



Journal Website:
<https://theusajournals.com/index.php/ijp>

Copyright: Original content from this work may be used under the terms of the creative commons attributes 4.0 licence.

AIDAR-ARNASOY COOKING AROUND MUKHITGA EFFECT

Submission Date: April 10, 2023, **Accepted Date:** April 15, 2023,

Published Date: April 20, 2023

Crossref doi: <https://doi.org/10.37547/ijp/Volume03Issue04-07>

Imomova Dilfuza Anorovna

Biology Candidate Of Sciences, Associate Professor Gizza State Pedagogical University

Mavlonov Khudargan

Biology Fanlari Doctor, Professor Zhizak State University Of Pedagogy, Physiology Hygienic Head Of The Department, Uzbekistan

ABSTRACT

Data on environmental problems resulting from population changes, including water shortages and its consequences, are cited. Also covered are the negative consequences of the problems associated with the emergence of the Aydar – Arnasoy lake system and the transformation of the lake system on the environment, flora and fauna. The decrease in water balance in the Aydar Arnasoy lake system has been analyzed in comparison with the consequences caused by the drying of the Aral Sea.

KEYWORDS

Population, drinking water, Aydar – Arnasoy lake system, medicinal and fodder plants, monitoring, comparative analysis, desertification, salinity, biodiversity, Islet, biocenosis.

INTRODUCTION

By the 21st century, as a result of the sharp increase in the population of the globe, the demand for various necessities is increasing. This, in turn, causes a change in the ecological environment. As a result, it leads to changes in environmental factors that constantly affect living organisms. The life activity of all living

organisms is closely related to water. When it comes to drinking water, 3/1 of the population of the earth's surface is provided with drinking water, while the level of provision of clean drinking water in our Republic is 71.2%.

Regarding water supply, Uzbekistan is included in the list of countries with water shortages. This requires more entrepreneurship and economy in the rational use of water in Uzbekistan.

With the sharp increase in the number of people on earth in the 21st century, their need for water, like all sources of need, has also increased. The main reasons for this are the technical capabilities, the significant increase in industrial enterprises, the topography of the area and the many land acquisitions that have made it possible to use the spare water sources, and the amount of water taken from the rivers has reached the highest level. This led to the rapid development of previously "vacant" land areas. At the same time, as a result of the growth of irrigated land areas and the use of various pesticides, mineral fertilizers and plant protection agents in the cultivation of agricultural crops, their residual amounts in wastewater and soil are accumulating in excess of the permissible limit.

In all republics of Central Asia, the problem of water shortage is complicated by the increase in the population, climate change, and the lack of a systematic approach to water conservation.

Analyzing statistical data, the lack of clean drinking water in the regions of Central Asia causes GDP to decrease by 11%. 80-90% of water resources in the region are used in agriculture. The total area of irrigated land in the region is 7.695 million ha, and in Uzbekistan it is 4.2 million ha. Based on the information of the European Environment Agency (2021), it is emphasized that the pollution of water bodies in the regions is caused by agricultural and industrial wastes, insufficient filtering of water used in residences and not used for processing. The Aydar-Arnasoy lake system is one of the regions approaching the global environmental problem in terms of water problems.

In the last 40-45 years, lakes (172) have appeared in many plains as a result of the Amudarya and Syrdarya waters being taken to irrigation facilities and regulated. The largest of them are: Aydarkol, Sarikamish, Ayazkala, Todakol and others. Their total area is 63.60 km³, the total area of Aydarkol is 11.6 km³ (1).

Aydarkol is one of the type of anthropogenic lakes that appeared as a result of dumping excess water (21 billion cubic meters) from the Chordara reservoir in 1968-1969 into Arnasoy, Tuzkon Aydar shorhok.

At the moment, one of the regions in our republic, where the natural ecological situation is in a critical situation, is the Aydar-Arnasoy lake ecosystem and its surroundings. One of the main reasons is climate change, i.e., excessive evaporation of water as a result of a decrease in precipitation, temperature rise, and the second is related to the excessive level of influence of anthropogenic factors.

The length of the Aydar-Arnasoy lake system water basin is more than 300 km, and the width has expanded to 40 km [2]. As a result of the relative decrease of the water level in recent years, the compositional structure of water and soil is changing

The water coming through the collector-sources forms the basis of the water balance part of the Aydar-Arnasoy lake system. In 1993-2019, the average level of mineralization of all catchment waters was estimated as 4.3 g/dm³, and the annual variation of the amount of mineralization is 2.6-6.5 g/dm³. In this case, the total amount of salt coming through the collector-zovors during the year is 10.2 million tons.

In the Aydar-Arnasoy lake system, the water inflow is 2.5 km³, and the outflow is 4.4 km³, and a sharp decrease in water is observed. Mineralization has

increased from 5.07 g/l to 8.59 g/l in the last 10 years due to water depletion. Another 1.9 km³ of water will be needed to maintain the lake level at the previous 245 meters. If the balance of water output and input is not ensured, the lake level will drop by an average of 30 cm per year. [4,5]. Among the sources of water flowing into the Aydar-Arnasoy lake system, the level of salinity is increasing due to the decrease in the amount of water in the Chordara reservoir. Due to this,

in recent years, the side of the Republic of Kazakhstan has improved the possibility of releasing water from the Chordara reservoir to the Syrdarya. In order to collect excess water released from the Chordara reservoir, the Koksaroy reservoir was built near the city of Kyzylorda in the valley of the Syrdarya. As a result, the amount of water flowing from the Chordara reservoir into the Aydar-Arnasoy lake system has sharply decreased.

Changes in biconoses in the area depending on the decrease of lake water (Table 1)

Groundwater level, m	Soil types	Plant species	Natural geographic processes
0,5	brackish, brackish, swampy	<i>Chenopodium album</i> L. Poppy <i>Agriophyllum lateriflorum</i> (Lam.) Moq.	Groundwater subsidence, swamping, salinization, and sometimes sand-filled dry valleys develop
0,5-2,0	Meadow sorghum	Ajriq A.minus Fisch. et May, izen K.prostrata (L.) Schrad., Chughon Halothamnus glaucus (M.Bieb.) Botsch., Aeluropus litoralis (Gouan) Parl.	In place of the lake, there are transit zones composed of salt marshes and marshes, covered with sand.
2,0-3,0	typical sorghums	Halimodendron halodendron(Pall.) Voss., licorice Glycyrrhiza glabra L., Yellow-headed Senecio subdentatus Ldb.	Brackish, turbid, and salt marshes develop in areas where seepage

			water reaches the surface of the earth.
4,0-5,0	residual saltwater	Halocnemum strobilaceum (Pall.) M.Bieb., Haloxylon aphyllum (Minkw.) Iljin.	Salt flats spread out on the undulating plains, and in some places sandy areas are formed.
6-8	desert sandy soils	Fisheye Climacoptera brachiata (Pall.) Botsch., Black saxophone Haloxylon aphyllum (Minkw.) Iljin., , Juzgun C. leucocladum (Schrenk) Bunge	Under the influence of wind, the processes of deflation, transportation, accumulation and succession occur in the sands

[6,7].

A decrease in the amount of water will have very large negative consequences in the area:

-A sharp decrease in the number of medicinal and fodder plants in the Aydar-Arnasoy lake system;

- Reduction of raw material products for growers of medicinal and fodder plant products (farmers and farms, agroclusters) distributed in the Aydar-Arnasoy lakes system;

- Loss of biological diversity of medicinal and fodder plant species distributed in the Aydar-Arnasoy lake system;

Changes in the chemical composition of medicinal and fodder plants distributed in the Aydar-Arnasoy lake system;

- negative impact on food safety;

- depending on the environmental changes in the region, various infectious diseases, diseases related to metabolic disorders, oncological diseases, and diabetes are the reason for the increase of diseases.

To prevent unpleasant situations:

-planting and breeding (cultivation, introduction) of plant species resistant to drought, diseases, cold and heat;

-regularly control the input-output balance and chemical composition of water;

- regularly study the dynamics of flora and fauna species in the area;

- providing understanding and information in this regard within the scope of the science of environmental protection in schools, technical institutes and HEIs;

- carrying out promotion and propaganda work among the population;

- organizing activities such as protecting your home, your territory and your country, i.e. instilling the sense of patriotism into the minds of young people.

The main reason for our presentation of these ideas is a comparative analysis of the problems associated with the drying up of the Aral Sea.

As a result of the drying up of the Aral Sea, a lifeless coating consisting of small salt and soil particles was formed in Orolqum, which appeared in its place. Depending on the seasons, when the wind blows, dust consisting of salt and soil particles rises into the air and spreads over long distances. According to some statistics, 250 kg of salt dust falls on each hectare of irrigated land in the Republic of Karakalpakstan, and up to 500 kg in some areas.

From 15 million to 75 million tons of dust can rise from the dry bottom of the Aral Sea during a year. The width of salt dust storms is 40 km. to; 400 km long. spreads to Salty dust is blown by the wind tens or even hundreds of km from Orolqum. spread over a distance and rained down on natural meadows, crops in oases, gardens, cities and villages and had a negative impact on the ecological environment. Dust from the island even reached the glaciers on the peaks of the Tianshan and Pamir mountains, accelerating the melting of the glaciers there.

As a result of the drying up of the Aral Sea, as a result of the acceleration of desertification and salinization, in recent years, about 50,000 hectares of arable land

has become unsuitable for agricultural use. Unfavorable environmental conditions lead to a sharp decrease in agricultural crops and livestock products. The main purpose of providing this information is that if the necessary measures are not taken, the reduction of the water balance in the Aydar Arnasoy lake system and the consequences caused by the formation of the Aral Sea will certainly occur in these areas.

REFERENCES

1. Ghodalov. Effect of Aydar-Arnasoy lake system on landscapes // G.f.f.d. (PhD) thesis submitted for the degree. 2009. p. 17-24.
2. G. Kadirov. Transformation of grassland vegetation cover of the Aydar-Arnasoy lake system. // Dissertation submitted for obtaining the degree of Candidate of Biological Sciences. 2008. -B. 24-27.
3. R. Kenjaev. Tragedy of the Aral Sea. 2019.
4. Imomova D.A., Imomova Sh.A. Aydar-Arnasoy lakes system, primary results of chemical element composition of some water and soil samples. // Oriental Journal Of Geography Sijf 2023: 6.60
5. Imomova D.A., Sherimbetov S.G., Danilova E.A. Amount of macro and micronutrients in soil samples around the Aydar-Arnasoy lake system. // Bulletin of Agrarian Science of Uzbekistan 1(85) 2021
6. Imomova D.A., Imomova Sh.A. Life forms of plants distributed in the Aydar-Arnasoy lake system. // Bulletin of Agrarian Science of Uzbekistan 2 (86) 2021
7. Opredelitel rastenii Sredney Azii. - Tashkent: Science, 1968–1993.

T. II. - 1971. - 355 c.

T. III. - 1972. - 268 c.