STRENGTHS AND WEAKNESSES OF FARMERS' FIELD SCHOOLS APPROACH AS PERCEIVED BY FARMERS

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ABSTRACT

Many extension strategies have so far been tried from time to time in Pakistan but none of them seems to be effective in serving the farmers through increasing farm productivity and improving their income. Government of KP introduced a new extension approach called Farmers' Field Schools (FFS) in 2004 in the 24 districts of the province. Farmers' Field Schools approach is used for capacity building of farming community through exploration, discovery and adaptation into their local conditions. It comprises a group of 25 farmers which is facilitated by an extension worker. FFS lay emphasis on careful observation, mutual discussion and analysis of various phenomenon occurring in the field. As a result of this action they are able to integrate their indigenous knowledge with new concepts of science and thus make a collective decision. This process builds self-confidence among the farming community; improve their skills and knowledge that ultimately lead farmers towards empowerment. The analysis shows that FFS improved knowledge of farmers, helped farmers in learning by doing and discouraged the use of pesticides which ranked 1st, 2nd and 3rd with mean values 3.60, 3.53 and 3.49, respectively. While weaknesses of FFS show that heavy expenses incurred on the implementation of FFS, it was a time consuming process and weekly routine to attend school was difficult were ranked as 1st, 2nd and 3rd with mean values 4.02, 3.69 and 3.67, respectively. The present paper is based on the study designed to analyze the strengths and weaknesses of FFS as perceived by farmers. The study was conducted in the central region of KP which comprises seven districts. The sample for the study consisted of all the FFS farmers. The data were collected through "survey" method and were analyzed by using Statistical Package for Social Sciences (SPSS).

Key Words: **Farmers' Field Schools, Strengths, Weaknesses, Farmers' education, decision making, capacity building, Improving skills and knowledge**

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INTRODUCTION

Agricultural extension is facing a number of challenges in the 21st century. The most important among these challenges is how to develop sustainable agricultural extension approach that goes beyond extending technical knowledge to the producers, to play a leading role in helping small scale farmers, organize themselves for sharing production and protection technologies, marketing and advocacy in such a way that empowers the farming community (David, 2007). To cope with these challenges many extension approaches have so far been used in Pakistan for increasing productivity in general and profitability in particular. However, another recent approach known as Farmer Field School (FFS) was introduced to improve farmers' livelihoods by the Government of KP in 2004 in the 24 districts of the province. FFS approach is another, more recent, tool developed to improve farmers' livelihoods. It involves season-long, field-based groups of 25 to 30 farmers, who meet regularly to learn through discovery and experience. FFS combines local and scientific knowledge and aim at making farmers better decision-makers. Whereas the conventional 'transfer of technology' approach focused primarily on developing technologies that worked and on transferring these to farmers but the FFS approach belonged to another paradigm oriented towards helping farmers become better decision-makers and towards developing or adapting technologies that work and also are acceptable to farmers. Using local recipes indeed remain crux of the question in almost all the FFS to control the pests and save the bio-diversity (Nederlof et al. 2004; Röling, 2002; Röling et al., 2004). However, locally available recipe of neem extract was recognized as an alternative to available chemical pesticides. However, the labour needed to prepare enough of the extract for larger crop areas, and the fact that it was less effective than

chemical pesticides under high pest pressure in some localities, were important reasons expressed for not using it. Though representing a major break through with previous extension practice, the FFS methodologies did not always maximize the potential for experimental learning amongst farmers nor did they necessarily suit to the illiterate farmers (Nathaniels, 2005). The FFS approach promotes group learning optimally from field observation and experimentation based on principles of adult education and training to farmers is seen as the single approach of agricultural extension that can meet these goals (van den Berg, 2004). FFS is a form of education which uses experiential learning methods to build farmers' expertise (Pontius, 2002). Further, it is an alternative extension service approach to the more traditional, top-down "Training & Visit" approach developed to help farmers tailor their Integrated Pest Management (IPM) practices to diverse and dynamic ecological conditions (Simpson and Owens, 2002). FFS approach could improve farmers' knowledge in pest identification and their timely management and also improve their understanding about AESA. In regular sessions from planting till harvesting, groups of adjacent farmers observe and discuss dynamics of the crop's ecosystem. Simple experimentation helps farmers further improve their understanding of functional relationships (e.g. pests-natural enemy, population dynamics and crop damage-yield relationships). In this cyclical learning process, farmers develop the expertise that enables them to make their own crop management decisions (Tripp et al. 2005). FFS develops farmers' skills and knowledge thus making them empowered in choosing appropriate crop management practices. Special group activities encourage learning from peers, and strengthen communicative skills and group building (Pontius et al., 2002). Similarly, FFS can be effective in reducing the excessive use of chemical pesticides (Winarto 2004; Tripp et al. 2005; Praneetvatakul and Waibel 2005). The basic principle of FFS was the emphasis in growing a healthy crop with least disruption of the agro-ecosystem. The training methodology is based on learning by doing and it promotes the discovery based learning among the learners (Khisa, 2003). Keeping the globally recognized success of FFS in view, a research study was conducted in the central region of KP to analyze its strengths and weaknesses and the results are presented in this paper for improvement of the approach.

MATERIALS AND METHODS

The population for the study consisted of all the FFS farmers in the study area, which comprised 7 districts. From each district 4 FFS were randomly selected. Ten farmers were selected at random from each FFS, thereby making a total of 280 farmer respondents. The data were collected by the researcher himself by using "survey" method. The validity of the data collection instrument was checked with the help of experts in the Department of Agricultural Extension, University of Agriculture, Faisalabad. After making minor amendments, the research instrument was pre-tested for its validity and reliability. For this purpose five FFS working in the study area were randomly selected and five farmers from each of these FFS were interviewed who were not included in the sample, thereby making 25 farmers in total were interviewed for pre-testing. The data were analyzed through the computer soft ware Statistical Package for Social Sciences (SPSS) and results were drawn.

RESULTS AND DISCUSSION

While determining the ranking of the strengths and weaknesses of FFS, the rank orders were calculated on the basis of the scores computed by multiplying score value allotted to each category of the scale with the counts of frequency. The data collected by following this procedure are presented in Table I and II. There were thirty five statements in total, in which twenty were marked as strengths and fifteen as weaknesses. The rank orders were calculated on the basis of the highest and the lowest scores as marked with rank orders 1 and 19, respectively in case of strengths, similarly the highest scores possessing the rank order 1 and the lowest scores have 15 for weaknesses respectively.

Strengths and weaknesses of FFS

Table I reveals that responses about "improves knowledge of farmers, helps farmers in learning by doing and discourages the use of pesticides" were ranked 1st, 2nd and 3rd with mean values 3.60, 3.53 and 3.49, respectively. The reasons for the strengths may be the FFS approach is based on the principles of discovery based learning, promoting practical method of education and protecting environment and biodiversity has become cry of the day. The statements like "promotes local plant protection recipes, provides systematic training and learning process, helps farmers in problems identification by themselves, encourages balanced use of fertilizers, reduces cost of production, promotes community organization learns better leadership and communication and management skills fell between 'medium' to 'high' categories and were ranked as 4th, 5th, 6th, 7th, 8th, 9th and 10th respectively. The least recommending strengths were "improve the overall socio-economic conditions, increases per capita income and cost effective in nature which stood 18th and 19th with mean values 2.79 and 2.73 respectively as reported by the

farmer respondents of the study area.

Table-1 ***Mean, standard deviation and rank order of farmer respondents based on the strengths of FFS***

Strengths	Rank order	Score	Mean	SD
Improves knowledge of farmers	**1**	1008	3.60	1.14
Helps farmers in learning by doing	**2**	988	3.53	1.24
Discourages the use of pesticides	**3**	978	3.49	1.25
Promotes local plant protection recipes	**4**	964	3.44	1.23
Provides systematic training and learning process	**5**	942	3.36	1.31
Helps farmers in problems identification by themselves	**6**	937	3.35	1.12
Encourages balanced use of fertilizers	**7**	931	3.33	1.32
Reduces cost of production	**8**	909	3.29	1.29
Promotes community organization	**9**	907	3.25	1.45
Learns better leadership, Communication and management skills	**10**	899	3.24	1.34
Demand driven extension approach	**11**	899	3.21	1.35
Provides better environment for linkage of farmer-extension-research	**11**	890	3.21	1.25
Fills gaps in local knowledge	**12**	886	3.18	1.22
Assists farmers in implementing their decisions	**13**	884	3.16	1.29
Provides systematic evaluation of different technologies evolved by formal research and extension systems	**14**	876	3.16	1.37
Facilitates farmers in situation analysis	**15**	831	3.13	1.39
Builds confidence in farming community	**16**	820	2.97	1.34
Changes farmers' attitude	**17**	804	2.87	1.32
Improves the overall socio-economic conditions	**18**	781	2.79	1.31
Increases per capita income	**19**	764	2.73	1.13
Cost effective in nature	**19**	764	2.73	1.32

In this regard Simpson and Owens, (2002) stated that Farmer Field School (FFS) approach offers a much needed breath of fresh air and hope for the future. While certainly no silver bullet, with the appropriate care the FFS approach has shown that it was capable of being highly responsive to local needs over a wide range of conditions, and with a wide range of crops. The FFS approach has also made significant strides in providing the opportunity for farmers to acquire an understanding of important 'systems' concepts and relationships. FFS graduates have proven to be willing and able to communicate viable, new plant protection and production technologies to others in their immediate localities and beyond, and in some cases have made significant contributions to local social development.

Table-II ***Mean, standard deviation and rank order of farmer respondents based on the of weaknesses of FFS***

Weaknesses	Rank order	Score	Mean	SD
Heavy expenses on the implementation of FFS	**1**	1126	4.02	1.04
Time consuming process	**2**	1033	3.69	1.13
Weekly routine to attend school is difficult	**3**	1028	3.67	1.21
Lack of classrooms	**4**	1002	3.58	1.19
Less use of mass media	**5**	1001	3.51	1.21
Lack/Less marketing facilities	**6**	982	3.47	1.35
Less long term effect of FFS	**7**	951	3.44	1.26
EFS/Facilitators are not so much trained	**8**	913	3.40	1.21
Cultural norms hinders the working of FFS	**9**	911	3.26	1.11
Low level of farmers participation	**10**	884	3.25	1.26
Poor and inadequate curriculum	**11**	878	3.16	1.28
Sometimes an environment of competition develops between farmers and EFS during learning process	**12**	872	3.14	1.18
Disagreement with other participants	**13**	864	3.11	1.40
Limited budget	**14**	852	3.04	1.21
EFS/facilitators are not too much committed with FFS	**15**	829	2.96	1.23

Data in Table II regarding the weaknesses of FFS show that heavy expenses on the implementation of FFS, time consuming process and weekly routine to attend school is difficult were ranked as 1st, 2nd and 3rd with mean values 4.02 ,3.69 and 3.67, respectively. The least intensive weaknesses were disagreement with other participants, limited

budget, and EFS/facilitators are not too much committed with FFS approach.
The rating of weaknesses of FFS showed that all the statements ranged from 'medium' to 'high', except heavy expenses on the implementation of FFS programmes which rated from 'high' to 'very high' and EFS/facilitators are not too much committed with FFS which fell between 'low' to 'medium' category.
The finding of the present study are in accordance with those of Rola *et al.* (2002) who concluded that Farmer Field School (FFS) required significant investment in time, training and other facilities, the approach could be an expensive way of diffusing new science-based knowledge and other information to farmers.

CONCLUSION AND RECOMMENDATIONS

It is concluded from the results that FFS approach brings about a positive change in farmers' behavior towards adopting improved skills and knowledge and exposes them to the technique of learning by doing which is innovative as well more practical. FFS also discourages the use of pesticides and motivate farmers to use local recipes which ultimately reduce the cost of production and saves environmental pollution. For lack of farmers' experience many of the strengths were dealt with inappropriately, so they should be reconsidered for improvement of the approach. However, some prominent weaknesses of the system included the heavy expenses on the implementation of FFS which can be minimized by utilizing the services of local trained farmers as facilitators. FFS is a time consuming process which can be minimized by excluding the unnecessary items from the curriculum of the programme and avoiding competition develops between farmers and EFS during learning process. Similarly, attending the school on weekly basis is difficult for busy farmers and this can be mended by confining FFS to the extremely desirable and needed aspects of learning. Therefore, all these areas require proper attention of the facilitators to make FFS approach more effective.

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