

THE IMPORTANCE OF FIELD SCHOOLS IN AGRICULTURAL DEVELOPMENT IN EUROPE

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Abstract

Farmer Field Schools are actually a solution to agricultural extension and a method of IPM. Through FFS, farmers apply IPM principles in their fields, but also learn to master a process enabling them to help others learn and apply IPM principles. In this paper I make a short introduction on the actual state of agricultural development in Europe and then I will try to underline the importance of Farmer Field Schools in agricultural extension and development. In the development of agriculture it is important to have innovative farmers, to reduce the effect of pesticides, grow organic agriculture and create strong communities among the farmers. Field schools are designed to promote, in fact these principles.

Keywords: Field Schools, Agricultural Development, agrarian

Introduction

Agriculture in Europe is characterized by large internal diversification, which is a result of both natural conditions, the potential, the level of social and economic development of respective countries and different lengths of time over which they have been members of the community.

The level of development refers also to the agrarian structure, level of employment and the significance of agriculture for the national economy. In the countries that have been members of the community for the longest time, thanks to consistent implementation of the Common Agricultural Policy, the agriculture sector has made considerable progress in the area of technology and mechanization, the consequence of which has been a large increase in production and workforce productivity in agriculture (Chmielewska, 2008).

Agricultural development is understood as quantitative and qualitative changes occurring in the agricultural sector in an analyzed period (Siudek, 2008), whereas the level of development is a certain condition achieved as a result of such changes. More than two-thirds of the three billion people comprising the developing world's rural population live on small farms of two hectares or less (Hazell, Poulton, Wiggins, & Dorward, 2010).

Rural areas are also very important in the development of agriculture. GDP per capita is lower in rural areas than in other areas – in 2014 it stood at 72% of the overall EU average, compared with 88% in intermediate areas and 121% in urban areas. The GDP per capita in predominantly rural regions of Bulgaria, Romania and Latvia was below 40% of the EU-28 average during the period 2011-2013, whereas in the Netherlands it was 113%. (Eurostat, 2013)

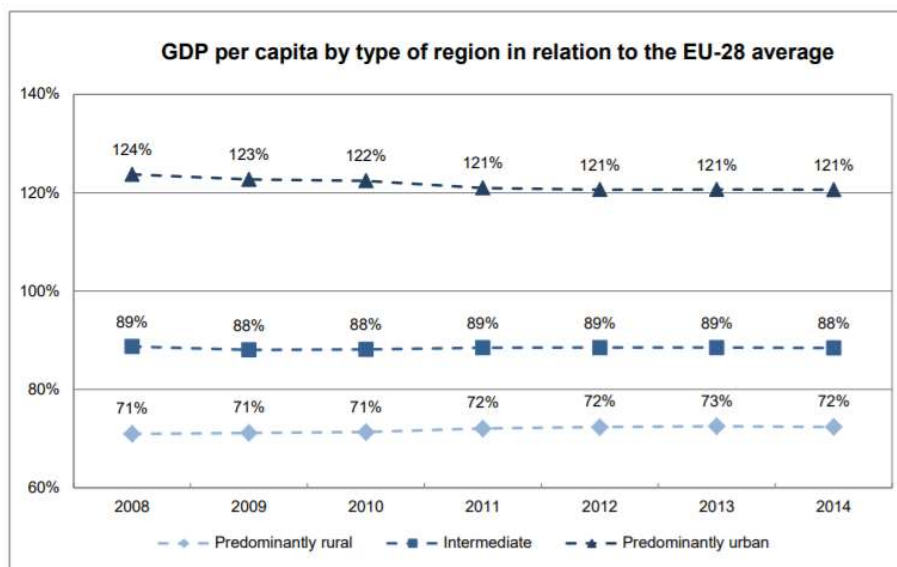


Figure 1. GDP per capita by type of region in relation to the EU-28 average.

Source: Eurostat.

In 2015, the population density in the EU28 was 117 inhabitants per km². Malta, the Netherlands and Belgium are the most densely populated countries, while Finland and Sweden have the lowest population densities. Over the period 2010-2015, population density remained broadly stable in the EU as a whole but decreased in rural and intermediate regions. By definition, population density in rural regions is lower than in intermediate and urban regions (the classification of regions into rural, intermediate and urban is based on population density).

In a study titled „Diversification of the level of agricultural development in the member states of the European Union”, Novaak, Janulewicz et al evaluated the level of agricultural development in 25 member states of the EU. The results of research point to strong diversification of the level of agricultural development among the member states of the EU. Farmer’s Organizations (FOs) serve as an important platform through which other rural development projects reach their target population (Collion&Rondot, 2001; World Bank, 2002).

In the development of agriculture it is important to have innovative farmers, to reduce the effect of pesticides, grow organic agriculture and create strong communities among the farmers. Field schools are designed to promote, in fact, two technologies - one of the focus is on conservative soil cultivation technologies or conservative technologies for agricultural production, and another priority is organic farming.

The farmer field school (FFS) approach was developed by FAO and partners nearly 25 years ago in Southeast Asia as an alternative to the prevailing top-down extension method of the Green Revolution, which failed to work in situations where more complex and counter-intuitive problems existed, such as pesticide-induced pest outbreaks. Farmer field schools (FFS) began in Asia in the late 1980s. Its approach, people-centered learning with participatory methods, facilitates the empowerment of individuals, households and communities. Participants learn to improve their skills by observing, analyzing and testing new ideas in their own fields; in this way they contribute to improving production and livelihoods.

Each RCT includes at least three activities: analysis of agroecosystems, a dynamic group activity and a theme of the day. The dynamic group activity focuses on the creation of cohesive teams (team building) and organizational skills, while the theme of the day usually includes technical information, normally related to agriculture, but which can include any other issue that may be interest for group members.

Fundamental principles in the "Farmer's Field School" are:

- Growing healthy crops;
- Understanding and making good use of agroecosystems;
- Permanent monitoring of the fields;
- Transforming farmers into specialists;

The FFS approach is an innovative, participatory and interactive learning approach that emphasizes problem solving and discovery based learning. FFS aim to build farmers' capacity to analyze their production systems, identify problems, test possible solutions, and eventually encourage the participants to adopt the practices most suitable to their farming systems (FAO, 2002). FFS can also provide an opportunity for farmers to practice and test/evaluate sustainable land use technologies, and introduce new technologies through comparing their conventional technologies developed with their own tradition and culture.

Fundamentals of the Farmer Field School are:

Group - The same group of people who gather periodically throughout the product cycle.

- Field - Serves as the true teaching material, provides all study materials, and puts real problems in front of the farmers as well as appropriate solutions.
- Facilitator - It is an experienced specialist selected and contracted by the farmers group. He is a competent person with practical experience. Discussions / interactions between farmers are also an important way of communicating and consolidating knowledge.
- Study - Study subjects focus on the entire season / production cycle. The number of meetings is agreed by one year.
- Funding - Generally these types of practical seminars are not costly and are a way to pass on knowledge to farmers that is accessible, more so as farmers do not quench and say problems by name. The major costs are the remuneration of the specialist whose coverage also contributes to the group of farmers.

Results of Farmer Fields among Farmers include:

- Increasing production / planting capabilities and identifying constraints;
- Testing possible solutions in order to increase productivity (quantitative and qualitative);
- Establishing groups of informal farmers with consolidation prospects;
- There are examples of participating farmers who decide to train other members of their community by ensuring multiplication of good practices;

Expected outcomes / FFS benefits at the profile associations, NGOs and service providers:

- FFS can easily be integrated into extension services (information and consultation)

- It is a model of sustainable technical support for extension services
- Low cost of involvement
- The possibility of extending products / services to other local / national associations
- FFS allows farmers to interact, information exchanges, to cover demand for information from farmer

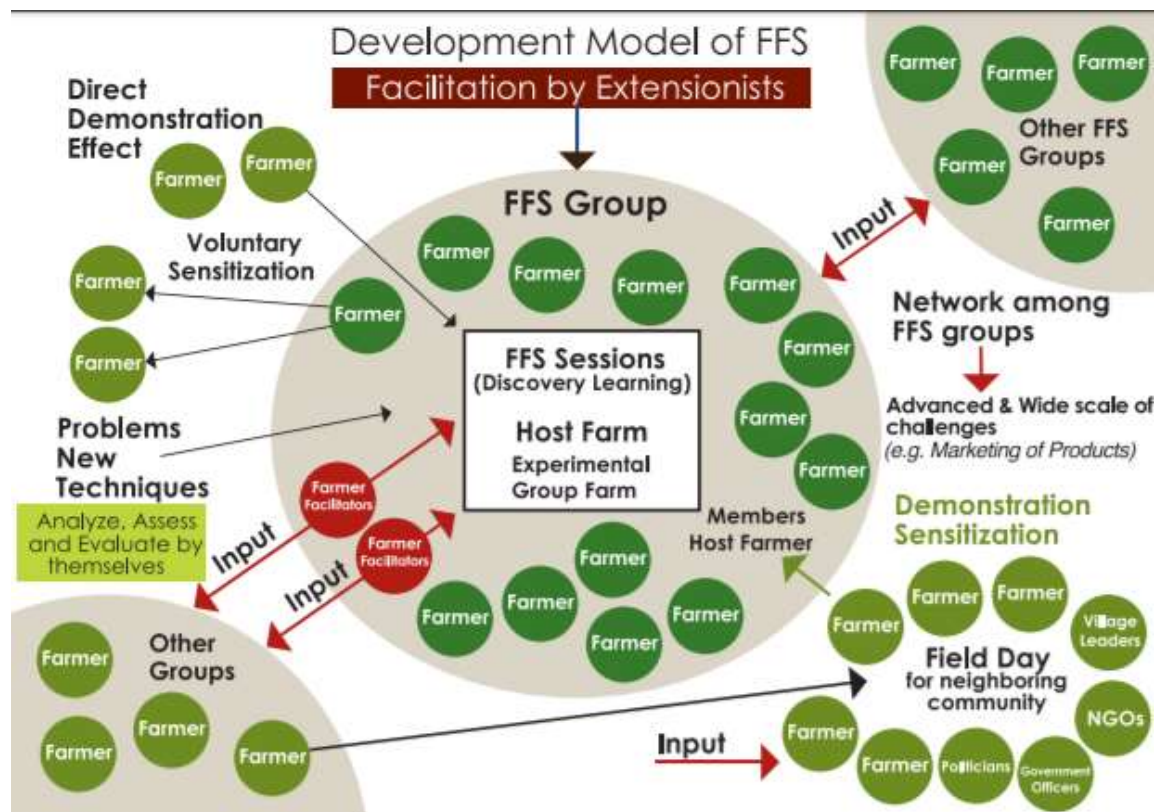


Figure 1. Development model of Farmer Field Schools (FAO)

Country	Start year	Facilitators/ Trainers	Farmers trained	FSS
Armenia	2004	13	110	14
Bosnia- Herzegovina	2003	23	260	24
Bulgaria	2003	9	110	10
Croatia	2003	11	170	14
Hungary	2003	15	210	21
Romania	2003	13	130	13
Serbia and Montenegro	2003	25	385	37
Slovak Republic	2003	5	40	6

Summary data of FFS implementation in Central and Eastern Europe for the period 2003- 2005
 Source: Braun et al., 2005

In Central and Eastern Europe (CEE) the FFS approach was first introduced in seven countries in 2003 through an FAO project with the aim of exploring and supporting farmers' roles in managing an introduced pest on maize, the Western Corn Rootworm, by means of IPM, and the longer term contribution of FFSs in strengthening farmers' farm enterprise management and agro-ecosystem innovation in CEE contexts (Jiggins et al., 2005)

Farmer field schools are different than general schools and are distinguished by the fact that the agricultural producer participates in the transfer of knowledge with his practical experience. There are two experts working in the field school - one in technology and one in economics that calculates and shows the economic efficiency of technologies.

Also within the field school, assistance of scientific research institutions is available for analyzes, water analyzes recommendations for concrete technology, for the concrete variety and develop recommendations on the optimal fertilization system. So, FFS are a complex system involving both agricultural producers and scholars, foreign experts. Also in field schools, we also organize study visits outside the school. Through the program, the field schools are equipped technically.

Farmer field schools evolve over time and address various challenges. One of them is climate change and a high level of variability. Since the contributors are family members, including young men and women, FFS also play a role in gender equity, since the contributors and roles of the family members can be highlighted in decision making, planning, etc. (Gutierrez-Montes et al, 2012).

Famer Field Schools have many benefits, but also weaknesses. Among the benefits for famers, it aims to encourage them to enhance their observation skills, encourages them to develop new ideas and methods to cope with challenging situations. Due to the fact that technologies practiced under FFS are site specific it also encourages farmers to put technologies into good practice.

FFS provides farmers with the opportunity to try out new practice, but it reduces the risks associated with these experiments since learning sites are usually very small in size.

Some of the weaknesses of FFS include the fact that they must be implemented according to its key principles and by master trainers. If master trainers are not available in the country where the FFS are being implemented, it is difficult to contract trainers from other countries. Another issue would be fund release mechanisms and effective logistics since the schools must start according to the planting season. The cost per FFS also varies according to the duration of the crop cycle.

Fieldschools for farmers are a widelyusedmethodology inthefield of agriculturalextension, duetoitseffectiveness to stimulate theappropriationandadoption of productive technologies. It is a participatoryandexperientiallearningprocessthatcontributes to theformation of producerleaders, menandwomen, whoacquireknowledgeandskillsto identifyproblems, proposeandimplementsolutionswithinnovativepracticesandtechniques of adaptationto climate change, in ordertoachieve a productionsustainableagriculture.

FFS appear to be an affordable extension and education model for farmers and governments. Other ways of addressing sustainability include the semi-self-financed FFS model (with a grant), and self-financed model (revolving fund), and use of commercial plots. These approaches are currently being tested (Gallagher, 2001; Okoth, Khisa, & Julianus, 2002).

According to a study conducted by Davies et al in 2012, the participation in FFS improved agricultural income and crop productivity overall. This implies that farmer field schools are a useful approach to increase production and income of small-scale farmers in East Africa, and that the approach can be used to target women and producers with limited literacy.

Another study conducted by Davies et al. in June 2010, found that younger farmers who belong to other groups, such as savings and credit groups, tended to participate in fieldschools. Females made up 50 percent of FFS membership. Reasons for not joining an FFS included lack of time and information. FFSs were shown to be especially beneficial to women, people with low literacy levels, and farmers with medium-size land holdings.

FFS participants had significant differences in outcomes with respect to value of crops produced per acre, livestock value gain per capita, and agricultural income per capita. FFSs had a greater impact on crop productivity for those in the middle land area (land poverty) tercile. Participation in FFSs increased income by 61 percent when pooling the three countries (Davies et al, 2010).

FFSs improved income and productivity overall, but differences were seen at the country level. Participation in FFSs led to increased production, productivity, and income in nearly all cases: Kenya, Tanzania, and at the project level (all three countries combined). The most significant change was seen in Kenya for crops (80 percent increase) and in Tanzania for agricultural income (more than 100 percent increase). A lack of significant increases in Uganda was likely due to Uganda's National Agricultural Advisory Services. When disaggregating by gender, however, female-headed households benefited significantly more than male-headed households in Uganda. (Davies et al, 2010).

Field schools for farmers expand their knowledge and adoption of beneficial practices, as well as reduce the excessive use of pesticides. This translates into positive results for farmers. Empowerment is a primary goal in many farmer fieldschools; however, few rigorous studies collected information about this result. A small number of qualitative studies indicate that participating farmers feel more secure. Farmers who do not participate in fieldschools do not learn from their neighbors who do participate. The complex concept taught in farmer fieldschools can be difficult to learn through conversations and self-study, so that the experience gained in these schools can be a key reason for the intervention to work.

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