Global Water Partnership

ToolBox

Integrated Water Resources Management

Uzbekistan: Improved irrigation based on IWRM approaches

Description:

Available freshwater resources in Uzbekistan are limited resources. Although only 10% of the arable land is irrigated, the irrigation efficiency is low. The water demand amounts to 80% of overall annual water consumption in Uzbekistan. With demand for water growing in all sectors, it will be impossible to meet the combined needs in the medium term.

Action taken:

Governmental initiatives regarding IWRM exist but they often fail to reach the end water users. Thus, GWP Uzbekistan held round tables aiming to improve public awareness on the issue. The work of the GWP Uzbekistan is focusing on sustainable water development based on IWRM, as well as improvement of water facilities.

It also conducted trainings and workshops on the dissemination of IWRM in Uzbekistan together with the "**Rural Enterprise Support Project - Phase II. Irrigation And Drainage Component** " (of World Bank and the Swiss Agency for Cooperation).

The critical role of GWP Uzbekistan in this initiative was to integrate different water management and land reclamation organizations aiming for greater autonomy and self-regulation among IWRM organizations. It also supported the transition from a rigid administrative system of water management to a decentralized with massive public participation in water management. Based on the analysis of existing irrigation scheme, GWP Uzbekistan supported establishment of Water Users Associations based on hydrographic principle. The Initiative group to implement this has been already created and promoted ideas among farmers during small scale meetings.

GWP Uzbekistan recognized a need to see practical actions and thus supported technical improvements of water supply systems (e.g applying of PVC reusable tubes instead of the traditional plastic film) and worked with water saving technologies introduction in agriculture irrigation.

Lessons learned

- IWRM is a complex approach that requires work to be done at different levels and sectors (e.g technical improvements, public involvement, and institutional rearrangements).
- Increased public awareness and involvement can be achieved through number of round tables, seminar and workshops involving water suppliers and water

users. However it is important to focus on practical improvements at the same time.

- Rigid administrative system of water management can be improved by institutional changes that allow decentralized approaches with massive public participation in water management, such as establishment of Water Users Associations based on hydrographic principle.
- Technical improvement should be also considered part of the IWRM implementation

Main Tools Used:
Trainings, Collaboration initiatives, New institutional arrangements, Technical solutions

Keywords: Uzbekistan, GWP, IWRM, farmers

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MAIN TEXT

Background

The water sector of the Republic of Uzbekistan is a quite complex system composed of water supply and sewerage systems, hydropower, recreation, conservation of water resources, water infrastructure management, fishery, etc. Because of climatic peculiarities of the Republic, about 98 % of all the crop production is gained on irrigated lands. Thus, special attention is given to the state of irrigated agriculture the effectiveness of which is subject to rational water management.

To date, the total area of irrigated lands is 4.2 mln ha, which comes to less than 9 % of the national territory. Development of irrigated areas is limited due to lack of fresh water and not effective irrigation technologies. The agricultural sectors, thus, one of the main focuses of the country water management practices.

Significant changes have taken place in the political and economic life of the country for the past 10 years; those changes have led to the acceleration of the reforms in the management and rational use of land and water resources. One of these changes concerned the agricultural sector. After the reorganization of all shirkat farms to individual farms, 260'000 independent individual farms were founded across the Republic; that work on the basis of contracts with different governmental and joint-stock organizations.

Taking into account these substantial changes in the composition of water users (establishment of farms) that caused dramatic increase of their number additions and amendments were introduced in the country's Law on Water and Water Use in 2009. These changes have allowed strengthening the rights of water users represented by farms, fixing contractual relations between water users and water suppliers with appropriate obligations, toughening the requirements for rational water use. However, with establishment of completely different forms of farms (in the form of individual farms), the problem of reformation of the Republic's water sector became pressing. It was necessary to radically change the existing water management framework and set up new structures that take into consideration the interests of all water users and that are adapted to new conditions where the number of water users increased a few hundred times. Significant changes in the on-farm (intra-farmer) water resources management and generally in the regulation of water relations took place in the result of the establishment of Water Users' Associations (WUA) based on the hydrographic principle

1) Problems

As is obvious from the above-stated, significant changes have taken place in the agricultural and water sectors of the country for the past 10 years; however, these changes not always brought positive results in water management in the country.

The main drawback of the current management structure is the existence of dual hierarchy of the water supply management system: on the one hand it seems hydrographic, on the other hand it keeps the administrative attachment. This does not imply that the management in general cannot combine the hydrographic and territorial principles; however, these approaches should be specialized and stakeholders should be more aware about function for these complex systems.

Despite institution problems, Uzbekistan still faces number of practical problems at the local level. Since during the autumn-winter period water supply for the irrigation of winter wheat is carried through the system of canals, the time for possible repair works and reconstruction of irrigation system is limited to 2-3 months.

At the same time, the lifetime of the majority of the irrigation system components has expired while it is not clear who is in charge of changing the systems. This is because the reorganization of shirkats didn't clarify the transfer of the irrigation systems.

The water drainage systems similar to the on-farm irrigation network has problem with ownership. At the same time, WUAs do not have required mechanisms for cleaning open collector and drainage network from silt, while the network has to be cleaned every five years. The sediment cleaning related situation has become even more complicated because at present there is no required drain cleaning equipment.

2) Action taken

As we can see that governmental initiatives regards IWRM exist but they often fail to reach the end water users. Thus, GWP Uzbekistan held round tables aiming to improve public awareness on the issue. It also conducted trainings and workshops on the dissemination of IWRM in Uzbekistan together with the "Farmers Support Project" (of World Bank and the Swiss Agency for Cooperation) (see pic 1).

Picture 1. Training and discussion between water provides and water users organized by GWP Uzbekistan.

The critical role of GWP Uzbekistan is in integration of different water management and land reclamation organizations aiming for greater autonomy and self regulation among IWRM organizations. One of the tools of improving such partnership between water providers and users is an initiation of discussions regarding technical equipment and maintenance of channels; hydraulic structures regulating water flow (see pic 1).

It also supported the transition from a rigid administrative system of water management to a decentralized with massive public participation in water management. Based on the analysis of existing irrigation scheme, GWP Uzbekistan supported establishment of Water Users Associations based on hydrographic principle. The Initiative group to implement this has been already created and promoted ideas among farmers during small scale meetings.

One of the tools of IWRM implementation in Uzbekistan is improvement of channels technical equipments, hydraulic structures regulating water flow and similar. GWP Uzbekistan supported technical improvements of water supply systems and worked with water saving technologies introduction in the irrigation systems. For example (as shown on the picture 2) the turf for cotton irrigation was overgrown with weeds and clogged the field. The renovation of it was expensive and required intensive human labour. The use of PVC reusable tubes instead of the traditional plastic film PVC pipes with a diameter of 40-50 mm and furrow irrigation created the possibility

of uniform distribution of water in furrows, and improved environmental conditions in the fields. The application of these pipes can be used repeatedly with minimal manual labour.

Picture 2. Application of PVC reusable tubes on the cotton fields.

3) Lessons learned

- IWRM is a complex approach that requires work to be done at different levels and sectors (e.g technical improvements, public involvement, and institutional rearrangements).
- Increased public awareness and involvement can be achieved through number of round tables, seminar and workshops involving water suppliers and water users. However it is important to focus on practical improvements at the same time.
- Rigid administrative system of water management can be improved by institutional changes that allow decentralized approaches with massive public participation in water management, such as establishment of Water Users Associations based on hydrographic principle. However stakeholders need to be aware about the complex compilations in the institutional system.
- Technical improvement should be also considered part of the IWRM implementation, given special attention to the problems in the irrigation system in the region.

4) References and Contacts

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Some information can be found at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/uzbekistan.pdf
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