

# The role of the Russian Geographical Society in the study of water issues in Central Asia.

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**Abstract:** From the second half of the 19th century, the Russian government began to occupy Turkestan. First, a general map of the region was drawn up in 1867, and a meteorological station was established in Tashkent to study the climate. However, for a long time it was almost impossible to form scientific research, but only since the early 90s, research related to the development of natural resources of Central Asia has been carried out. During this period, the Turkestan Agricultural Society was especially active. The journal "Farming in Turkestan", published by the society, promoted advanced methods of agricultural production, irrigation, farming and land use.

**Keywords:** Russian Geographical Society, Central Asia, zoogeographer, Military Topography, "Fergana Valley"

## I. Introduction

After the conquest of Central Asia by King troops in the second half of the 19th century, Russian scientists came here to conduct research. Even in such a complex and difficult environment, local historians have tried to express their views and opinions freely. Scientists visiting Central Asia will be in close contact with representatives of the country's leading local intelligentsia.

The colonial administration also did not approve of helping to raise the national consciousness of the people and masses of Central Asia, but rather to promote historical knowledge among the masses to a lesser extent and to draw attention to the study of ancient monuments. They thought it could only hurt their policies.

The region, rich in natural resources and cultural heritage and little studied, was of great interest to the progressive part of the Russian intelligentsia. The famous Russian zoologist, zoogeographer and traveler, N.A. Seversov (1827-1886), a staunch supporter of Darwinism, worked hard to study many parts of Turkestan from a physical geographical point of view, including the orography of the Pamir ridges and expended effort. N.A. Seversov during his travels, collected much-needed collections of zoology, botany, mineralogy, and paleontology. He was one of the most active scientists in the study of Central Asia, who came to Turkestan in 1857 with an expedition to the Aral Sea and the Syrdarya lowlands. After that, he will make 9 more expeditions to the region. His "Journey to the Land of Turkestan" is based on the nature, economy and life of the people of Central Asia. This book was published in 1873[1,p.34].

## II. Discussion

The famous Russian geographer P.P. Semyonov-Tyanshansky (1827-1914) laid the foundation for the geographical study of Central Asia, especially the Tianshan ridges. He explored Altai, Tarbagatai, Semirin, Alatau and Issyk-Kul. Based on the information he collected, the problem of the existence of Alpine glaciers in Tianshan was

resolved positively. The German geographer Humboldt's views on the volcanic events in Tianshan were rejected.

Russian naturalist and traveler A.P. Fedchenko (1844-1873) played a major role in the study of the nature of Turkestan. He was the first to explore the Fergana Valley and Alay. The ridge behind the Alay is also home to the mountains and the highest peaks. He also explored the Zarafshan Valley and the Kyzylkum Desert. The Fedchenko Glacier in the Alay Mountains is named in his honor [2,p.56].

Geologist and geographer I.V. Mushketov's (1850-1902) scientific services are also great. He first demonstrated the geological foundations of the Northern Tianshan Ridge Mountain Orography. He described the many minerals in Turkestan and compiled a "preliminary list of Turkestan minerals." During his research in 1877-1879, he traveled to the Kyzylkum along the Alay, Pamir, Bukhara, Gissar and Amudarya rivers. In 1880 he made a trip to the Zarafshan glacier. In 1881 Mushketov together with G.D. Ramanovsky compiled the first geological map of Turkestan[3,p.543].

A. Mabiiev, one of the Russian researchers, worked hard to study the soil of Central Asia. The famous Russian scientist V.V. Dokuchaev (1846-1903) in many of his works gave the first information in this area (1898). Military topographers also worked diligently and productively. Prior to the establishment of the Turkestan Department of Military Topography (1867), the region was not studied topographically. Only on the shores of the Caspian and Aral Seas, in the foothills of the Syrdarya and Amudarya, on the shores of Lake Balkhash, and in some other places, some more accurate semi-instrumental and visual measurements were made.

The research of I.I. Pomiranshev on the geoid form in the Fergana valley (1896), the research of D.D. Gedenov on the changes in the latitude of Tashkent (1895-1896) are noteworthy. However, a lack of staff and funding led to an early conclusion of the study.

Statistical committees began to play an important role in the study of the country. In January 1868, the Turkestan Statistical Committee was established. On his

initiative, in 1872, a collection entitled "Materials for statistics of the Turkestan region" was published. From 1872 to 1876, five collections were published. In January 1887, the Syrdarya (Tashkent), Samarkand (Samarkand), Fergana (New Margilan) regional statistics committees were formed. The committees publish regional reviews that cover natural and industrial, national economy, irrigation systems, roads, population and occupations, tribute and taxes, administrative structure, health. Detailed information on conservation and education, public landscaping, weather observations, etc. was given. "Reviews of the Syrdarya region" for 1886-1913 (Tashkent, 1887-1916), "Farg" for 1884-1913. Reviews of the native region "(Yangi-Margilan-Skobelov, 1889-1916). The Turkestan People's Library, opened in 1870, also began to collect books describing the research conducted in the country and its results. By 1917, 80,000 volumes of books had been collected. The Russian bibliographer V.I. Mejev carried it in St. Petersburg for 20 years, from 1868. In 1888, the number of large volumes in the "Turkistan Collection" reached 416 (data collected in 1867-1887). Sable these works were suspended due to lack of funds from the administration.

V.I. Mejev compiled a systematic and albatross index of the "Turkistan Collection" consisting of three books. In 1872, A.L. Kun and other orientologists compiled the famous "Album of Turkestan".

Prior to 1917, a total of 13 volumes of the Turkestan branch of the Russian Geographical Society's "Akhboroti" (1898-1917) were published by scientific societies in the country, and the Turkestan Agricultural Society published the journal "Turkistan Agriculture". 142 issues (1906-1917), 60 issues (1915-1917) centuries and books were published in the magazine "Turkistan Dehqoni".

Some work has also been done in the field of economics. A.F. Middendorf's "Fergana Valley" and many other similar works have not lost their scientific significance.

In 1870, the Central Asian Society of Scientists was founded. The society set itself the goal of collecting, processing, and disseminating information on the history, geography, ethnography, statistics, and economy of Central Asia. Its first open meeting was held on January 28, 1871[4,p.13].

At the same time, A.P. Fedchenko's active participation, the Turkestan branch of the Amateur Society of Medicine, Archeology, Anthropology and Ethnography was opened. Among the members of the department were Russian scientists such as N.A. Seversov, I.V. Mushketov, V.F. Oshanin. As a result of a scientific trip organized by the society in 1878 under the leadership of V.F. Oshanin, the Peter the Great ridge was discovered, glaciers were found at the source of the Mugsu River. It was named Fedchenko. Due to lack of funds, the department faced great difficulties.

In 1893, it was forced to suspend its activities. A group of local scientists (V.F. Oshanin, S.I. Zhilovskiy, etc.) In 1897, the Turkestan branch of the Russian Geographical Society was established at the initiative of Important work has been done through this community department, such as the study of the Aral Sea and Lake Balkhash, the glaciers and wildlife of Turkestan. Minerals have been explored, the causes and consequences of the Central Asian earthquake have been identified. The Turkestan Agricultural Society has made a significant contribution to the development of local agricultural production. The society promoted modern agronomic knowledge and methods, distributed new literature in the fields of cotton growing, beekeeping, silkworm breeding and so on. The society was involved in the study, discovery and dissemination of new improved cotton varieties in the country and cotton growing in general. It is necessary to note the work done in the field of efficient management of the economy.

In the early twentieth century, scientific societies in Turkestan continued their scientific activities. We can see that the Turkestan branch of the Russian Geographical Society has done a great deal to study the country from a natural-historical point of view, to study its flora and fauna, its climate.

Among the work done by the Society Department is L.S. Berg's (1876-1950) research is significant. He explored the major watersheds of Central Asia from the Aral Sea and Lake Balkhash during 1899-1903. Berg's monograph "The Aral Sea" will be published. It provides rich historical information on the settlement of the Amudarya and Aral Sea coasts due to changes in the water regime of the lakes and sea level rise. The community department has done a great deal of work in the study of Turkestan glaciers. G.B. Leonov Talas Alatovi Glaciers, N.L. Korzhenevskiy studied the Seldara and Karasel glaciers (the first of which was named Fedchenko, the second Mushketov). V.G. Gorodesky studied the glaciers of Zailiy Alatov[5.p.46].

Most researchers based on geological and historical research (B.V. Andrianov, A.S. Kes, P.V. Fedorov, V.A. Fyodorovich, E.G. Maev, I.V. Rubanov, A.L. Yanshin, etc.) came to almost the same conclusion. N.V. Aladin: "In prehistoric times, changes in the level and salinity of the Aral Sea occurred due to natural climate change." In the humid climate, the Syrdarya and Amudarya flooded and the lake reached a maximum height of 72-73 m. Conversely, during periods of arid climate, both rivers became shallower, the Aral Sea level dropped, and the salinity level in the Aral Sea region increased. In the historical period of the existence of ancient Khorezm, the level changes were to some extent due to climate change, but mainly due to irrigation work in the region along both rivers. During the period of intensive development of the developing countries, the increase in the volume of land irrigation led to the withdrawal of most of the water for this purpose, and the water level in the Aral

Sea immediately fell. Irrigated lands in the region decreased during unfavorable periods (wars, revolutions, etc.) and rivers flooded the Aral Sea again.

### III. Conclusion

E.G. Geological and hydrological studies conducted by Maev show that in the 1980s a number of well-known geographers found that the Amudarya and Syrdarya were constantly changing their routes and migrating through the Central Asian system during the historical period, often the Aral Sea. They showed that they had not reached the Aral Sea. dried up and a desert zone appeared in its territory. At the same time, during the drying of the sea, the salinity of the water rose sharply, which helped to identify salts discovered by geologists in the lower Aral Sea[6.p.26]. The migration of deltas of both Amudarya and Syrdarya created a very peculiar downstream, in which the swamp deltas filled with sediments were cut by a large number of desert, fine dusty, sandy deposits, forming a new delta. Analyzes by zoologists have shown that only a small number of species of the marine ocean have been preserved in the Aral Sea, where a huge complex of saltwater groups up to the Caspian estuary fauna has been destroyed. Not all the rivers that flow into the island have preserved marine fish species, or at least the remains of this fauna. This indicates that the waters of the Amudarya and other rivers in one way or another entered the Aral Sea basin, entered through the lower Uzbay valley and into the Caspian Sea. created a lake from which about 20% of the water flowing (which he determined hydraulically) flowed into the Caspian Sea via the Uzboy. This water flow continued in the IV-III millennia BC and was periodically poured into the Syrdarya Aral Sea in the early II millennium BC. It is now clear that the Aral Sea has undergone five or seven (according to recent radiocarbon studies of lower sedimentary rocks) transgressions, with their highest terraces reaching 72-73 meters.

In the early 19th century, the level of the Aral Sea was low. In 1845 and after 1860 some growth was recorded. In the early 1980s, this level dropped particularly sharply, leading researchers at the time to conclude that water levels

in Central Asia were declining. However, in the 1980s, the Aral Sea began to rise, first slowly and then accelerated. This process continued until 1906. In 1907 the process stopped, in 1908 the growth, in 1909 the decline. Growth was again recorded in 1910, 1911, 1912, and then until 1917 this level changed slightly.

In the late nineteenth and early twentieth centuries, the amplitude of vibrations did not exceed three meters. In the flow formation zone, the natural water resources of the Amudarya (excluding the closed drainage areas of Tejen, Murgab and others) reached 75 km<sup>3</sup> per year and 37 km<sup>3</sup> per year in the Syrdarya (112 km<sup>3</sup> per year).

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