AMERICAN JOURNAL OF SOCIAL AND HUMANITARIAN RESEARCH

ISSN: 2690-9626
Vol.3, No 2, 2022

From the History of the Scientific Study of the Zeravshan River (Second Half of the 19th - Early 20th Centuries)

Khakimova Saida Bakhtiyorovna
Basic doctoral student of Fergana State University

ABSTRACT: The article discusses the scientific study of the Zeravshan river by Russian researchers in hydrographic terms. This process began in the 70s of the 19th century after the annexation of a part of the Emirate of Bukhara to the Russian Empire. At that time, the issue of water distribution between the Zeravshan district and the Bukhara oasis was aggravated. To resolve this issue, hydrographic studies were carried out in the basin of this river.

KEYWORD: Zeravshan, Russian Empire, "Samarkand question", Bukhara, hydrographic survey, Karadarya, irrigation.

Introduction

The Zeravshan is one of the major rivers on the territory of Uzbekistan. The name Zeravshan from Persian means "scattering gold". In the 19th century, among the local population, the river was also called the medieval name “Kukhak”. The population associated the origin of the name Zeravshan with the legend of the construction of a gold dam in the upper reaches of the river by Alexander the Great [7: 61]. The American traveler Eugene Skyler notes that there are very few gold-bearing sands on Zeravshan and only poor people are engaged in its extraction. Under good conditions, four people could pan for 1 shilling 7 pence a day [11: 216]. Many researchers argue that the river owes its name not so much to the amount of gold impurities, but to the beneficial effect on the fertilization of fields, orchards and gardens adjacent to the river in the form of a continuous green ribbon. Indeed, the waters of Zeravshan were used to the last drop for irrigation, and thanks to rich harvests, the level of prosperity of the inhabitants increased.

Main Part

According to the sources of the 19th century, the length of the Zeravshan was 600 versts, of which 350 versts fell on the territory of the Turkestan, the rest on the Emirate of Bukhara. Since the source of the river was high in the mountains, its flow was fast. Due to the speed of the current, it was even impossible to measure the depth of the river. Starting from Penjikent, the river went out onto the plain and expanded. Upon exiting the mountains, the waters of Zeravshan begin to disperse into canals. The largest of them were the Dargam (Angor) and Narpay canals. The Dargam was 70 versts long and looks like a big river. 8 versts north of Samarkand Zeravshan is divided into Karadarya and Akdarya. Akdarya is the main channel. These brancheds move away from each other by 15-18 versts and unite near Khatirchi [4: 225].

These two channels irrigated the Miyankal valley between them and the lands to the north and south

ISSN 2690-9626 (online), Published by “Global Research Network LLC"
under Volume: 3 Issue: 2 in February-2022 https://grnjournals.us/index.php/AJSHR

of them. Karadarya was important in this regard and irrigated more land, therefore, to increase the mass of water with the help of a dam near Chupanata, additional water was sent to it from Akdarya. This necessity was considered by the authorities of the empire as a means of political pressure on the Emirate of Bukhara. In particular, D.Logofet considered the impermissibility of water to Karadarya equals a death sentence for both the region and its population [6: 114]. A similar idea was expressed by the Swiss traveler Henry Moser [1: 610]. Although such statements exaggerated the real situation, if necessary, the Russian authorities could use this advantage.

For this reason, when drawing up an agreement with the Emir of Bukhara Muzaffar in 1868, the Governor-General of Turkestan Kaufman included a clause on the transfer of Samarkand to the rest of the Russian Empire. But since the Ministry of Foreign Affairs feared that the annexation of lands to Samarkand would aggravate Russian-English relations, Emperor Alexander II was in no hurry to sign this agreement. Kaufman strictly adhered to the position of joining Samarkand. Thus, the "Samarkand question" arose. His supporters believed that the annexation of Samarkand and the possession of the upper course of the Zeravshan would make it possible to constantly keep the Emir of Bukhara in subjection. The signing on September 23, 1873 of a new treaty with the Bukhara finally resolved this issue and the Zeravshan district with its center in Samarkand was included in the empire.

N.P.Stremoukhov, who visited Bukhara in 1874 and studied the state of water supply, wrote that the inclusion of the main stream of the Zeravshan within our limits allows us to control the annual distribution of water. By holding back the water, the government can always force the Bukharians to be careful in their relations with Russia [8: 191]. From this it follows that the inclusion of the upper reaches of the Zeravshan in the empire had not only economic, but also political significance.

Direct hydrographic study of Zeravshan began in the 70s of the XIX century. In 1870, Governor General Kaufman organized the Iskandarkul expedition under the command of Major General Abramov to study the origins of the Zeravshan and subdue the inhabitants of the mountainous regions. This expedition was not so much scientific as military-conquest character. It included such specialists as G.A.Arandarenko, orientalist A.L.Kun, naturalist A.P.Fedchenko, historian and expert on the local language captain A.D.Grebenkin, engineer and geologist D.K.Myshenkov, topographer A.M.Scassi [12: 11]. The results of the expedition provided valuable information about the origin of the Zeravshan current.

Since the waters of the Zeravshan were mainly used for irrigation, and unlike the Amu Darya and Syr Darya, it was impossible to organize navigation of ships on it, a hydrographic study of the river was carried out in order to increase productivity and rational use of water. It also contributed to solving the problem of water distribution between Samarkand and Bukhara.

To indicate the amount of water in Zeravshan, the local population used the concepts of large, medium and small water. With a large current, the water freely reached Bukhara without any distribution. With medium water, water was meant to be supplied to ditches by the "nimjui" method, that is, in half. With low water, it did not reach Bukhara even with the complete blocking of the ditches of Samarkand. However, the authorities of Turkestan had to know the exact amount of water for distribution. L.Sobolev, who studied this issue, suggested that in order to finally adopt any specific rules on the issue of distribution, rigorous and accurate studies of the irrigation system in different parts of the valley and the course of the Zeravshan should be carried out.

In particular, he proposed to determine in every detail the course of the Zeravshan and, in particular, from Khatirchi to Dengizkul, to determine all the ditches that come out of the Zeravshan in the Emirate of Bukhara, and to find out the amount of water in each, as well as the amount of land

ISSN 2690-9626 (online), Published by "Global Research Network LLC"
under Volume: 3 Issue: 2 in February-2022 https://grnjournals.us/index.php/AJSHR

irrigated by each canal. It was also intended to study in detail the Narpay ditch and determine the relationship between how much land it irrigates and the maximum amount of water needed to irrigate existing fields. To do this, it was necessary to set up a special observatory on the border of the Kattakurgan department, near the village of Alchin-Agach, where the daily standing of water in the canal was measured and the strength of the water was determined. It was also necessary to find out in detail the relationship between the measures for the distribution of Zeravshan water in the valley and the state of water in Zeravshan. To do this, it was necessary to undertake systematic research over the Zeravshan, especially in its middle reaches [13: 112-113].

As can be seen, all research work served to prevent the passage of excess water into the territory of the Bukhara Emirate and the abuse of water consumption by Bukhara officials. At the same time, accurate indicators of the amount and consumption of Zeravshan water should have optimized its use.

Carrying out these activities required the organization of water management. In this regard, for the organization and management of irrigation work in 1872 in Samarkand, the position of an engineering technician, head of irrigation work was introduced. Chernevsky, an irrigator, was the first to be appointed to this position. Exploration work began with the Samarkand oasis. First of all, the channels of the Dargam, Yam, Kazan, Tuyatortar and Narpay canals, taken from Zeravshan in the distance from Penjikent to Bukhara, were leveled [8: 201-202]. As a result, the length, irrigation capacity of these canals and the total area of lands irrigated by them were determined.

In the 70s of the XIX century, water-measuring posts were installed in six places of Zeravshan. The first of them was installed near the Dupul bridge 20 km above Penjikent, the second on the banks of the Magiandarya, which flows into the Zeravshan, the third on the banks of the Zeravshan near Chupanata, the remaining three on the Akdarya, Karadarya and Narpay canals. The first two water metering points made it possible to determine the daily flow of water and changes in the course of the river before the distribution of the Zeravshan waters through irrigation canals. The rest determined the amount of water consumed in the upper and lower reaches of the valley [8: 205].

In 1896, N.F.Sitnyakovsky, together with six topographers, studied a part of the Zeravshan valley belonging to the Bukhara emirate. Along with a general description of the area, they provide information about the properties of the Zeravshan River. In particular, the channel of the Zeravshan in the lower part is divided into 3 channels: Mahan, Karakuldarya and Taikyr. At the same time, as the author notes, the Karakuldarya is considered the main channel, while excess water is drained along the Mahan in abundant water years, and water is passed into Taikyr in small quantities. In winter, there is very little water in Zeravshan and it looks like a stream, while in high water the amount of water increases so much that it washes away the banks and the riverbed expands. At this time, the width of the channel reaches 150-200 fathoms. The summer glacial water of Zeravshan contains a lot of clay, sand and organic matter. As a result, spilling over the fields, it brings fertilizer and has a beneficial effect on crops [10: 128-132].

Russian researchers studied the large rivers of Central Asia and from the point of view of the arrangement of dry navigation on them. However, the complete consumption of Zeravshan waters for irrigation did not allow the channel to deepen and navigation on the river was impossible. Only rafts and boats could move along the river. The local population floated various cargoes down the river. G. Lansdell describes Bukhara boats that were 50 feet long, 10 feet wide, with a draft of 10 feet. They could carry 150 people, 20 tons of cargo or 20 riders along with horses [5: 200].

Since 1896, constant hydrometric work began to be carried out on Zeravshan. This year, the Samarkand Regional Irrigation Department installed two water metering posts near the Dupul bridge. In 1900, the Paishambi post was organized on the Akdarya, in 1914 the Koshtegirmon posts on the

ISSN 2690-9626 (online), Published by "Global Research Network LLC"
under Volume: 3 Issue: 2 in February-2022 https://grnjournals.us/index.php/AJSHR

Karadarya, Olchin on the Narpay canal, and Tovaran on the Nasirabad canal were opened. In 1914, all of them were transferred to the gauging station of the Department of Land Improvements [14: 7]. This improved the accuracy of the measurements.

The construction of new water-measuring posts in the Zeravshan at the end of the 19th - beginning of the 20th century is associated with the following factors. It was at this time that the issue of water distribution between the Samarkand region and the Bukhara emirate escalated again, and the population of the emirate often complained about the lack of water. To solve this problem, additional measurements and the construction of hydraulic devices on the main main canals were envisaged.

Another factor was connected with the study of the possibility of irrigating the Bukhara oasis not with the waters of the Zeravshan, but by withdrawing a canal from the Amu Darya. To this end, surveys were carried out in parallel on the Zeravshan and on the section of the Amu Darya between Chardzhui and Kerki.

In 1907, the project of a water divider was considered at the place where Zeravshan was divided into Akdarya and Karadarya. It was noted that the project, in terms of its general type and design, corresponds both to its purpose and to the natural conditions of the Zeravshan River and the soil qualities of its channel. In addition, this facility was of great economic importance, eliminating the need for annual expenditures of up to 10,000 rubles for temporary water regulation work. But some miscalculations in the preparation of the project prevented the implementation of this project [9]. Eliminating these miscalculations required additional research.

In 1913-1916, with the assistance of the Turkestan Water Management Department, surveys were carried out in the Zeravshan oasis under the guidance of engineer A.V. Chaplygin. According to studies, it was determined that the volume of water in the river depends on the air temperature and the higher the temperature, the greater the flow of water.

It was determined that every 7-8 years the volume of water in Zeravshan decreased by 20%. This implied a reduction in crops in the corresponding volume. At the same time, there were high-water years in Zeravshan, during which the river overflowed and the water was directed to the ancient channel of the Makhandarya. Such a phenomenon was observed in the 70s of the XIX century and in 1896, 1900, 1909, 1923, 1944 [2: 19; 3: 14]. As a result, dry lakes in the lower reaches of the Makhandarya were filled with water and the population sowed the fields in the area.

Due to the political events of 1917, A. Chaplygin's research was not completed. Nevertheless, these studies were of great importance and expanded the knowledge of the hydrological regime of the Zeravshan.

References:

1. В странах Средней Азии. Путевые впечатления Генриха Мозера 1882-1883 гг. // Русская старина. Год 19. 1888, № 3.
2. Гулямов Я.Г. Исследование исторической гидрографии низовьев Кашкадарьи и Зарафшана // История материальной культуры Узбекистана. Вып. 6. – Ташкент: Наука, 1965.
3. Гулямов Я.Г., Исламов У., Аскаров А. Первобытная культура и возникновение орошаемого земледелия в низовьях Зарафшана. – Ташкент: Фан, 1966.
4. Костенко Л. Туркестанский край. Опыт военно-статистического обозрения Туркестанского военного округа. Том 1. – Санкт-Петербург, 1880.

ISSN 2690-9626 (online), Published by "Global Research Network LLC"
under Volume: 3 Issue: 2 in February-2022 https://grnjournals.us/index.php/AJSHR

5. Lansdell H. Russian Central Asia including Kuldja, Bokhara, Khiva and Merv. Vol II. – Boston: Houghton, Mifflin, and Company, 1885.
6. Логофет Д.Н. Бухарское ханство под русским протекторатом. Том 1. – Санкт-Петербург, 1911.
7. Мухамеджанов А.Р. История орошения Бухарского оазиса (с древнейших времен до начала XX века). – Ташкент: Фан, 1978.
8. Муҳаммаджонов А. Қуйи Зарафшон водийсининг суғорилиш тарихи (қадимги даврдан то XX аср бошларигача). – Тошкент: Фан, 1972.
9. National Archive of Uzbekistan. Fund I-1, register12, file 1213, paper 2.
10. Ситняковский Н.Ф. Заметки о Бухарской части долины Зеравшана. Известия Туркестанского отдела ИРГО. Том I, 1899, вып. 2. – Ташкент, 1900.
11. Скайлер Ю. Туркистон: Россия Туркистони, Қўқон, Бухоро ва Ғулжага саёҳат қайдлари. – Тошкент: O'zbekiston, 2019.
12. Собиров Н.И. Верховья Зеравшана в историографии второй половины XIX – первой половины XX вв. Автореф. дисс. ... канд. ист. наук. – Душанбе, 2012.
13. Соболев Л.Н. Географические и статистические сведения о Зеравшанском округе // ЗИРГО, Т. 2. – Санкт-Петербург, 1874.
14. Чаплыгин А.В. Урегулирование водного хозяйства Зеравшанской долины. – Москва, 1925.

ISSN 2690-9626 (online), Published by "Global Research Network LLC"
under Volume: 3 Issue: 2 in February-2022 https://grnjournals.us/index.php/AJSHR