

The Negative Impact of Aral Sea Construction on the Health of the Population

Berdoq Alimova Uldaulet

Stage 3 Student, Karakalpak State University named after, Uzbekistan

ABSTRACT

The Aral Sea was once one of the largest terminal lakes in Central Asia. His last drying led to the drying up of his two tributaries of the river due to the erosion in the 1960s. Lake levels decreased by 23 metres high, the area decreased by 74%, the volume decreased by 90%, and salinity increased from 10 to 100 g / l, all this led to negative environmental changes, including a decrease in water species, the emergence of dust/salt. storms, degradation of delta biomes, climate change around its former coasts and serious health and economic impacts on the local population. Restoration and preservation of the remains of the deltas and two tributaries – Sirdarya and Amudarya-is very important not only for their ecological and economic importance, but also for the health and well-being of the surrounding population.

KEYWORDS: Amudarya; Sirdarya; Aral Sea; Karakalpakstan; pesticides; poisonous dust; anemia; respiratory diseases

The Aral Sea, which was an oasis in ancient times, is located between the Karakum and Kyzylkum steppes, and is fed by the waters of the high glaciers flowing into the two rivers of Sirdarya and Amudarya, which enter the sea from the North and South. respectively. Kazakhstan, Kyrgyzstan and Turkmenistan borders on the Aral Sea and in the South is located the Republic of Karakalpakstan, whose population (~1.5 million people) suffered the most from environmental devastation. In Central Asia, the contraction of the Aral Sea is one of the most vivid examples of the natural zone, which was destroyed by human activity. Its geography makes it an excellent research on pollution issues without borders. For almost thirty years, the use of water for irrigation of the monoculture of the goose, the widespread use of insecticides, pesticides, herbicides and defoliantes have brought about not only environmental, economic and social malaise for the permanent population, but also a sharp situation for human health. Large irrigation projects, which began in the 1950s, were very large in scale and did not attach much importance to the requirements of the downstream. Once upon a time, almost half of the flow of Syrdarya

and Amudarya reached the Aral Sea, and in 1980s in dry or moderate years the river water did not reach the sea at all. With the emissions of dust-flood from the parts of the island, atmospheric air pollution, dust storms lead to chronic diseases, especially respiratory diseases. In particular: chronic bronchitis, bronchial asthma, tuberculosis, as well as new specific diseases began to appear. The tragedy of the island began only with its drying. The excessive use of pesticides to get more harvest from agriculture has led to serious human health and environmental problems in the region, as well as strong toxic dust storms, along with increased salinity resulting from the drying of the sea bottom, the consequences of which have been documented by thousands of people who are miles away. This study is concerned with the economic and health problems in the Karakalpakstan region, which is associated with excessive use of pesticides due to the drying of the Aral Sea and agricultural productivity, as well as with toxic dust storms and their effects on the region and beyond. In addition, the restoration efforts will be discussed as a possible way to solve the problems of cross-border pollution in the future. Strong winds blow sand, salt and dust from

How to cite this paper: Berdoq Alimova Uldaulet "The Negative Impact of Aral Sea Construction on the Health of the Population" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-6 | Issue-2, February 2022, pp.529-530, URL: www.ijtsrd.com/papers/ijtsrd49274.pdf



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the drained bottom of the Aral Sea, a large part of which is located in desert and hit the surrounding lands. Since the mid-1970s, it has identified large salt/dust gangs taken from the satellite speed stretching down to 500 km from the wind, they throw dust and salt into a large area adjacent to the Sea in Uzbekistan, Kazakhstan and less Turkmenistan, and the alarming aspect is that they have found the highest concentration of dust in the most remote areas. As it was already said that the poisonous clouds of the island were carried to the mountains of the Himalayas and Belarus. In addition, a high salt content contributes to the melting of glaciers in the Pamir Mountains, where Central Asia adjoins Afghanistan, and the seas and rivers flow dry and aerosol-shaped salts, the most harmful of which include sodium hydrocarbonate, sodium chloride and sodium sulfate. In areas close to the island, a growing number of cases of respiratory system diseases and disorders, eye problems, throat and esophageal cancer are believed to be contributing factors to the air pollution.

The long-term impact of the of environmental pollutants on the health of the population began to be recognized. Diseases, in particular, anemia, tuberculosis, kidney and liver diseases, respiratory infections, allergies and cancer indicators are increasing. In Karakalpakstan, a high level of anemia is noted in almost all groups of women – 87 percent of adolescents, 91 percent of non-pregnant women and 99 percent of pregnant women. Anemia, which is the region's biggest health problem, has been plagued in the last 20 years. In the 1980s, only 17-20 percent of pregnant women were diagnosed with anemia. During pregnancy, this level worsens - about 70 percent of pregnant women in Karakalpakstan have severe anemia in the third trimester. One in every 20 babies is born with abnormalities, which is about five times higher than in European countries. Studies have shown that organochlorinated pesticides such as HCB, -HCH, pp-DDE and pp-DDT are significantly

higher in pregnant women's plasma, which is much higher than in European countries. The high content of such pesticides, which is detected in most samples of Karakalpak women, poses a serious threat to the mothers and their babies. The effects include changes in reproduction and fetal development, endocrine function disorders, neurohavioral changes, soft tissue cancer, dermatological damage, immunosuppression, and changes in liver function. All above mentioned reasons came to the conclusion that all natural resources in Karakalpakstan are due to the strong pollution.

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