

## ВОДОСНАБЖЕНИЕ В РОМИТАНСКОМ РАЙОНЕ И БУХАРСКОМ ОАЗИСЕ: АГРАРНЫЕ И СОЦИАЛЬНО-ЭКОНОМИЧЕСКИЕ ПРОЦЕССЫ В КОНЦЕ XIX – НАЧАЛЕ XX ВЕКА

**Аннотация.** В данной статье рассматриваются система водоснабжения, аграрные практики и социально-экономические условия Ромитанского района и Бухарского оазиса в конце XIX – начале XX века. В исследовании анализируются использование водных ресурсов реки Зарафшан, дефицит воды, процессы опустынивания и их влияние на миграцию населения. Также изучается ирригационная инфраструктура – включая канал Какиштуван, прорытый по инициативе Чорикулбоя, – который обеспечил орошение близлежащих деревень. На основе исторических источников, архивных материалов и устных воспоминаний в статье подчеркивается значимость водоснабжения и ирригационных сооружений в развитии сельского хозяйства. Полученные результаты выявляют трудности земледелия в Бухарском оазисе на рубеже веков, а также социально-экономические проблемы, вызванные нехваткой воды.

**Ключевые слова:** Ромитанский район, Бухарский оазис, река Зарафшан, водоснабжение, ирригация, сельское хозяйство, опустынивание, канал Какиштуван, социально-экономические процессы, водные ресурсы.

### INTRODUCTION

In the late 19th and early 20th centuries, water supply and agricultural activity constituted some of the most pressing socio-economic challenges in the Bukhara Oasis, including the territory of the Romitan District. The natural-geographical conditions of the region, the seasonal variability of the Zarafshan River, and the limited availability of water resources had a direct impact on agricultural production and the livelihood of the population. Canals constructed through local initiatives - most notably the Kokishtuvon Canal spearheaded by Chorikulboy - played a crucial role in water management and the development of irrigation systems. However, rising demand for water and expanding desertification compelled the population to migrate to regions with more abundant water resources.

This study aims to analyse the historical development of water supply, irrigation, and agricultural systems in the Romitan District and the Bukhara Oasis, and to examine the socio-economic implications of water resource distribution.

Findings and discussion. The Romitan District belonged to the water-deficient regions of the Bukhara Oasis; even the Zarafshan River, which served as the principal water source for the oasis, did not always reach Bukhara in sufficient volume. In some years, river water failed to arrive in summer altogether. This issue

is recorded even in Baburnama, where Babur notes periods of three to four months during which the river - referred to during the Timurid period as the Kohak - did not bring sufficient water to Bukhara at the time when irrigation demand was highest [1, 44].

Following the transformation of the Bukhara Emirate into a semi-colony of the Russian Empire, the greater part of Zarafshan's water was diverted to irrigate lands under imperial control. This exacerbated drought conditions and accelerated the desertification of arable lands across the Bukhara Oasis. An agreement between Russia and Bukhara stipulated that two-thirds of the Zarafshan River's water be allocated to Russian territories, and one-third to the population of the Bukhara Emirate. However, the Bukhoro-i Sharif newspaper reported in 1911 that this allocation was frequently disregarded, with Bukhara receiving only 6 to 18% of the river's flow in certain years [2, 2].

This demonstrates the severity of water scarcity in the oasis. Increasing demand for water and the progression of desertification forced many inhabitants to migrate to water-abundant regions. Residents of Somjon (present-day Romitan) also relocated to various territories; in 1870 alone, 16,000 families abandoned their lands and moved toward the Khiva Khanate. Another contributing factor to this migration was the decision of Amir Muzaffar to halt water supply to the district as punishment for the local population's support when Abdumalik-Tura - the eldest son of Amir Muzaffar [3, 89-91; 4, 98-99;] - briefly took refuge there before fleeing to Khiva in 1868 [5, 237].

Water scarcity also made access to roadside wells costly; Sitnyakovskiy, who travelled through Bukhara, recorded the customary fee of  $\frac{1}{4}$  tanga (coin) for watering horses [6, 141]. As part of an inquiry into the disputed distribution of water between Bukhara and Samarkand, hydraulic engineer N.F. Sitnyakovskiy conducted a detailed study of the irrigation system in the oasis, noting that Zarafshan's flow was highly inconsistent. For instance, the drought of 1895 was so severe that even wells began to dry up, while in 1896 the river overflowed to an extent not remembered even by elderly inhabitants [6, 135].

During the early medieval period, when the Zarafshan River carried more water, the village of Kokishtuvon and its surroundings served as flourishing agricultural zones. The village's name, interpreted by academician A. Muhammadjonov as "the fortress of eight canals," reflected its irrigation system: water from the Zandani canal - an offshoot of the Vabkentdarya tributary - was redistributed through eight major channels overseen by the chief mirob (the person responsible for distributing water through the canal), whose administrative residence stood nearby [7, 3]. Over time, the expansion of newly cultivated lands in

the upper reaches of the Zarafshan significantly reduced the amount of water reaching the Bukhara Oasis, causing desertification in areas such as Kokishtuvon.

Situated at a higher elevation relative to the river, Kokishtuvon consistently faced difficulties in accessing irrigation water. Located on the northwestern periphery of the oasis, adjacent to the Urgench Desert, its geographical position made irrigation even more challenging [8, 7]. Water distribution in the village followed strict regulations: each household received water based on the size of its landholdings, and the local elder Ruziboy was responsible for managing the schedule - his home being the only one equipped with a clock. Regardless of the irrigation progress, water was diverted to the next plot once the allotted time expired.

Collective labour (hashar) was mandatory for maintaining irrigation channels during winter. Specific segments of canals, called khoda (approximately two meters), were assigned to each household proportionally to their land size. Failure to complete the digging resulted in the deprivation of irrigation water the following spring.

To improve water access, a new canal was later excavated, carrying water from the upper part of Poyjuy village to Kokishtuvon and irrigating the lands of Poyjuy, Piyozkor, Khujalar, Taylokon, and Payshanba villages [8, 8]. This canal - initiated by Chorikulboy - stretched approximately 50 kilometres from the Zarafshan River to Kokishtuvon [9, 136].

Recognising the urgent need for additional water sources, Chorikulboy convened thirty wealthy residents of the village to discuss the construction of the canal. While they agreed on its necessity, disagreements arose regarding the timing. Chorikulboy insisted on starting in late autumn, after harvest season, arguing that farmers were preoccupied with spring planting. He compensated affected farmers by reallocating land and financing three years of seed for those whose fields were crossed by the canal.

Although archival sources do not specify the exact date of the canal's construction, oral histories suggest that it preceded the building of the Chorikulboy Bridge. In the 1970s, the canal was widened and reinforced with concrete under the leadership of Norboy Juraev, then head of the Bukhara Regional Department of Agriculture, with the support of Romitan District executive committee chairman Yorkul Sobirov [8, 8]. This modernisation significantly improved irrigation for Kokishtuvon and its surrounding villages.

Conclusion. The study demonstrates that water scarcity and desertification significantly impeded agricultural development in Romitan District and the Bukhara Oasis during the late 19th and early 20th centuries. The use of the Zarafshan River's waters and the expansion of irrigation networks - particularly the

construction of the Kokishtuvon Canal - ameliorated water shortages and enhanced agricultural productivity. Nevertheless, seasonal fluctuations in water supply and increasing demand contributed to population migration. Irrigation initiatives led by Chorikulboy played an essential role in rehabilitating villages and reinforcing socio-economic stability. These processes allow for a deeper understanding of the development of water supply systems, irrigation infrastructure, and agrarian economics in the Bukhara Oasis.

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