TAJIKISTAN NATIONAL COMMISSION
ON IRRIGATION AND DRAINAGE

3rd WORLD IRRIGATION FORUM (WIF3) AND
70th INTERNATIONAL EXECUTIVE COUNCIL MEETING

INTRODUCTION OF INNOVATIVE WATER SAVING TECHNOLOGIES

1th Meeting of the Working Group on Irrigation and Drainage in the States under Socio-Economic Transition

Dilshod KIMSANOVO – Secretary of Tajikistan NCID
Project: Irrigation and land reclamation for orchards and vineyards in Dangara area of Tajikistan.

Project’s task: The project was planned to irrigation and land reclamation for orchards and vineyards by using drip irrigation on 700 ha square.

Project Objective: The main objective of the project was to improve the welfare of the population living in the region.

Project Background: The need of project based upon availability of water, land and labor resources. The main industrial activity in the region is agricultural production, primarily in irrigated areas.

Implementation of the current project allowed providing raw produce for local production and employing over 350 people.
Within the framework of the State program “On the development of new irrigated lands and rehabilitation of lands out of agricultural rotation for the period of 2012-2020” the LLC Agricultural Union "Vodii Zarrin" as a result of using of innovative technologies in the period 2015-2017 4065 hectares of lands have been developed.
With the purpose of effective use of water resources in the rehabilitated lands, the innovative technologies, namely sprinkler irrigation methods have been introduced.

The use of this irrigation method contributed and allows for introduction of mineral fertilizers made the conditions for saving of limited water resources.
INTRODUCTION OF WATER SAVING TECHNOLOGIES

• In Bobojon Gafurov district of Sogd region of Tajikistan in Somgar area constructing a new small town.
• In accordance with project was planned development of small town Sayhun, that the 4000 hectares of new lands will be developed by the State Institution.
• Today, in the area of about 1000 hectares gardens of apricots, peach and pepper trees are watering through drip irrigation. These gardens are watering by pump station from Syr Darya river.
INTRODUCTION OF WATER SAVING TECHNOLOGIES

Sogd region of Tajikistan in Somgar area
The development of new water-saving technologies for irrigation of agricultural crops, which are aimed at the rational use of water resources and their protection, increasing the productivity of agricultural crops and improving the ecological and meliorative condition of irrigated lands, require special scientific research.
State institution scientific research institute hydrotechnic and melioration “TajikNIIGiM” is mainly engaged in the:

- development of water-saving irrigation technologies for various soil and climatic conditions;
- issues of improving the condition of irrigated lands;
- operation of irrigation systems;
- development and implementation of principles of IWRM;
- development of economic mechanisms for water use
INTRODUCTION OF WATER SAVING TECHNOLOGIES

Performance goals will contribute to the achievement

• Innovative water-saving environmentally friendly technology for irrigation of orchards and vineyards with furrows under various scenarios of soil coating, the use of hydrogels and various polymers. The new technology is designed to increase productivity of land and water;

• The main elements of the technology for watering orchards and vineyards with shielded furrows, depending on the granulometric composition of soils, the slope of the terrain and the type of coating. The results contribute to an operational and well-planned irrigation program with this technology.
What is HYDROGEL?

Hydrogel is a polymer produced in the form of granules, which are characterized by the ability to absorb large amounts of water. In addition, the hydrogel not only absorbs moisture, but also holds it for a long time, gradually giving it to plants.
Benefits/Advantages

- Hydrogel is an excellent material for a personal plot. On existing beds, granules are applied to the soil around trees or shrubs. You can mix the soil with capsules. And if you do not want to disturb the earth, make punctures in the soil at a distance of 15-20 cm. They then pour granules into them and fill them with water.
- Plants that use hydrogel to grow are never afraid of drought.
- The frequency of irrigation is reduced by increasing the intervals between them by 2-6 times.
Benefits/Advantages

• Hydrogel holds a decent amount of nutrients (fertilizers) that are not washed out of the soil.
• Excess moisture in the soil is absorbed by hydrogel, and aeration pores are freed.
• The roots of plants are easy to breathe, there is no stagnation of fluid in the soil.
• The use of hydrogel favorably affects the existence of plants, accelerates their growth, promotes good flowering and increases fruiting
The staff of the Research institute “TajikNIIGiM” has developed an innovative water-saving environmentally friendly technology for irrigation of orchards and vineyards under various scenarios of soil cover, the use of hydrogels and various polymers.
RESEARCH AND IMPLEMENTATION OF POLYMERS AND HYDROGELS

Scientific - Research Polygon
Conducting research and introducing drip irrigation in various crops in the conditions of the Sogd region of the Republic of Tajikistan. Scientific and practical training polygon
Conducting research and introducing drip irrigation in various crops in the conditions of the Sogd region of the Republic of Tajikistan. Scientific and practical training polygon
Thank you for your attention!!!