



## **Aral Sea Disaster: Ecological and Social Consequences in Uzbekistan**

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**Annotation:** This article discusses the drying of the Aral Sea and its impact on the environment, economy and social life. The main causes of the drying of the Aral Sea, its ecological consequences and the socio-health problems that have arisen in the region are analyzed in detail. The article also outlines the measures taken by the government of Uzbekistan and international organizations to restore the ecological balance and restore the Aral Sea region. The Aral Sea tragedy shows the consequences of the disruption of the ecological balance not only for the region, but also for the whole world. The article highlights ways to solve this problem and global initiatives to preserve the environment.

**Keywords:** Aral Sea tragedy, Aral Sea, Ecological crisis, Amu Darya, Syrdarya, Desertification, Water resources, Environmental protection, Climate change, Ecology of Uzbekistan.



**Аннотация:** В статье рассматривается высыхание Аральского моря и его влияние на окружающую среду, экономику и общественную жизнь. Будут подробно проанализированы основные причины высыхания Аральского моря, его экологические последствия, а также социально-медицинские проблемы, возникшие в регионе. В статье также описываются меры, предпринимаемые правительством Узбекистана и международными организациями по восстановлению экологического баланса и региона Приаралья. Трагедия Аральского моря наглядно демонстрирует последствия нарушения экологического равновесия не только для региона, но и для всего мира. В статье рассматриваются пути решения этой проблемы и глобальные инициативы, предпринимаемые для сохранения окружающей среды.

**Ключевые слова:** трагедия Аральского моря, Аральское море, экологический кризис, Амударья, Сырдарья, опустынивание, водные ресурсы, охрана окружающей среды, изменение климата, экология Узбекистана.

The Aral Sea tragedy is recognized as one of the largest ecological crises in human history. The Aral Sea, which was one of the largest bodies of water in Central Asia in the mid-20th century, has almost dried up today. This phenomenon caused great damage not only to nature, but also to the health and economy of the region's population. This article discusses the causes of the Aral Sea disaster, its consequences, and solutions, including specific projects and statistics.



### Causes of the drying up of the Aral Sea

In the 1950s-1960s, the demand for water for the development of cotton monoculture in Central Asia, in particular in Uzbekistan, sharply increased. The main part of the Amu Darya and Syr Darya waters flowing into the Aral Sea was diverted to agricultural irrigation networks.

If in the 1960s the area of the Aral Sea was 68 thousand km<sup>2</sup>, then by the 2000s it had shrunk by 10%. The sea level dropped from an average height of 53 meters to 30 meters. The volume of water decreased from the initial 1060 km<sup>3</sup> to 100 km<sup>3</sup>.

### Environmental and social consequences

The drying up of the Aral Sea disrupted the ecology of the region. Salt and dust rising from the remaining seabed annually disperse up to 100 million tons.

As a result, respiratory diseases have increased 2-3 times in the Republic of Karakalpakstan and Khorezm region.

Between 1980 and 1990, the incidence of various cancers and anemia among the population of the Aral Sea region increased by 30-40%.



As a result of climate change, winters have become colder, and summers have become drier and hotter. The fishing industry completely disappeared, tens of thousands of people lost their jobs.

Measures and implemented projects:

A number of large-scale projects are being implemented to mitigate the Aral Sea disaster and restore the region:

1. The initiative "Transforming the Aral Sea region into a zone of environmental innovations and technologies" (announced by the President of Uzbekistan from the UN rostrum in 2018).

Goal: Ensuring environmental and economic stability in the Aral Sea region.

2. Project "Green Cover" in Karakalpakstan

Since 2021, salt-tolerant saxaul, tamarisk, and other desert plants have been planted on more than 1 million hectares.

3. "Aral Sea Disaster Mitigation Program" (ASBP)

Implemented with the support of the World Bank and the European Union.

Water-saving technologies are being introduced, and new jobs are being created.

4. Small Aral Sea Project (on the territory of Kazakhstan)

The Kokaral Dam was built over the Syr Darya River, and the North Aral Sea region was restored.

This project contributed to the partial restoration of fish farming and the mitigation of climate conditions.



The Aral Sea tragedy is an ecological crisis caused by human activity, with severe consequences for nature and society. In reality, this tragedy arose as a result of the misuse of water resources, disregard for the laws of nature, and the prioritization of short-term economic interests. As a result of the drying up of the Aral Sea, hundreds of millions of tons of salt and dust rose into the air, the process of desertification accelerated, the climate changed, and the lifestyle of thousands of people completely changed.

The importance of the environmental restoration work being carried out in the Aral Sea region today is enormous. The planting of millions of trees and shrubs serves to slow down the desertification process, stabilize the climate, and create new living conditions. The introduction of water-saving technologies and the creation of new economic opportunities for the population are becoming the main factor in the region's development.



The Aral Sea tragedy has become an important lesson for humanity: neglecting nature and disrupting the ecological balance can lead to the destruction of entire territories. Therefore, every state and every individual feels environmental responsibility.

of the Republic of Uzbekistan, taking environmental protection measures. The experience of the Aral Sea region will become a powerful signal for the world community to remember the consequences of failure to take timely measures.

To leave a healthy and sustainable nature for future generations, our actions today must be decisive, knowledgeable, and responsible. Although it is impossible to fully restore the island, we have the opportunity to preserve life around it, to create new opportunities for living, and all efforts must be combined to achieve this.

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