



## CENTRAL ASIAN JOURNAL OF SOCIAL SCIENCES AND HISTORY

Journal homepage: <https://cajssh.centralasianstudies.org>



### Irrigation-Melioration and Construction of Hydrotechnical Facilities

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#### Abstract:

The 50s of the 20th century marked the beginning of a new era in the construction of Uzbekistan's water industry. In the decisions of the Soviet government to further strengthen the sole administration of cotton, the main tasks related to water construction in the republic were also defined. Implementation of these tasks is a big and responsible task for the irrigators of Uzbekistan: to perform 570 million cubic meters of soil work on 1.5 million hectares in 4-5 years. For this, it was necessary to clean 60,000 km of intra-household irrigation networks and release 30,000,000 cubic meters of water per day<sup>\*</sup>.

#### ARTICLE INFO

##### Article history:

Received 14-May-23

Received in revised form 15-May-23

Accepted 16-Jun-23

Available online 17-Jul-2023

##### Key word:

The post-war water construction process in Bukhara Region is divided into three historical periods: 1) 1950-1962, the period before the machine canal was put into operation; 2) 1959-1962 construction of the Amu-Karakol machine mine (AQK); 3) 1963-1975, the period of commissioning of the first and second lines of the Amu-Bukhara car channel<sup>†</sup>.

The first period was conducted in the order of administrative command, characteristic of the 1950s. On February 10, 1950, the regional leadership tasked the responsible officials and organizations with the task of cleaning the regional irrigation and reclamation networks and completing salt washing activities no later than March 10 of this year<sup>‡</sup>.

In the conditions of the Bukhara region, transition to a new irrigation system was considered a very

<sup>\*</sup> Ирригация Узбекистана (в 4-х т.), Т.1. –Ташкент: Фан, 1975. –С. 202

<sup>†</sup> Р.А.Алимов., Н.И.Зудина., Е.В.Аскарлова. Структура водного баланса орошаемых территорий низовий Зарафшана (Бухарская область) в современных условиях и ее изменение под влиянием водохозяйственного строительства. Инженерные мероприятия по борьбе с засолением орошаемых земель. Сборник научных трудов. Выпуск 148. –Ташкент-1976. –С. 35.

<sup>‡</sup> Бухоро вилоят давлат архиви 1023-фонд, 1-рўйхат, 571-йиғма жилд, 99-бет

difficult task. The water volume of the Zarafshan River, which flows into the fields of the region located downstream, has been decreasing year by year. In addition, the soil composition was varied and the irrigation systems were in a very poor condition. For this reason, the oblast agriculture department, district committee gave instructions to the party and district councils to form special melioration-planning brigades under the existing MTS. The 14 brigades created by means of MTS were sent to serve first of all the lands that were salted and prepared for new irrigation in the collective farms. The main task of water management is the operation of irrigation networks, irrigation and construction of collectors. 18 million rubles were allocated from the budget for the purpose of carrying out work in this regard<sup>§</sup>.

The tasks defined in the direction of water construction are comprehensive, mainly irrigation - melioration networks, hydrotechnical structures - dam, tunnel, perepad (after draining water), bystrotki, aqueduct, ditch, pipe, distributor-sluice, water distributor, collector-drainage and canals (highway, farm, inter-farm) construction<sup>\*\*</sup>.

In 1951, the preparation of large hydrotechnical facilities and nodes of the Zarafshan River for floods and floods began. The reason is that the existing hydrotechnical structures and hydroelectric nodes were in a state of emergency. The water level in the river rose, and during the rainy season, the structures did not have the capacity to pass water. Until April 1951, the Vobkent Darya was cleared of ice and 16 thousand cubic meters of earthworks were carried out in the region where the old head dam of the Shokhrud canal and the Kharkhur hydroelectric plant are located<sup>††</sup>.

The government of the Republic was not satisfied with the activity of construction and repair organizations related to irrigation systems of Bukhara. Oblast officials were dismissed for not using the mechanisms, vehicles and building materials available in the construction facilities. The reason for this was that in 1951, compared to 1950, the implementation of the oblast water construction plan was less. That is, as of October 1, 1951, the plan was completed by 51.4 percent<sup>‡‡</sup>.

Mainly during the construction and assembly works in the Kuyimozor reservoir, the slack is noticeable. On August 1, 1951, Obilijroqom's labor supply schedule was broken. The construction site is not adequately manned. However, all the necessary measures were taken in the decision "On starting the construction of Kuyi-Mozor reservoir" adopted by the Bukhara Regional Committee KP (b) and Oblijrakom on April 25, 1950. In particular, it was decided to attract 350 to 500 workers from collective farms of Bukhara region every month. However, reports state that 3,100 collective farmers, 14 excavators and 452 wheelbarrows are being used for construction at the site per day<sup>§§</sup>.

The Soviet government, which focused on the further strengthening of cotton production in Uzbekistan, aimed to turn the republic into a large raw cotton production base. Therefore, cotton growing became the main activity of the leaders of the republic. Reliance on irrigated agriculture in the

<sup>§</sup> Бухоро вилоят давлат архиви 1023-фонд, 1-рўйхат, 571-йиғма жилд, 104-бет

<sup>\*\*</sup> Эксплуатация гидромелиоративных система/М.Ф.Наталчук, Х.А.Ахмедов, В.И.Ольгаренко. –М.: Колос, 1983. –С. 178.

<sup>††</sup> Бухоро вилоят далаат арихиви 1111-фонд, 1-рўйхат, 136-йиғма жилд, 83-бет

<sup>‡‡</sup> Бухоро вилоят далаат арихиви 1111-фонд, 1-рўйхат, 136-йиғма жилд, 98-бет

<sup>§§</sup> М.М.Тагиев. Из истории ирригационного строительства низовье Зарафшанской долины. –Ташкент: Фан, 1978. – С. 37.

development of the sector forced to take measures to develop this sector in agriculture.

In 1952, the leadership of the region decided to increase the yield of cotton to 22 centners in the next 2-3 years due to the improvement of land reclamation, mechanization and crop rotation. However, the irrigation networks were not yet ready in the newly developed lands, some of the irrigated lands were highly saline. Also, the condition of MTS, machine-excavator parks was unsatisfactory \*\*\* ...

The VII plenum of the Central Committee of the Communist Party of Uzbekistan held in October 1953, in the decisions of the September (1953) plenum of the CPSU Central Committee, developed additional measures for the development of cotton and other branches of agriculture in the Uzbek SSR<sup>†††</sup>. Under the cotton monopoly, irrigation-reclamation works were strictly planned in almost all oblasts and districts. Because the whole plan of the government is failing due to the slow progress of construction and installation of water supply networks in the republic. The plan is to complete the construction of the Kuyimozor reservoir in order to irrigate 16,000 ha of land in the Bukhro region, to build the Toshrobot hydroelectric system and the main drainage channel on the Zarafshon river, to build the Karmana hydroelectric system on the Zarafshon river and to reconstruct the channel, to connect the Kharkhur main channel to the Khayrabod channel in Vobkentdarya through reconstruction, collector-drainage tasks of construction and reconstruction of networks are determined<sup>†††</sup>.

Carrying out these tasks required a lot of machinery, transport and financial resources. However, the Center left the republic alone and forced it to fulfill the plans on time. In particular, the Ministry of Water Management of Uzbekistan was obliged to check the location of excavators and small earth digging mechanisms and collect these mechanisms to the remaining sections of the works of preparing irrigation and collector reservoirs and for use in protected lands<sup>§§§</sup>. It is envisaged that the constructed construction will serve to improve the construction-repair work carried out in the water construction.

On March 26, 1954, the Government of the Uzbek SSR adopted Resolution No. 641 of the Council of Ministers of the Uzbek SSR in order to correct the situation regarding water construction. In one of the annexes of the decision, the regulation on the procedure for the construction of hydraulic facilities in the collective farms of the Uzbek SSR was also approved. In the regulation, the main attention was paid to the provision of the financial source of constructions and mutual cooperation. For example, the cost of hydrotechnical structures planned to be built was approved by the Ministry of Water Management of the Uzbek SSR, 40 percent of the expenses were financed from the state budget and 60 percent from the personal account of the collective farms<sup>\*\*\*\*</sup>. In the regulation, a number of powers were given to the General Directorate of Oblast Irrigation Systems. In particular, the establishment of subcontracts with organizations and institutions related to construction and assembly works, relations with collective farms were also regulated on the basis of contracts.

\*\*\* Бухоро вилоят давлат архиви 1023-фонд, 1-рўйхат, 906-йиғма жилд, 9-бет

††† Ўзбекистон ССР раҳбариятининг ижтимоий ва сиёсий фаолияти (1945-1983 йиллар). –Тошкент: Ўзбекистон Республикаси Фанлар академияси “Фан”. –Б.37.

††† Бухоро вилоят давлат архиви 1111-фонд, 1-рўйхат, 169-йиғма жилд, 86-бет

§§§ Гиждувон туман давлат архиви 3-фонд, 1-рўйхат, 316-йиғма жилд, 283-бет

\*\*\*\* Бухоро вилоят давлат архиви 1111-фонд, 1-рўйхат, 6-йиғма жилд, 65-бет

In 1954, the construction of the large Kuyimozor water reservoir in the region became the focus of the government's attention. As of October 1 of this year, 1,817,000 rubles were spent on the facility, as well as the following works were carried out on water supply and water supply channels: earthworks in the amount of 398,500 cubic meters, construction of 40,000 cubic meters of the 4th excavation mechanism enterprise, MES- 5th excavation mechanism 110,000 cubic meters, 5,500 cubic meters by hand, 38,000 cubic meters of release blasting, 45,000 cubic meters of water compaction<sup>††††</sup>. However, the achievements were much lower than the targets and plans set in the construction. At the same time, the regional water management officials focused on collecting the excess water of the Zarafshan oasis in the Kuyimozor reservoir and the issue of the Karakol oasis with water<sup>††††</sup>.

The Ministry of Water Management of Uzbekistan hastened to complete the construction of the reservoir ahead of schedule, to improve the water supply of the region and the quality of land. The Council of Ministers of the Uzbek SSR supported the ministerial initiative and began to take necessary measures. In particular, by the decision of June 5, 1954, the Ministry of Agriculture was entrusted with the execution of 250,000 m<sup>3</sup> of earthworks for the construction of a dam in the Todakul reservoir by August 20, 1954<sup>§§§§</sup>. In particular, major tasks were set for the oblast irrigation systems administration and its construction-installation organizations. In particular, 8,017,000 rubles were allocated for constructions with a small value of objects, and tasks were clearly indicated. The total volume of earthworks is 802,000 cubic meters, including 480,000 cubic meters of the 16th excavator MES, 110,000 cubic meters of earthmoving machinery, 12,000 cubic meters of Uzvodstroy and 200,000 cubic meters of the 25th mechanized MTS<sup>\*\*\*\*\*</sup>.

In the field of water construction in Bukhara, there was a discrepancy between the achieved positive results and the implementation of the republic's plans. On February 11, 1954, the Council of Ministers of the USSR and the Communist Party of the Soviet Union adopted a decision on "Prospects for the development of cotton production in Uzbekistan in 1954-1958". During the analysis of the approved plans for the implementation of this decision, including the state of water construction, it was found that instead of 253.3 million rubles allocated for construction and installation works, 94.5 million rubles were appropriated, or the plan was fulfilled by 37%. This situation did not completely satisfy the government of the republic. Because there was not enough experience and material and technical equipment to perform the specified tasks in the construction and assembly works. After all, the level of use of prefabricated reinforced concrete block structures in the construction of hydraulic structures of the republic was completely unsatisfactory. Taking into account the above problem, the Ministry of Water Management of the Uzbek SSR tasked to develop and submit to the government a proposal for the large-scale use of prefabricated reinforced concrete block structures in the construction of hydraulic structures within a month<sup>†††††</sup>.

Under the influence of the central pressure, the leadership of the republic finds it expedient to develop the existing reserve and gray lands in the lower reaches of the Zarafshan oasis. However, the intended goal could be achieved if the water problem was solved positively. So, irrigation-melioration has

†††† Бухоро вилоят давлат архиви 1023-фонд, 1-рўйхат, 654-йиғма жилд, 65-бет

†††† Н.Очилов. Ўзбекистонда ирригация-мелиорация ишлари(1946-1964). –Тошкент: Фан, 1991. –Б.12.

§§§§ Камило

\*\*\*\*\* Бухоро вилоят давлат архиви 1023-фонд, 1-рўйхат, 880-йиғма жилд, 268-бет

††††† Бухоро вилоят давлат архиви 1023-фонд, 1-рўйхат, 880-йиғма жилд, 273-бет

become an urgent issue on the agenda in Bukhara. On September 9, 1956, the head of the government, Comrade Muhiddinov, in his report to the Central Plenum of the CP of Uzbekistan: "The main task in the Bukhara region is to improve the reclamation condition of irrigated lands. By the spring of 1957, it is necessary to finish the construction of the water drainage facility in Dengizkul. He noted that the completion of the Toshrobot junction and the main canals leading from it to the left and right are among the biggest activities. The report of the head of the government indicates<sup>\*\*\*\*\*</sup> that the prospects of water management in the region are bright.

In short, by the end of the 1950s, the Central Asian rivers (Amudarya, Syrdarya and Zarfshan) would dry up due to the regular increase in the amount of newly irrigated land. Although scientific reports obtained during many years of analysis show that the region's water reserves are drying up, the results of research in this regard have been deliberately kept secret.

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<sup>\*\*\*\*\*</sup>Қизил Ўзбекистон, 1955 йил 9 сентябрь № 213 (9556).