



IRRIGATION SYSTEMS AND ECONOMIC LIFE OF LOWER AMU DARYA POPULATION ACCORDING RUSSIAN SCIENTISTS (THE BEGINNING OF THE XX CENTURY)

Shomuratov Otojon Xamidovich

Master Student, The History Faculty, Urgench State University

ANNOTATION

This article describes the economic life of the Lower Amudarya basin in the early twentieth century, the study and research of irrigation systems by Russian scientists.

KEYWORDS: *Lower Amudarya, (SredazEKOSO), pump, Uzboy, Shorahon, Chimbay, Irjeyop, Kokkol, corn, kavasha, Gurlan, Kungrad*

DISCUSSION

Karakalpakstan Republic and Khorezm region, which are part of Lower Amu Darya basin, have been studied by many foreign scientists, travelers, oriental study researchers. Especially, at the beginning of the XX century Khiva Khanate region and Central Asian countries (Bukhara Emirate and Turkestan governor-generalship), which were located in Lower Amu Darya basin, have been studied by many Russian scientists and oriental study researchers. For example, at the end of XIX century and at the beginning of XX century a lot of scientists from Tsar Russia like L.S.Berg, R.M.V. Nechkina, A.V. Yakunin, P.P. Ivanov, B.V. Lunin, X.D. Fren and P.I. Lerx, A.A.Gordiyenko, I.V. Pogorelskiy, V.V.Bartold came to the Khiva Khanate and the lands of Karakalpak and studied their social, economical, political and cultural life. A lot of information about irrigation systems, economic situation in Lower Amu Darya region can be found in the studies of F.P.Morgunenko, V.V.Tsinzerling, S.K.Kondrashev, M.A.Stekolnikov, N.I. Vavilov about the Khiva economy and irrigation systems at the beginning of the XX century. Especially, the findings of a renowned traveler, well-known hydrologist Vladimir Vladimirovich Tsinzerling(1884-1954) are noteworthy. In the Amu Darya Delta from 1913 Tsinzerling managed the group which prepared the initial project of Bosh

Turkman canal. In 1918, along with new government, Tsinzerling was added to organisational bureau of national infrastructures, and he participated actively in the start of projects regarding the recreation of irrigation, amelioration and forests. In 1924, being sent by Central Asian Economical Committee (СредазЭКОСО) to Khorezm region in order to solve water problems in the Lower Amu Darya basin, he gave suggestions about directing Amu Darya stream towards the left bank. Also, his article named "Irrigation and cotton growing prospects in Amu Darya Delta" ("Перспективы орошения и хлопководства в дельте Аму-Дарьи") has significant importance. After Tsinzerling returned to Moscow, collecting his findings that he learned in Amu Darya oasis, he wrote his monograph called "Irrigation in Amu Darya" (Орошение на Амударье). In this article he pointed out that the land surface in Khorezm oasis rise by average 1mm, also up to 7mm due to the spill of minerals (which are mixed with sand and mud that came from the river) and local fertilizers.

Another hydrologist, accomplished scientist F.P. Morgunenko(1880-1939) also studied water problems in the Amu Darya oasis in the beginning of the XX century. In 1910, he along with researchers like V.Aleksandrov and A.Esayev obtained a patent for the project of a device which can lift water upwards (a pump). In 1915, the



scientist suggested irrigate the dry lands in South-eastern Caspian with the extra water of Amu Darya during winter and the periods of flood. He also suggested join the canal, which came from Takhiatash and passed nearby Sariqamish lake, to the 500km confluent of Old Ozboy, and direct river water up to Nebit mountainside. In 1926, G.P.Sazanov, M.N.Yermaloyev, B.X.Shlegel under the supervision of F.P. Morgunenko prepared the project of the large canal which is in the course of Amu Darya that passes through Qorqadam desert. In 1927, F.P.Morgunenko in cooperation with engineer V.V.Poslovskiy studied the construction prospects of the irrigation systems in Southern Khorezm and gave several useful suggestions. Among them was the new ideas of directing extra water of the Ozboy watercourse of Amu Darya, which was located between the borders of Ustyurt and Qoraqum but had dried, towards the Caspian Sea. Morgunenko through his studies of irrigation and agriculture in Lower Amu Darya basin wrote his article "Irrigation and cotton growing prospects in Amu Darya Delta". [1] In this article, he gave important information about population and how well the cotton growing practices were developed in Lower Amu Darya at the beginning of the XX century.

One of the Russian scientists S.K.Kondrashev gave much information about irrigation system, economical situation and agriculture of Khiva Khanate at the beginning of the XX century in his book "Орошаемое хозяйство и водопользование Хивинского оазиса" ("Agriculture and water usage in Khorezm oasis"). This book was published in 1916 in Moscow. In this book, conducting observations in the lands of Khiva, Shoraxon and Chimboy, valuable information about living conditions of population, irrigation system, plants of this regions were given. Dividing Khiva into Kohna Urganch, Qipchoq, Xojayli, Toshliyop, Qirq; Shoraxon into Chubuqli, Durgadik, Abdurahmon machit, Kaltaminor, Oqqamish; Chimboy into Irjeyop, Qizil ozak, Chimboy Kokkol regions, he gave information about the economy of the Lower Amu Darya population. Also, S.K.Kondrashev writing about cotton plant in his book, gave information about two types of cotton which were grown: first American (*Gossypium hirsutum*), second local (*herbacuem*)[2]. Local breed was called "kavasha". However, American breed were more commonly grown according to his account. Another plant he mentioned was corn, especially red corn and mayxari corn, he claimed that it was hard to find this plant in other areas except Khiva Khanate and Amu Darya oasis. Writing about lucerne seeds, he mentioned that farmers used local reapers effectively while cutting the lucerne. In Turkestan, there was a dramatic difference between local population and migrant Russians in cutting lucerne. Due to cutting the lucerne cleanly without

leaving any trace on the surface with the reapers, the following lucerne plants grew well for cutting and different branches which came from the roots made the harvest thicker. When Russian farmers cut lucerne with their reapers, around 1-3 vershok (1 vershok is equal to 4.45 cm) stays on the bottom. This stops the eventual growth of the lucerne. Thus, local farmers' reapers were more effective at work according his account.

At the beginning of the XX century, Russian traveler N.I.Vavilov traveled to Khorezm, during his trip, he visited Khiva oasis and gave valuable information. In the summer of 1925, I. I. Vavilov along with V. K. Kobelev and N. N. Kuleshov had a visit to Khorezm oasis which is located in the lower stream and delta of Amu Darya. Studying the cultivated plants of Turkmanistan, Uzbekistan, Tadjikistan, Northern Iran and Afganistan, he concluded that it was essential to discover the role of Khorezm in the emergence of cultivated flora. The expedition studied the agricultural lands of Khiva, Yangi Urganch, Gurlan and Tashovuz. From the areas of Chimboy and Qongirov, N.N.Kuleshov, who mainly dealt with studying lucerne, collected new valuable information.

The seed materials which were collected by the expedition (over 1500 samples) were planted in the branches Practical Botany Institution and the selection stations of Turkestan between 1926 and 1928. The findings of the study were given in a book by N.I.Vavilov "Cultivated plants of the Khorezm region" (1929).

To conclude, the irrigation systems and the economy of the Lower Amu Darya population were at the centre of the Russian scientists attention. Especially, scientific expeditions and trips which were conducted at the beginning of the XX century has significant importance. In this period the economy and the irrigation systems of the Lower Amu Darya population started to be studied widely.

USED LITERATURE

1. Tsinslerling V.V. *Irrigation on the Amu Darya*. - M.: Management for water management of Central Asia, 1927, 808 p.
2. S.K. Kondrashev. *Irrigated economy and water use of the Khiva oasis M: 1916, 344 page*
3. N.I. Vavilov *Cultivated plants of the Khiva oasis*. L: 1929. 91 page
4. Morgunenko F.P. *Assumptions about irrigation of the southeastern coast of the Caspian Sea with winter and excess flood waters of the Amu Darya / Notes of the Russian Technical Society, 1915.*