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**AYDARKOL "TURQUOISE RIVER AMONG THE SANDS",  
YESTERDAY, TODAY, TOMORROW**

**Abstract.** The article tries to shed light on the creation of the Aydar-Arnasoy lake system, which is the fourth largest in Central Asia, its current ecological state, and its future state.

**Key words:** Aydarkol, turquoise river, water volume, ecology, salinity, fisheries, Ramsar Convention

**Introduction.** Few of us have seen the real Island today. Today, it is no secret to anyone how the dust-salty air rising from the bottom of the dry sea has a negative impact on the environment, how sad this global problem is for the ecosystem of the region...

Those who miss the scenery of the island will go to Aydarkol, another unique miracle of our mother nature. He watches its unique landscapes, its borders that are in harmony with the horizon. In the evening, he watches a distant motorboat, a white line trailing across the gently rippling surface of the lake as the sun sets.

Nobody wants these unique landscapes to disappear from our nature. Therefore, today's problems related to the Aydar-Arnasoy lake system do not leave anyone indifferent.

**Methodology.** Named "turquoise river between sands", Aydarkol is famous throughout the region for its unique nature, flora and fauna. One end of it starts from the territory of Jizzakh region, and this oil lies blue and blue in the

adjacent expanses from the Oktov of Nurota to the high rocks of Farish, up to the deserts of Navoi region. The combined Aydar-Arnasoy and Tuzkon lakes system is the fourth largest in Central Asia. The water collected in these lakes is twice as much as the water in all reservoirs of our country. The total area of the Aydar-Arnasoy lake system is 370,000 hectares, its length is 190 km, and its average width is 21 km. consists of, the deepest part is 30 meters, the average depth is 7 meters. The Aydar-Arnasoy lake system is one of the most unique natural water bodies of our country.

Unfortunately, in recent years, the water level has decreased and the level of salinity has increased in this system of lakes. Today, the water volume of the Aydar-Arnasoy lake system is 36.8 cubic kilometers. Over the past 15 years, water has decreased by 5.2 cubic kilometers.

Result and discussion. Today, the situation is reaching such a level that not only the lake, but also the flora and fauna living here will be destroyed. Among them are those included in the “Red Book”. 192,000 birds of 37 species have been recorded in the lake area, and today there are 20 species of birds that feed on algae and fish, and their number is decreasing year by year. About 400 species of birds fly to Aydarkol every year in January-March for wintering. Of these, 13 types are included in the international and 24 types in the local Red Book. But, unfortunately, the change of the lake and the ecosystem around the lake may cause the disappearance of these birds.

The main reason for the disappearance of such a unique living nature is the increasing mineralization in the water and the higher than normal salinity. Because the biggest factor that maintains the balance of nature in this area is the availability of lake water for flora and fauna.

So, what is causing the salinity of lake water, and where is the root of the problem?

Aydarkol is fed by the flow of Akbulok in Jizzakh region, Qili discharge of the Sangzor river, Chordara reservoir and the Central Mirzachol discharge flowing into Arnasoy. Groundwater flowing into the negative part of the water balance of the Aydar-Arnasoy lake system is also included. They come from Nurota mountains, Kyzylkum desert, Mirzachol and Shardara reservoir. The water balance is the amount of precipitation that falls on the surface of lakes for a relatively large part of the inflow side. Due to the fact that the Aydar-Arnasoy lake system stretches from west to east, the amount of precipitation slightly increases from west to east. The output part of the water balance of lakes consists of water that evaporates from the water surface and water that seeps into the ground. From 1993 to 2006, a large amount of water was discharged from the Shardara reservoir to Lake Arnasoy every year. The largest water discharge occurred in 1994.

In recent years, the sharp decrease in the discharge of water from the "Chordara" reservoir into the lake, also, since all fresh water entering from the Syrdarya basin is directed to irrigation works, change of the whole ecosystem in the lake and leads to high salinity of water.

The level of mineralization and salinity of the lake water is increasing fish and other animals in the water are approaching a dangerous situation.

At the same time, this causes a number of environmental problems. In particular, today there are problems related to the filling of the Arnasoy reservoir and the decrease in water supply of 56 thousand hectares of irrigated land connected to this reservoir in the Jizzakh region. In recent years, as a result of the mineralization level reaching 12-15 g/l in the last parts of the lake, fish and algae are decreasing in the water. Also, since fresh water has not entered the lake system for years, the level of salinity has increased, which has a negative effect on the natural reproduction of fish and flora and fauna. In addition, the current situation leads to an increase in salt and dust migration in this area.

As a result of the laboratory analysis, water hardness in the Aydar-Arnasoy lake system is 12.5-19.28 times higher than the established norms, water mineralization is 12.0-16.5 g/l, the amount of dissolved oxygen in the water is above the norm. low (2.0-3.3 mg/l) was determined. The presence of substances above the norm in water is a condition that negatively affects the development of fish.

Uzbekistan joined the Ramsar Convention in 2001, and Tuzkon, Arnasoy and Aydarkol lakes within the Aydar-Arnasoy lake system are among the few objects included in the Ramsar list in our country.

Therefore, a deep and comprehensive study of this problem arising in the Aydar-Arnasoy lake system is required. First of all, the Ministry of Water Management, the Ministry of Innovative Development, the State Committee for Ecology and Environmental Protection, the Academy of Sciences and its Institutes of Zoology and Botany, experts of other relevant offices and organizations, scientists, deputies, and public representatives must identify the origin of the problem. reasons should be thoroughly analyzed. Because ecological problems do not appear in a year or two, so their solution is not immediately solved. With a deep analysis of the situation, its solution should be the basis of a comprehensive program. This will be an important step in the development of water supply, protection of biological resources, preservation of the ecosystem and fishery in the Aydar-Arnasoy lake system.

Our state pays great attention to the development of fisheries. In recent years, the President and the government of our Republic have made not one, but several decisions on the development of fisheries, increasing the production of fish products, and increasing the efficiency of the use of water bodies. shows that Measures to further increase the efficiency of the use of biological resources of the Aydar-Arnasoy lake system were approved by the decision of the Cabinet of Ministers dated 22.04.2019 No. 347.

The document was adopted in order to satisfy the population's need for fish products, to strengthen the protection of animal and plant life in the area, and to make effective use of tourism potential. For this purpose, the following priorities have been defined:

- Preservation of biological diversity of the system and introduction of new species of fish that can be cultivated in water bodies into the fishing industry;
- rapid development of fish cultivation, processing, packaging, storage and export through the wide attraction of foreign direct investments to the region and the establishment of fishing clusters;
- To turn the lake system into one of the main areas for growing fish fry in our country;
- further development of amateur and sports fishing tourism, tourism infrastructure, increase of services provided to tourists.

To carry out the work in the planned project, an average of 1.8-2.5 billion cubic meters of fresh water per year is required to prevent salinity in the water basin of the Aydar-Arnasoy lake system, to maintain a stable ecosystem. It is necessary to conduct negotiations based on the requirements of the Ramsar Convention on obtaining this amount of water from the Chordara reservoir.

If green protection areas appear around the lakes, sand, soil salts and other pollution caused by the wind will be prevented and the ecosystem will be preserved. In the Aydar-Arnasoy lake system, which is considered an important economic and ecological area, it is necessary to reduce the mineralization of water, develop fisheries, organize recreation and tourist zones, and protect endangered species of flora and fauna.

Since the Aydar-Arnasoy lake system and its impact on the environment are one of the most important problems, in order to scientifically study the Aydar-Arnasoy lake system and its coastal regions, scientific- is being studied

comprehensively within the framework of practical research. So far, research has been limited to one of the landscape components (water, vegetation, etc.) or some natural processes (shoreline erosion, salinity, water salinity, etc.).

**Conclusion.** Because environmental safety is one of the most important and urgent problems of our society today and in the future. Issues of environmental safety and sustainable development are discussed on the example of the Aydar-Arnasoy lake system. The study of irrigated and anthropogenic lakes in our arid climate is important to ensure ecological safety in the face of the disastrous fate of the Aral Sea.

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