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IMPACT OF FARMER FIELD SCHOOLS ON SOCIAL WELLBEING OF FARMING COMMUNITY IN KHYBER PAKHTUNKHWA, PAKISTAN

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ABSTRACT

The paper focuses on the impact of farmer field schools (FFS) on social wellbeing of farming community. For this purpose, six districts from the central region of Khyber Pakhtunkhwa including Peshawar, Charsadda, Nowshera, Mardan, Swabi and Kohat were selected. Data were collected on various aspects of social wellbeing of farming community from 240 randomly selected FFS farmers and 60 extension field staff respondents. The data were analyzed using a paired t-test for comparison of pre and post FFS scenarios. The results show that decision making was ranked 1st with mean values 3.38, 3.94 closely followed by confidence building and spirit of self help which were ranked 2nd and 3rd with mean values 3.41, 3.94 and 3.40, 3.92 in pre and post-FFS scenarios, respectively. Similarly, field staff respondents ranked spirit of self help by farmers as 1st with mean values 3.31, 4.04, decision making as 2nd with mean values 3.27, 3.91, and confidence building as 3rd with mean values3.39 and 3.97 in pre and post-FFS scenarios, respectively. This situation shows a highly significant difference between the pre and post FFS scenarios. Hence, it can be concluded from the study that FFS had a significant impact on all aspects of social wellbeing of farming community as a result of various project activities.

Key words: Extension approaches, Impact of Farmer Field School, Social wellbeing.

INTRODUCTION

Feeding the explosively growing population of Pakistan has always been a challenge for agricultural scientists of the country. Tackling this challenge needs to design an effective program that goes beyond dissemination of technologies among farmers, to help small farmers to get themselves organized for mutual use of production and protection technologies, marketing and advocacy in such a manner that empowers the farming community in problem solving and developing innovative skills (David, 2007). These objectives can be obtained through FFS approach which encourages farmers' learning in groups optimally from field observations and experimentations (Van den Berg, 2004). FFS is described as a "school without walls" that is used for capacity building of farming communities to adopt innovations for sustainable agriculture. It is a group extension teaching method, which teaches basic farm management skills to make farmers experts in their own farms. In this approach farmers meet on regular basis during the entire growing seasons to learn new production techniques in groups of 25-30 farmers. Upon completion of training, farmers continue to meet and share information, with each other even with less assistance from extension workers. FFS aims at increasing the capacity of farmers to apply new technologies in their fields to assess their relevance to their specific circumstances, and interact with the researchers and extension workers for help where needed to solve a specific problem (Godrick Khisa, 2004). However, David, (2007) concluded some social benefits of FFS based on farmers' perceptions which were: ability to arrive at group consensus, making observations prior to making farm management decisions, ability to make effective public speech, better at working in groups, and experimentation with cocoa and other crops. He further stated that FFS can be a beginning for social change by improving farmers' ability to observe technology, apply new knowledge as a solution to their problems, communicate effectively, have more self confidence, and organize to support cocoa production and to take activities as well as other livelihood initiatives. But these outcomes cannot be sustainable without effective institutions, support systems and policies favorable to agricultural extension and research. Likewise, Simpson and Owens (2002) who stated that FFS approach had a significant role in providing farmers an opportunity to acquire knowledge about new concepts. FFS graduates are willing and have ability to communicate; new agricultural technologies to their fellow farmers and in some cases they had contributed significantly to social development. In the same context, Buyu *et al.* (2003) reported that FFS facilitates understanding regarding local structures. Participatory technology development mainly depends on willingness of people to mobilize their resources and share information. Mutandwa and Mpangwa (2004) which assessing the impact of FFS on integrated pest management (IPM) dissemination and its usefulness which revealed that scores with regard to crop

yield, income from cotton and technical knowledge for FFS participants were higher than those non-FFS participants. Kwarteng *et al.* (2004) evaluated participatory technology development and extension (PTD&E) approach of FFS in Ghana and found that this approach had a significantly improve the competencies of extension staff through team building activities, technical trainings, demonstration, development of organizations, financing, supervision by drawing and disbursing officers, participation at various levels of programme planning, understanding principles of IPM and the adoption IPM technologies. In the same way, Braun *et al*. (2005) stated that knowledge gained during FFS training is often unlikely spread among the community but creates social and economic change in the public and private sectors which deliver positive benefits. Initial data collected suggest that simple information and practices do diffuse from FFS participants to non participating farmers through observation to some extent, but self-confidence, knowledge and skills in solving problems are not easily diffused. Results of empowerment obtained from FFS included the improved self-confidence and pride besides social change and action resulting through participation in FFS. Farmers were empowered in getting a greater control over their lives. Duveskog and Friis-Hansen, (2008) stated that in Mwingi district of Kenya, farmers often come to dealer with no idea regarding quality input and generally ask him to provide them information about which seed to purchase and seek no advice from experts. However, in case of FFS graduates he had observed a basic change in that they often ask with confidence for a specific variety and when the dealer was enquired why the farmers were able to specify a certain variety; he referred to the actual field experience they gained through trainings of FFS. This showed an improvement in self confidence of the respondents and positive changes in how they identified their role vs. the role of professionals. Furthermore, they concluded that FFS was an important platform for building human capacity and empowerment, which ultimately ensured the effectiveness of services provided for the betterment of community. Asiabaka and James, (1999) stated that farmers become researchers in as they test different technological options and make decisions about the best alternative for particular circumstances. Farmers occupy the key position in the process of technology development while the role of the extension worker is that of a facilitator. FFS highlight the need for such trainings through which conclusions can be easily made by the farmers. This will eventually empower the farming community in improving their socio-economic conditions. Equally important were the results of Khatam *et al.* (2010) who concluded that FFS approach makes improvement in farmers' knowledge, helps them in learning various practices by doing, discourages the use of pesticides, encourages local recipes for plant protection, imparts systematic training, facilitates farmers in identification of problems by themselves, promotes balanced use of fertilizers, minimizes cost of production, encourages community organization, develops real leadership in the society, inculcates communication and farm management skills, FFS plays as a demand driven extension approach, develops linkages of farmers with all the stakeholders, improves local knowledge, facilitates farming community in implementing their decisions, assists in evaluation of various technologies and situation analysis, facilitates farming community in confidence building, brings about positive changes in farmers' attitude, increases farmers' per capita income and improves the overall socio-economic conditions of the farming community. Keeping the aforementioned importance of FFS approach in view the present study was conducted with the objectives (1) To find out the impact of Farmers' Field Schools on social wellbeing of farming community in the Khyber Pakhtunkhwa, Pakistan. (2) To formulate policy recommendations for further improvement of FFS approach.

MATERIALS AND METHODS

The population for the study constituted farmers and extension field staff in the study are comprising 6 districts in the central region of Khyber Pakhtunkhwa i.e Peshawar, Charsadda, Nowshera, Mardan, Swabi, and Kohat. Using Table for sample size (Fitzgibbon and Lynn, 1987) a random sample of 40 farmer and 10 field staff respondents was selected from each district from the list of FFS farmers provided by Agriculture Dept. (Extension) thereby making a total of 240 farmer and 60 field staff respondents, respectively. The data were collected by the researchers using "survey" method. Two separate interview schedules were constructed, checked for their validity and reliability and were pre-tested. For ranking of various aspects a five point scale (Likert scale) was used. The data were analyzed using computer software, Statistical Package for Social Sciences, (SPSS). Weighted scores were calculated by multiplying the score value allotted to each class of the scale with the frequency counts. Means and standard deviation were computed for different variables. T-test was used to assess the difference between pre and post FFS scenario based on the perceptions of farmers and extension field staff regarding different variables.

RESULTS AND DISCUSSION

Table I reveals a highly significant difference between pre and post FFS scenarios. All features of social wellbeing of farming community improved as a result of FFS activities. Decision making was ranked at the top with mean values 3.38, 3.94 closely followed by

confidence building and spirit of self help which were ranked second and third with mean values 3.41, 3.94 and 3.40, 3.92 in pre and post-FFS scenarios, respectively.

The highest difference in the aspect of decision making was due to the confidence building measures adopted during the learning cycle of FFS and inculcating spirit of self help among the FFS farmers in the project area.

The mean values indicate that perception of farmer respondents regarding decision making in the pre and post-FFS scenarios ranged from medium to high but tended towards medium in case of pre-FFS and tended towards high in case of post-FFS scenario.

The findings of the study are in line with those of Gallagher (2003) who reported that all farmers of sub groups' of FFS were engaged in drawing maps of the natural phenomenon and analyzing data. Whilst drawing, they discussed and analyzed the data they collected from the field. Based on their analysis, FFS participants take decisions regarding management of activities to be conducted in their fields. Braun *et al.* (2008) stated that FFS farmers returned to the shade after making observations in the field and started analyzing results of their drawings regarding agro-ecosystem and discussed various management decisions as also noticed by the facilitator and one other participant of the group. Similarly, Khatam *et al.* (2010) concluded that FFS built up farmers' confidence in making and implementing their decisions regarding reducing pesticides use and promoting of local plant protection recipes. It improved their leadership qualities, communication and management skills as well as elevated the overall socio-economic conditions of farming community.

Table II clearly shows that there was a highly significant difference between pre and post FFS scenarios with respect to social wellbeing of farming community. All aspects of social wellbeing of farmers had improved as a result of FFS activities as perceived by field staff respondents. However, spirit of self help was ranked 1st with mean values 3.31, 4.04, decision making was ranked 2nd with mean values 3.27, 3.91 and confidence building was ranked 3rd with mean values 3.39 and 3.97 in pre and post-FFS scenarios, respectively.

The highest difference in the feature of spirit of self help in the pre and post FFS scenarios was due to their confidence building and improved decision making regarding various aspects of their social wellbeing.

The mean values indicate that responses of field staff respondents regarding farmers' spirit of self help in the pre FFS scenario assorted from medium to high but inclined towards medium. Conversely, in post-FFS scenario it ranged between high and very high, but inclined towards high category.

Table 1. Comparison of FFS impact on the social well-being of farmers in pre and post-FFS scenarios based on the perceptions of farmer respondents

Features of social well-being	Post	Pre	Mean difference	t-value	P-value
	Mean ± SD	Mean ± SD			
Decision making	3.94 ± 0.66	3.38 ± 0.62	0.56	-10.20	<0.001**
Confidence building	3.94 ± 0.68	3.41 ± 0.60	0.53	-9.41	<0.001**
Spirit of self help	3.92 ± 0.70	3.40 ± 0.64	0.52	-9.95	<0.001**
Conflict resolution	3.88 ± 0.62	3.37 ± 0.57	0.51	-10.44	<0.001**
Leadership qualities	3.92 ± 0.68	3.42 ±0.64	0.50	-9.38	<0.001**
Resource management	3.89 ± 0.64	3.39 ± 0.50	0.50	-10.53	<0.001**
Voice for rights	3.86 ± 0.1	3.36 ± 0.55	0.50	-11.15	<0.001**
Health conditions	3.87 ± 0.69	3.38 ± 0.64	0.49	-10.42	<0.001**
Public speaking	3.82 ± 0.61	3.34 ± 0.56	0.48	-10.79	<0.001**
Children education	3.76 ± 0.64	3.31 ± 0.54	0.45	-11.41	<0.001**
Housing/living	3.72 ± 0.62	3.30 ± 0.51	0.42	-10.50	<0.001**

Source: Survey data; * = Significant (P<0.05); ** = Highly significant (P<0.01)

The results of the study are in line with those of Braun and Deborah (2008) who concluded that FFS have significantly reduced the environmental risks, enhanced agro-biodiversity, improved social as well as decision-making skills and managerial capability of FFS' farmers. An increase of 23% in the outcome on FFS farms are estimated due to use of technical knowledge, identification of pest and predators, the capacity building in decision making and conducting experimentations in the field. Participation in FFS sessions contributed towards improved learning skills and independent decisions for enhanced income. Greater number of FFS farmers (33%) joined community organizations during the post-FFS scenario (UNDP, 2005; Khan, 2005). Similarly, a significant increase of 46% was obtained in the net contribution of cotton to net household income at FFS farms that ultimately helped in poverty reduction. It was also concluded that incident of poverty in FFS farms

for household below the poverty line was reduced from 71 to 55%. (UNDP, 2005; Khan and Ahmad, 2005). The process of FFS builds up self-confidence, improves group control and develops management skills. One of the major strengths of FFS is strengthening of civil society or social capital at village level though mobilization of community especially the resource poor farmers. They gain voice and are considered important part of the decision making process. Winarto (2004, Tripp *et al*. (2005), and Praneetvatakul and Waibel (2005) stated that FFS can be effective in minimizing the excessive use of pesticides, lowering the cost of production, improving community health, increasing farmers' knowledge and preserving agro-eco-system. Rola *et al*. (2002) stated that farmers are trained in FFS during the whole season and this process of training provides them opportunities of participation in various activities, conducting experimentations and making decisions regarding their farming.

Table II. Comparison of FFS impact on social well-being of farmers in pre and post-FFS scenarios based on the perceptions of field staff respondents

Features of social well-being	Post	Pre	Mean difference	t-value	P-value
	Mean ± SD	Mean ± SD			
Spirit of self help	4.04 ± 0.64	3.31 ± 0.61	0.73	-6.93	<0.001**
Decision making	3.91 ± 0.62	3.27 ± 0.54	0.64	-7.89	<0.001**
Confidence building	3.97 ± 0.74	3.39 ± 0.61	0.58	-5.58	<0.001**
Conflict resolution	3.86 ± 0.79	3.29 ± 0.55	0.57	-5.58	<0.001**
Housing/living	3.78 ± 0.63	3.22 ± 0.57	0.56	-6.95	<0.001**
Health conditions	3.91 ± 0.63	3.37 ± 0.65	0.54	-6.28	<0.001**
Public speaking	3.92 ± 0.70	3.44 ± 0.66	0.48	-4.85	<0.001**
Leadership qualities	3.69 ± 0.67	3.33 ± 0.58	0.36	-5.07	<0.001**
Resource management	3.71 ± 0.79	3.36 ± 0.65	0.35	-3.62	<0.001**
Children education	3.58 ± 0.75	3.24 ± 0.53	0.34	-4.27	<0.001**
Voice for rights	3.52 ± 0.67	3.30 ± 0.70	0.22	-2.34	<0.05*

* = Significant (P<0.05); ** = Highly significant (P<0.01)

Conclusions: It can be concluded from the study that all aspects of social wellbeing of farming community had improved as a result of FFS activities in the project area. Therefore, the part played by FFS launched by the Govt. of KP is of significant importance. FFS had developed decision making capacity of farmers regarding resources management by inculcating spirit of self help among the farming community. Due to confidence building at FFS, farmers have become good public speakers and thus can raise voice for their rights at any forum. FFS had developed leadership qualities among the participants besides enabling them to resolve conflicts by themselves. FFS had also helped them improve their families' health through better housing facilities and children education as a result of their elevated social status in the society.

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