs and was ranked 1st with mean value 3.10. Training of farmers, developing linkages with line agencies, motivation and development of farmers' organizations, confidence building, provision of agricultural machinery on rent basis, arrangement of exhibitions, farmers' days etc, conflicts resolution and arrangement of tour/field trips of farmers were ranked below average. There existed a highly significant association between age, education, land holding and tenancy status of the respondents and their participation in various activities being carried out under MFSCs. It is therefore, recommended that relatively young, educated, big and owner farmers may be given priority for

registration in MFSCs so that they could avail full benefits of MFSCs through active participation. Active farmers' participation is required at all levels of planning, purchasing of inputs, fixing prices for inputs, distribution of inputs, making arrangement of trainings, and conducting tours and trips to research stations and progressive farmers of the area. Participation of farmers was rated as low in almost all aspects, so the extension field staff needs to concentrate more on the extension activities in which farmers' participation was rated as below average.

LITERATURE CITED

- Crowder, L.V. 1996. Agricultural Extension for Sustainable Development. FAO, Rome, Italy.
- GoKPK. 2005. Agricultural Policy 2005. Food, Agriculture, Livestock and Cooperation Department, K.P.K, Peshawar.
- GoP. 2014. Economic Survey of Pakistan, Finance Division, Economic Advisor's Wing, Islamabad.
- Kenmore, P. 2002. Integrated pest management. *Int. J. Occupa. and Envir. Health.* 8(3):173-174.
- Khatam, A., S. Muhammad, and I. Ashraf. 2013. Role of individual contact methods in dissemination of agricultural technologies. *Pakistan J. Agric. Res.* 26 (1): 40-45.
- Rivera, W.M. 1998. An institutional variant in extension: the Rural Business Advisory Services in Uzbekistan. *Senegal J. Int. Agri. Ext. Edu.* 5 (3): 37-43.
- World Bank. 1997. Rural Development: From Vision to Action. Sector Strategy, Environmentally

and Socially Sustainable Development Studies and Monographs Series 12. Washington, DC. World Bank. 2000. Comprehensive	Development Framework. Worldwide. In Global Consultation on Agricultural Extension, Rome, FAO.
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AUTHORSHIP AND CONTRIBUTION DECLARATION

S.No	Author Name	Contribution to the paper
1.	Dr. Sher Muhammad	Technical Input, Overall Management of the Article
2.	Mr. Ijaz Ashraf	Wrote abstract, Methodology and Conclusion
3.	Mr. Amir Khatam	Data Collection and SPSS Analysis
4.	Ms. Naima Nawaz	Wrote Result and Discussion

(Received May 2016 and Accepted December 2016)