

# UZBEKISTAN'S NATIONAL STRATEGY ON WATER MANAGEMENT AND DEVELOPMENT OF IRRIGATION 2021-2023

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## General Info about Uzbekistan

The Republic of Uzbekistan is doubly landlocked country, located in the hearth of Central Asia and belong to the Aral Sea basin. The landscape of Uzbekistan is extremely diverse, in terms of relief forms - these are low and piedmont plains (70%), uphill areas and mountain ranges (20%). The country is rich with a variety of natural resources, including fertile soils suitable for agriculture, forest resources, mineral resources and a remarkably diverse flora and fauna.

The climate of Uzbekistan is arid and sharply continental, with hot and dry summers and short cold winters. The annual amount of precipitation in the flat area ranges from 80-200 mm, and in mountainous areas it reaches 600-800 mm. According to the UNEP aridity index up to 0.65, the territory of Uzbekistan belongs to the arid zone, which is under influence of air and soil droughts, which are basis for ecosystems degradation and desertification processes.



Figure 1. Map of Republic of Uzbekistan

Total territory is 448.9 thousand km<sup>2</sup> (<https://stat.uz>). Population (January 2022) is 35.2 million (<https://stat.uz>), almost 50% of which is rural. GDP (2018) is USD 50.5 billion (<https://stat.uz>), GNI per capita (PPP) is USD 6462 (2018) (<http://hdr.undp.org>).

About the only 10% of total volume of water resources available for use is formed on the own territory of Uzbekistan and about 90% are water coming from transboundary sources, originated in upstream neighboring countries.

The total area of agricultural land is 20,236.3 thousand hectares, of which arable land is 3988.5 thousand hectares, perennial plantings - 383.1 thousand hectares, fallow lands - 76 thousand hectares, hayfields and pastures - 11028.3 thousand hectares, other lands - 4760.4 thousand hectares. Due to the arid climate, agricultural production is almost entirely dependent on irrigation, and only about 752,900 hectares (18%) of arable land are rainfed.

From the above observation it is clear that water resources management sector has the biggest significance for Uzbekistan.

### **Water Governance process influenced**

After gaining independence in 1991 the government of Uzbekistan has undertaken the measures related to reforming the water and agricultural sectors. Those reforms were addressing to growth of agricultural production, and incomes of rural population. A lot of efforts were addressing to the maintenance and development of the enormous water management complex inherited from the past. But up to 2016 efficiency of water use (especially for irrigation) in Uzbekistan remained at very low level (FAO Report, 2021)<sup>1</sup>.

In February 2017, following comprehensive examination of topical issues of concern among population and broad public consultation, the President of Uzbekistan approved the Action Strategy on five priority areas of country's development for 2017-2021. This document is serving as a roadmap for achievement of the 2030 UN Sustainable Development Goals.

In line with this Strategy there were started specific huge reforms in the water sector of Uzbekistan. **The first step** was done in August 2017 when within the main National authority responsible for water management – the Ministry of Agriculture and Water Resources - there was established the Information-Analytical Resource Center (IARC) with proper support from CWP-Uzbekistan. Also, there was creation of three new Basin Administration of Irrigation Systems (additional to 10 BAISes already existed before), and formation of new Rayon Irrigation Departments (RIDs) - in each of administrative districts of Uzbekistan (in total 152 units).

The main motivation for Government to establish the RIDs as sole direct interface between water users and the irrigation system has been to reinforce the horizontal links between water management, agriculture and the local administration at rayon (district) level. RIDs are also to improve (i) access to information on crop structure for accurate water demand estimation, (ii) maintenance of the local irrigation network to be funded by the rayon administrations, starting from 2019, (iii) monitoring of water use, and (iv) involvement of key stakeholders in improving water productivity.

Another development in this regard was reorganization of over 1500 existing Water Consumers Associations (WCAs) into 158 new ones established within the boundaries of rayons (districts). Accordingly, Government is tasked to assist WCAs with re-registration, facilitate collection of irrigation service fees and support their efficient operations. In this context, RIDs became also the core focal points for WCA support and water extension activities<sup>2</sup>.

**The second step** was done on February 12, 2018, when the President of the Republic of Uzbekistan decided to separate water and agricultural sectors. Decree of the President of the Republic of Uzbekistan № UP-5418 from 17.04.2018 "On measures to radically improve the system of public management of agriculture and water resources", the Ministry of Water

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<sup>1</sup> <https://www.unwater.org/publications/progress-on-water-use-efficiency-641-2021-update>

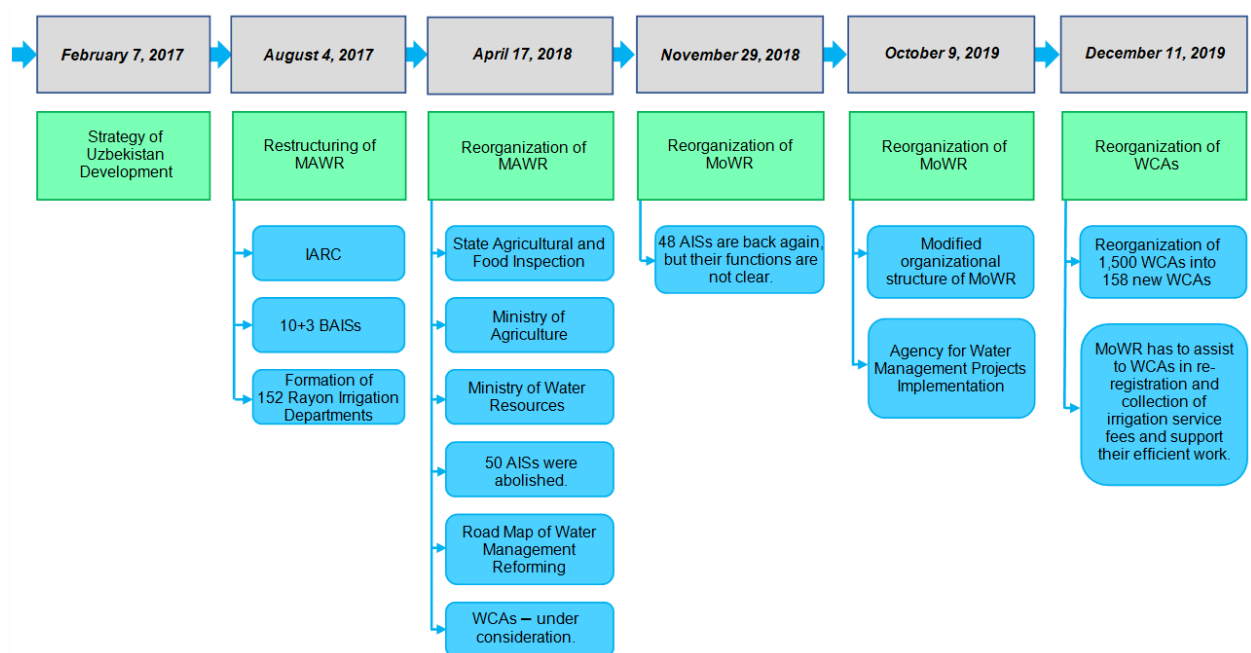
<sup>2</sup> Resolution of the Cabinet of Ministers of Republic of Uzbekistan ПКМ -982 dated December 11, 2019 on measures to improve operations of Water Consumer Associations

Resources and the Ministry of Agriculture were established separately.

The newly established Ministry of Water Resources (MoWR) became responsible for implementation of the unified national policy in the field of water resources management, as well as coordination of all activities in the field of rational use and protection of water resources, prevention and elimination of harmful impacts of water, raising the level of water use culture.

The establishment of a separate Ministry of Water Resources followed by development of the Road Map on Cardinal Reforming of the Water Management System. There was a decision about abolishing of the 50 Administration of Irrigation Systems (AIS), which were the hydrographic sub-units of BAIS. However, the AIS had to be reinstated in November 2018, as an essential water delivery link was missing between the BAIS, RID and Water Consumer Association (WCA).

The whole process of water reforms in Uzbekistan during 2017-2019 are shown in Figure 1.



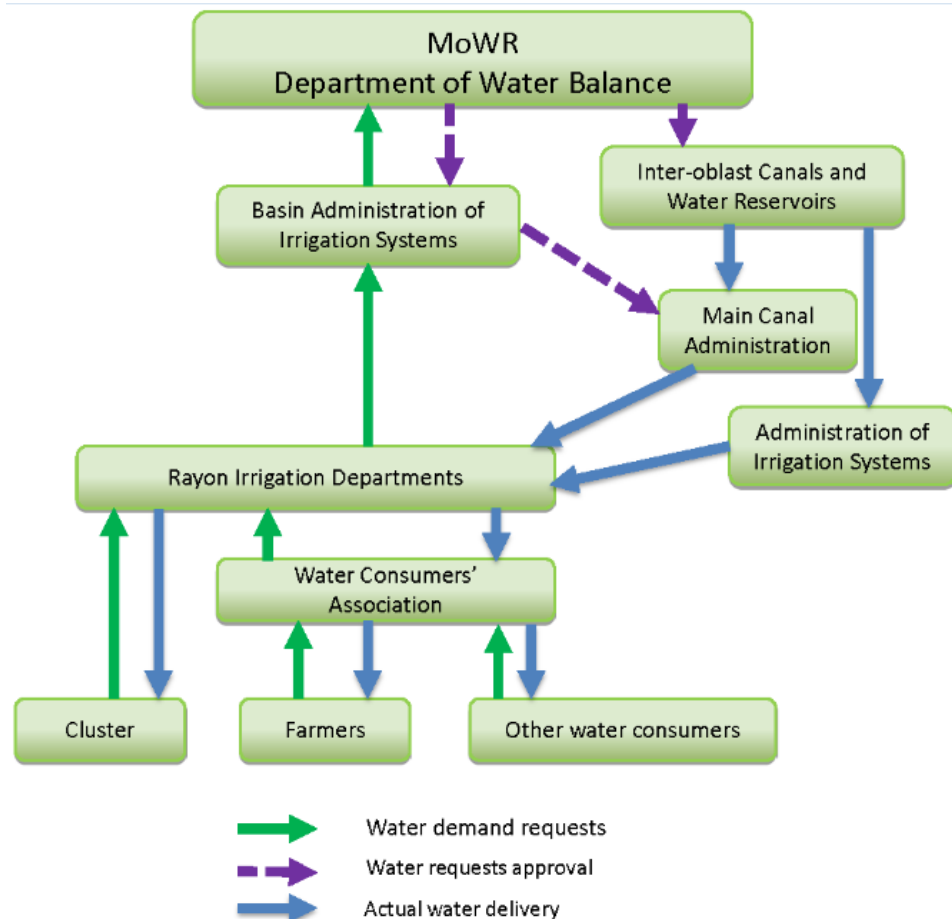
**Figure 1. Overview of institutional changes in water sector of Uzbekistan during 2017-2019**

These restructuring efforts have had implications on the implementation of the IWRM principles in the country, which has been promoted by GWP and Swiss Cooperation (SDC) for many years. On one hand, the mandate of the new MoWR consists of a range of functions, which are relevant to IWRM, including responsibility for implementation of the unified water sector policy and coordination of all sources and uses of water resources to ensure their rational consumption and environmental protection. However, on the other hand, application of IWRM principles has been somewhat compromised by mixing hydrographic water distribution and delivery with administrative water demand consolidation through the RIDs at rayon level, where the main agricultural outputs are produced.

Furthermore, to improve water use efficiency, the government has recently endorsed a range of subsidies for introduction of drip irrigation and other water saving technologies in the cotton, horticulture and livestock production areas.

Farmers have been a key target of agricultural and water reforms and CWP-Uzbekistan’s role is to facilitate improved level of water management and water productivity. An important recent

change in agriculture has been the introduction of so-called Agricultural Clusters to add value by private investments in processing, spinning, weaving and, finally, garment production. Cluster owners (private business) invest for farmers substantial financial, organizational and human capacities to adopt best practices in modern water management and agricultural practices to increase water productivity. Consequently, they do and will continue to put pressure on the entire water management system to perform better and allow for more efficient crop production. Key elements of current water demand and supply management are shown in Figure 2.



**Figure 2. Key elements of current water demand and supply management in Uzbekistan**

**The third step** was done in accordance with Decree of the President of the Republic of Uzbekistan, dated July 10, 2020 № UP-6024 “On the approval of the concept of the development of the water sector of the Republic of Uzbekistan for 2020-2030”. The concept was elaborated by Ministry of Water Resources with support from many partners, among which the CWP-Uzbekistan was one of the most active.

In the end of 2019 it became clear that the lack of a long-term concept for development of the water sector creates the barriers for efficient use of water resources, the widespread introduction of investments in the sphere, the development of scientific and innovative potential in the water sector, the introduction of scientific achievements and know-how, as well as the widespread use of modern information and communication technologies and innovative solutions.

From those viewpoints, the concept defined the goals, objectives, priorities and directions for development of the water sector in Uzbekistan for the medium and long term. It is the basis for development of the "Strategy for management of water resources and development of the irrigation sector" and programs for the further development of the water sector as a whole.

The priority indicators to implement the Water Concept by 2030 include:

- irrigation systems' efficiency increases from 0.63 to 0.73;
- irrigated lands with poor water supply decrease from 560 to 190 thousand hectares;
- saline irrigated land areas decrease by 226 thousand hectares;
- annual volume of electricity consumption by MoWR pumping stations decrease by 25%;
- "Smart Water" devices installed at key irrigation structures to monitor water use;
- water management processes automated at 100 key water structures;
- total area under WST reach 2 million hectares, of which 600 thousand is drip irrigation;
- 50 public-private partnership projects implemented in the water sector.

Due to MoWR efforts to advance IWRM based Water Concept<sup>3</sup>, in 2020, despite the 20% reduction of water availability, consumers received 32.5 billion m<sup>3</sup> of irrigation water from all sources during the vegetation season, while 280 million m<sup>3</sup> of water was saved and the water supply to more than 300,000 hectares of irrigated lands improved due to introduction of water saving technologies.

### **Description of change**

In order to consistently implement the tasks and ensure achievement of the main target indicators defined in the Concept for Development of the Water Resources in Uzbekistan for 2020–2030 there was adopted Decree of President of the Republic of Uzbekistan No. PP-5005 "On approval of the strategy for managing water resources and developing the irrigation sector in the Republic of Uzbekistan for 2021–2023" dated February 24, 2021.

Approval of the Water Strategy developed with the proper contribution from CWP-Uzbekistan is an important milestone in the reform of the water sector of Uzbekistan. It contains a set of priority measures aimed at the implementation of fundamentally new ideas and ways of further development and modernization of the sector, the introduction of IWRM principles, market mechanisms and information technologies, as well as strengthening of regional cooperation to ensure the efficient and sustainable use of water resources in Uzbekistan. Yet, its proper implementation depends on availability of sufficient financial and human resources.

Particularly the Water Strategy provides the following targets up to 2023:

- increase from 35 to 38 percent of the share of canals with concrete lining, increase in the efficiency of the irrigation system and irrigation networks from 0.63 to 0.66;
- reduction from 526 thousand hectares to 424 thousand hectares of irrigated areas with a low level of water supply;
- replacement of 518 pumping units and 807 units of electric motors for pumping stations with modern energy-saving ones, reducing their annual electricity consumption from 7.6 billion kWh to 7.15 billion kWh;
- bringing the introduction of water-saving irrigation technologies from 308,000 hectares to 1.1 million hectares, including drip irrigation technologies - from 121,000 hectares to 822,000 hectares;
- reduction from 1,926,000 hectares to 1,888,000 hectares of saline lands, including medium and highly saline ones, from 581,000 hectares to 532,000 hectares;
- reduction from 988 thousand hectares to 900 thousand hectares of irrigated land areas with a critical level of groundwater (0-2 meters);

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<sup>3</sup> Sh. Khamraev, Minister of Water Resources of the Republic of Uzbekistan. Irrigators are supporters of farmers, Agriculture and Water Resources of Uzbekistan, №1. 2021/ pp 7-8



- return into operation of 232 thousand hectares of irrigated land that have dropped from agricultural circulation in the past;
- construction and restoration of 6 hydrological posts on rivers, equipping 6 hydrological posts with automated equipment based on digital technologies;
- bringing to 18,576 units the number of water management facilities keeping water records based on the digital technology “Smart Water”;
- transfer to automated control based on digital technologies of 60 large water facilities;
- monitoring and online accounting of electricity consumption and water consumption by 5,231 pumping units at 1,688 pumping stations;
- monitoring of 2,100 operating reclamation observation wells using digital technologies;
- implementation of a total of 124 projects in the water sector on the basis of public-private partnerships, reimbursement by water users of 9 percent of the cost of delivering water for irrigation.

In line with the Water Strategy role of MoWR in IWRM implementation process has been reinforced by another Decree of the President of the Republic of Uzbekistan UP-6200 dated April 6, 2021 on measures to further improve the system of public administration and control in the field of water resources use, as well as to ensure the safety of water facilities. The MoWR is now responsible for implementation of a unified national policy in the field of water resources management, formation of accounting, reporting and balance of water, as well as coordination of the activities of the public bodies and other organizations in the field of rational use and protection of water resources, prevention and elimination of the negative impact of water disasters. MoWR is now an authorized governmental body for accounting of all water resources, coordination of relevant measures to improve the efficiency of water use and consumption, as well as the formation of the water balance of the Republic of Uzbekistan.

### **Contributing factors, actors**

It is important to note that Ministry of Water Resources of Uzbekistan on the described above long way of sectoral reforms towards Water Strategy was supported by the National Water Resources Management Project in Uzbekistan financed by the Swiss Agency for Development and Cooperation (SDC).

According to the official request of the Government of Uzbekistan, the Mandate for NWRM Project implementation was directly awarded in November 2016 to the Agency of IFAS. In the same time the Agency of IFAS is a Host institute for CWP – Uzbekistan since 2017.

Thus, CWP-Uzbekistan was involved to contribute to the overall strategic framework development in water sector of Uzbekistan as the key knowledge provider on IWRM principles. National Water Resources Management Project in Uzbekistan financed by SDC used this GWP’s contribution substantially.

The process of the Water Strategy development was organized by MoWR with proper technical assistance from the Project under which the national experts were teamed up with the international consultants provided by ADB. The process was supported by proper capacity building activities (trainings, knowledge products, etc.) in which CWP-Uzbekistan was involved permanently.