

**Minutes of inception workshop of the TCP/KYR/3403  
«Development of farmer field schools to promote modern crop management and pest control  
technologies » project**

The inception workshop of the TCP/KYR/3403 «Development of farmer field schools to promote modern crop management and pest control technologies» was held in Bishkek (Kyrgyz Republic) on 15 August 2013. The meeting was arranged as official beginning of the project and intended for acknowledgement of the project's goals and discussion of problems and prospects of agricultural development in Kyrgyzstan.

Representatives of the Ministry of Agriculture and Melioration, chiefs of the district agrarian development departments, heads of farm and peasant households, heads of seed farms, representatives of NGOs providing extension services to rural population, representatives of the organizations providing technical services to farmers, employees of agricultural educational institutions participated in workshop.

Mr. Zh. Zhumaliev, Head of Crop Department, Ministry of Agriculture and Melioration, Kyrgyz Republic, delivered an opening speech. He on behalf of the MoAM KR welcomed participants of the meeting as well as experts of FAO, and wished participants of the meeting to have fruitful work. He noted that agriculture of the republic is one of the main branches of economy of Kyrgyzstan agricultural region of which is settled with 65% of population engaged in agriculture. Implementation of new technologies to cultivate agricultural crops is a current vital need that will enable to increase yield of agricultural crops, improve level of soil fertility. This will allow contributing to provision of food security of the country. Important direction of the new project is increase of potential of farmers with small land allotments through establishment of farm field schools by the means of which we hope to cover as many farmers as possible. Acknowledgement of new technologies, their implementation and distribution will enable to set production of agricultural goods on higher level.

Dr. Hafiz Muminjanov, Plant Production and Protection Officer, FAO Subregional office for Central Asia (SEC), presented expected results and methodology of FFS in his opening presentation of goals and objectives of the new project. He introduced the participants to the goals, expected quality and quantitative results and events which afterwards were actively discussed by the participants. Then detailed plan of the project's work was designed.

This project is intended for increase of qualification and education of farmers and personnel, including women in field of acceptance and promotion of methods of resource saving agriculture (CA) and Integrated Pest Management (IPM) in Kyrgyzstan in the framework of pilot joined events such as establishment of field farmer schools (FFS). It is a first step in the process of development of corresponding technical cooperation between the researchers, specialists for spreading agricultural knowledge, non-governmental organizations and farmers. The project will guarantee exchange of practical experience among the participants to promote adaptation to local conditions, strategies and approaches to CA and IPM based on participation and comprehension of farmers relating local ecosystems.

The project will provide technical assistance, promote exchange of expert knowledge and realize pilot events on sites. For their realization, the project forms and develops partner relations between the communities (their members and organizations), relevant NGOs, governmental agencies / institutions, research institutions and educational establishments, and other (FAO) projects. These partnerships will be unified in forums to discuss on national level.

Dr. Alfredo Impiglia, IPM expert made a presentation on «Farmer's field schools: expansion tool to promote IPM». In his presentation the expert presented to the audience main principles of establishment of FFS, told about distribution of the Integrated Pest Management through establishment of FFS. The expert introduced the meeting's participants to development history of IPP and FFS distribution with the main goals and objectives, their significance and effectiveness.

The main goals and objectives of establishing field farmer schools are:

- improvement of farmers' potential to find out and solve problems discovered in their field using complex approaches to management;
- making reasonable decisions;
- strengthening farm groups and organizations;
- formation of critical mass in society which could develop, plan and realize a program of sustainable development of agriculture.

Integrated Pest Management (IPM) means detailed consideration of all available pest control methods and following integration of relevant measures which prevent growth of pest population and diminish utilization of pesticide chemicals. IPM is the complex of events intended for levels which are economically reasonable to decrease or minimize risk for human health and environment. IPM involves growth of healthy plants when there is possible devastation of agro ecosystem, and calls for natural mechanisms to regulate population of pests.

In general program of the FFS project was successful in the following:

- promotion of pest control methods and diseases without application of chemical agents - pesticides )
- provided stable income for farm households when using IPM;
- improvement of farmers' potential in knowledge of ecological IPM-approach;
- farmers became more informed and more independent and determined when making decisions.

Then Dr. H. Muminjanov presented "Global Adoption and Promotion of Conservation Agriculture". In his presentation Dr. Hafiz Muminjanov introduced the participants of meeting to history of CA development, main principles of CA, causes that forced agrarians of the whole world to use saving technologies which come to such factors as global changes and regional challenges:

- Firstly, demand on foodstuff and fodder according to the forecasting will increase on 60% within the following 40 years, current practice of intensive crop growing cannot solve this problem;
- Secondly, achievement of the first «green revolution» (1960-2010) led to significant losses. There is the process of soil degradation, gradual depletion of underground waters, growth of different types of pests and diseases of plants, devastation of natural biodiversity of organisms, gross pollution of air, water and soil by different residues of pesticides, fertilizers.

Traditional agriculture showed steady negative impact on land, water resources and nourishes for plants. These methods leave soil unprotected and vulnerable to erosion of wind and water, degradation, first and foremost due to loss of organic matters and desalination. In addition, they are expensive and ineffective in relation to labor inputs, time, water and energy. On the other hand, there is serious loss of yield on the part of drivers and diseases.

CA will not solve all problems, but they complemented with advanced experience and achievements on the basis of CA which guarantees high intensification of agricultural production and sustainable

development of agriculture in all systems. CA includes complex pest control measures, complex water resources management, complex soil fertilization measures, complex weed control measures, complex biodiversity management, etc.

Three main principles of CA are: (i) minimal soil disturbance, (ii) soil cover by organic mass (for example, mulching or cover crops) and (iii) diversification of cropping system.

New paradigm of FAO «Save and Grow» is an integral approach to production which is based on ecosystem services – consumption of nourishers, water, pollination, control over natural pests, guarantees more effective utilization of resources - seeds, fertilizers, water, labor, and thereby preserves and enhances natural resources diminishing environment pollution.

CA generally is a process under control of a farmer which represents shift in the production system more and more drawing attention of NGOs and governments of countries. FAO coordinates collection of CA data.

Statistical data on distribution of resource saving technologies in the world and Eurasian region and tendency of further development of these technologies were cited. Similar projects were realized in many countries - Azerbaijan, Turkey, Kazakhstan, Russia, Armenia, Ukraine and many others. Examples and results of the realized projects were given.

### **Presentations of the participants**

Presentation of «KyrgyzAgroBiocenter» of the **Ministry of Agriculture and Melioration** «Biological protection of plants – integrity of environment and human health» in which the deputy director Zhanara Bakirova told about history of establishment and structure of the organization, productive active of the organization, which entomophages (natural enemies of pests) and biological plant safeguards against different pests and diseases of agricultural crops are produced by Agrobiocenter. Statistical data on production volume, their realization volume in the country, production distribution principles and partnership with farms were cited.

The spokeswoman assured the meeting's participants that «Agrobiocenter» is ready for cooperation in field of integrated plant protection, and on their part they will render every possible assistance and participation in project realization, specialist on IPP will be provided for advising and demonstration of application of biological plant and entomophage safeguards.

Presentation of a specialist on crop growing/agrarian of USAID project IFDC/KAED Abdullaeva Ubaidullo. The spokesperson briefly told about activity and realization of the IFDC/KAED project financed by USAID. In presentation the spokesperson concentrated on the problems of agriculture of Kyrgyzstan, used technologies of agricultural crop cultivation. Data on state of crop growing, availability and state of agricultural machinery, soil fertility state of the country were cited. On the part of project assistance was rendered to 14 seed farms all over the regions of country by the means of new machinery which generally will be used by the farmers to cultivate agricultural crops according to traditional technologies. He noted that currently due to lack of utilization of fertilizers, soils are exhausted, there is steady diminish of soil fertility level. Hence farmers need to change to resource saving technologies of agricultural crop cultivation such as those currently introduced by CA, zero tillage. It is essential to apply measures to decrease utilization of pesticide chemicals. This will enable to stop the process of soil degradation and pollution, and then to set soil fertility level.

Presentation of Murat Aitmatov: «Results of activity of the Michigan State University in Central Asian region». Aitmatov told the meeting's participants about the project realization of which was held in 2 phases,

- Enhancement of correlation among bio laboratories of Central Asia; Landscape ecology; Design of guidelines for national trainers of IPP-FFS and introduction of FFS in Tajikistan, their spreading in Kyrgyzstan.

- IPM - wheat –Tajikistan, IPP- vegetable crops (tomato)-Uzbekistan, IPP of potato- Kyrgyzstan.

IPM guideline for trainers, pamphlets, pocket books, posters and agro entomological cartogram were developed and issued in two volumes as a result of realization of the I phase of project.

According to the results of realization of the II phase of project there were developed and implemented IPP packages for wheat, vegetable crops and potato which contained recommendations on choice of resistible sorts of these crops to diseases (for example, to buck eye rot on potato) and research and determination of resistible sorts of these crops to pests (for example, to Eurygaster integriceps and Lema on wheat).

Then he told about methodology of establishment of FFS, results of cooperative cultivation of floricultural crops with agricultural crops. In framework of realization of the project there was formed the data base of entomologists, phytopathologists, soil characteristics used in plant protection, biological methods in pilot countries of Uzbekistan, Tajikistan and Kyrgyzstan. Data base of state and production activity of the Biological laboratories of these countries was formed.

Then there was a work in groups.

**Presentation of group 1.:** Matraim Zhusupov, water consumption expert - hydromeliorator.

1. Selection of project regions.

Selection criteria: FAO generally works in the regions with low level of food security, and also there is an objective to distribute new technologies and knowledge in agricultural production field.

Therefore this group decided to choose the following regions and crops:

- 1) **Kemin, Issyk-Ata and Chui** areas of Chui region – **cereal crops (cereal- wheat, barley, corn)**
- 2) **Tup area of Issyk-Kul** region – **potato.**

In every region there is a selection of fields (farmers) in lease upon agreement with Aiyl Okmotu. 3 experimental fields of 3 ha will be put. It is necessary to select more appropriate sorts of these crops to have a possibility of demonstration.

According to CA and IPM, because there are serious problems with weeds on cereals and corn, and also cereal crop pests cause heavy damage to harvest and quality of seed. Overall it is proposed to enroll 20 - 25 persons for each Farmer's field school. It is necessary to select peasant households with small land allotments, from experimental fields on their areas in order to demonstrate applicability of proposed methods according to IPP and CA. It will be some kind of FAQ on agriculture, involved into FFS farmers will have an opportunity to see an advantage of the zero technology of agricultural crop cultivation not only with neighbors, but also with relatives, friends. Therefore, most of farmers will be involved into progressive technology.

**Presentation of group 2.:** Suleimanov Gennadii, Chief agronomist of MIS Farm.

The group proposes to select **wheat and barley (on rain fed and irrigated lands)**, because in Chui valley there are some technological operations on cultivation of cereals with elements of minimal tillage. These crops will be rotated with perennial legume grasses (lucerne). Cereals are vulnerable to negative impact of diseases (dust, kernel smut, Septoria blight, rust, etc.) and pests (bedbug, Eurygaster integriceps, thrips, Carabidae, Lema), which significantly diminish yield and quality of grain. Hence along with CA it is

necessary to put demonstration sites for IPM. On the background of zero tillage, on high stable peaks and according to traditional technologies in order to have an opportunity to compare and analyze effectiveness of new technologies.

Suggested pilot regions: **Issyk-Ata, Sokuluk and Alamedin areas.**

The group noted that it is necessary to start selection of areas and fields in autumn of 2013; otherwise there will be no completeness of the experiment. And also when cultivating cereals on stable peaks it is possible to use already available experience in the country, for instance, in the south, and also here in Chui valley there is experience of cultivating and some machinery (seeding-machine).

The participants mutually developed the following recommendations:

- Pilot areas of the project will be Kemin, Chui and Issyk-Ata areas of Chui region. Final choice of pilot areas and pilot aiyl districts will be made in the process of mission of FAO experts on CA which is planned to be in September, 2013;
- When establishing FFS according to CA and IPP to select the following crops: spring grains (barley, wheat), corn, potato. Final selection of agricultural crops will be made also based on results of mission of FAO experts in September;
- Work schedule of project realization should be updated and elaborated with consideration of design and approval of purchase plans of equipment and agricultural machinery.
- It is necessary to purchase needed machinery until the end of current year;
- It is necessary to specify fields where field farmer schools will established until the beginning of spring sowing campaign;
- It is necessary to enlist support of local authorities to establish FFS on the chosen territories.