

## **Effectiveness of Farmer Field School Approach in Kermanshah Province among Orchard Farming based on KASA**

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Received: 30/06/2011

Accepted: 19/10/2011

### **Extended Abstract**

#### **Introduction**

Extended use of agricultural chemicals by farmers in transfer of technology model has threatened the safety of agricultural production. Moreover, non- participatory nature of extension classes failed to motivate farmers to use less chemical inputs in the production process. In the early 1990s, participatory approaches proved to be effective in Integrated Pest Management (IPM). The objective of IPM is to keep pest populations at levels where they face with minimum threats before the environment. Although there is a merit in using a general definition of IPM without specifying the types of pests (insects, diseases, weeds) managed or controlled, additional understanding may be obtained by further classifying IPM into 3 groups: insect IPM, disease IPM and weed IPM. Using biological and mechanical controls as means to reduce pest population in crop and orchard production soon became the only logical solution to sustainable development. As a result Farmer Field School (FFS) was introduced in developing countries, so that more farmers would be more inclined to utilize IPM in their farm management strategies. The farmer field school approach is rooted in rural participatory approach .FFSs have been conceptualized between 1970s and 1980s and first implemented in Indonesia in 1989 to deal with

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the wide spread of pest outbreaks in rice that threatened the security of the country's basic food supplies. The FFS is a non-formal training program for selected farmers within a locality, usually a village. FFS are "schools without walls" where groups of farmers meet weekly with facilitators. So the FFS is a participatory approach in which, the non-formal adult education methods are used based on experimental learning techniques and participatory training methods. This approach shifts from targeting farmers with pre-set extension messages towards building on and improving the farmers capacity to analyze their farming systems and practices, and to develop and test the possible solution, that address their prioritized needs, combining local and scientific knowledge. The FFS approach emphasizes on learning by doing. The learning process takes place in the field and is normally designed to last for a full growing cycle. This makes the farmers enabled for participate fully in implementation of all components of the technology from planting to harvesting. The learning process accords farmers an opportunity to observe and reflect the merits and demerits of the technologies and thereby makes informed decisions of whether to adopt them or not. The primary objective of the FFS was growing a "healthy crop" and the experiential learning approach, a cornerstone of FFS, was adhered to in covering additional topics including pest and disease identification, agro-ecological interactions, and implementing participatory field trails.

### **Methodology**

The field school syllabus was modified to focus on the demonstration and dissemination of crop specific IPM strategies. After years of successful FFS in most South American and African countries, it was introduced in Iran in 2008 among rice farmers. In Farmer Field School, 15-25 farmers were met on a regular basis to share their knowledge in controlling pests. During FFS, farmers learned to identify any damageable pests and with the help of facilitator, they came to conclusion on how to integrate best practices. The main advantage of FFS is that farmers act as researchers and instead of being passive in most traditional models, they are active and therefore enjoy the FFS session. There has been extensive study on effectiveness of FFS in most developing countries. Therefore, the purpose of this causal comparative study has been determining the effectiveness of FFS among orchard farmers in Dallahoo Township in terms of KASA. A post-test design was used to assess the effectiveness of FFS among 97 participants and 97 none-participants. A researcher-

made questionnaire was designed based on extensive literature review and focus group interview with farmers not targeted in the study. The content validity of the questionnaire was reviewed by IPM specialists in Agricultural Experiment Station and faculty members in department of Agricultural Extension and Education in College of Agriculture at Razi University. Reliability of the instrument was tested using Cronbach's alpha coefficient. An alpha coefficient of 0.86 showed that the questionnaire was reliable in gathering required data.

### **Results**

Results show that FFS is effective in knowledge, attitude, skill, and aspiration (KASA) of farmers concerning IPM. However, most FFS studies in Iran have focused on knowledge gain of participants with less attention to attitude, skill, and aspiration. Results revealed that FFS participants gained more IPM knowledge than non-participants. Moreover, post-test results showed that orchard farmers in FFS held a more positive attitude towards IPM than their non-participating counterparts. In addition, using IPM techniques has been more prevalent among FFS participants than non-participants.

### **Conclusion**

Finally, farmers' aspirations in continuing IPM technologies were higher than farmers not attending FFS sessions. The results of this study include implications for rural sustainable development. The development practitioners should provide the opportunity for farmer participants to play the role of FFS facilitators. This in turn would increase FFS sites and thus bring environmental awareness among orchard farmers. Moreover, the diffusion of IPM would bring about a safer production among orchard farmers and therefore sustainable horticultural development would be more reachable in the very near future.

**Keywords:** Effectiveness, Integrated Pest Management, Farmer Field School, Dalahoo Township, Kermanshah province.