For the first time, Integrated Water Resources Management in Central Asia was initiated in 2001 by the Interstate Commission for Water Coordination within the framework of the IWRM-Fergana project with the support of the Swiss International Development Agency (SDC) by two institutions - International Water management Institute (IWMI) and Scientific Information Centre by the Interstate Commission for Water Coordination (SIC ICWC).
Decisions on allocation and management of water resources take into account the impact of each type of water use on others.

This takes into account the overall socio-economic goals, including the achievement of sustainable development.

**Key goals of the project**

a) Check the effectiveness of integrated water resources management (IWRM) at pilot facilities with the participation of water users and introduce it into the water management organizations of the Ferghana Valley.

b) Demonstrate alternatives for improving water and land productivity at all hierarchical levels of water management.
The project activities were carried out in four regions of the Fergana Valley: Andijan and Fergana (in Uzbekistan), Osh (in the Kyrgyz Republic) and Sughd (in Tajikistan).

- **Canal level** - Restructuring and search for new organizational solutions were carried out along the three main canals in the three states of the Ferghana Valley.

- **WUA level** - Organization and development of existing WUAs in the form of pilot facilities, 9 WUAs were selected, three in each country;

- **Farm level** - monitoring and evaluation of the actual use of irrigation water, development of recommendations to improve water productivity. (10 demonstration plots have been selected within the pilot canals.

---

**Assessment of existing problems in water management**

- **a) Administrative principle of water management**
- **b) Outdated irrigation systems;**
- **c) Low water use efficiency, water scarcity**
- **d) Environmental authorities do not play a significant role in water management**
e) Underdeveloped structure of water resources management at the level of water users

After the reconstruction of the water and agricultural sectors, the end user was cut off from this single water supply chain. Funding plays a big role here.

The structure of water resources management before reorganization

Single water supply chain.
f) Lowes water efficiency on the all level water use

The efficiency of water resources use is determined by the level of losses relative to the required volumes.

➢ Imperfect irrigation canal systems lead to large losses and account for more than 35% of water intake

➢ On an irrigated field, losses exceed 40% of the water supply

Inefficient technological scheme of furrow irrigation

Lack of water accounting system at the level of water users

Discrepancy between the schedule of water supply with regime of water consumption by plants
Development of management tools

An IWRM methodology based on the participation of key water users and professional social mobilization was developed and tested at pilot sites.

1) Canal Administrations have been established to manage water resources along hydrographic boundaries.

2) An effective methodology for planning and water allocation at the WUA level has been developed and tested on pilot sites.
3) Efficient irrigation technologies have been developed.

a) Organized water accounting system at the level of water users

b) Improved technological scheme of irrigation

c) Organized monitoring and advisory service system for farmers

d) An innovative system of interaction between various organizations has been activated to quickly solve problems
1) Achieved reduction in water withdrawal
by 39% in Uzbekistan,
by 35% in Kyrgyzstan,
by 25% in Tajikistan

2) The efficiency of the channels increased in Uzbekistan from 81 to 86, in Kyrgyzstan from 54 to 59 in Tajikistan from 80 to 81

3) Improved water distribution uniformity
Improved irrigation planning and scheduling at farm level

4) Improved efficiency of irrigation water use

5) Improved water and land productivity

kg/m³ Average productivity on province level
Main problems

Untimely delivery of irrigation water to farmers and ineffective water use.

Lack of well-tuned system of water use and distribution planning, taking into account the changed structure of agriculture.

Lack of water measuring system, and thus water charges are taken based on irrigated hectares that creates serious problems for farmers in view of unreasonable water charges.

Breach of established agronomic operations in the field.

Project technologies and approaches to solve the problems

Understanding of crop irrigation regimes

Recommendations for choosing irrigation technology

Understanding of crop irrigation regimes

Mechanism of efficient water distribution among small farms through the established groups of water users (e.g. the Sokolok canal in Osh province, Kyrgyz Republic)

Creation of the system for monitoring rational water use, farmer’s knowledge raising, and water delivery schedule correction in WUAs by using agronomist and hydraulic engineer (services) similarly to the system that was operational in former collective farms

Organization of water measuring system and on its basis establishment of a mechanism of interaction among farms, WUAs and Canal Authorities

Agronomic measures and land preparation for irrigation period

Application of mineral fertilizers for crops

Pest and disease control

Weed control

Methodology for efficient water distribution among farmers with small areas

Principles

Organizational

Engineering

Legal

Economic

Actions

Mobilization of farmers

Among farmers were choice responsible for water distribution

Training of the person responsible for water distribution

Construction of a water meter and organization of water accounting

Water distribution between farmers according to the established water flow into the furrow

Water supply based on an agreement between the farmer and the responsible person for water distribution

Payment for each used volume of water received
Thank you very much for your attention