

Geocological Problems and their Prevention in Kokand Oasis Landscapes

by

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Abstract

In this article, an analysis of 1.9% of Kokand oasis landscapes are exposed to wind erosion, 0.5 million hectares of saline land, 0.65 million ha of moderate to severe saline soils, 1-3, and some geo-ecological problems, such as increasing of mineralization by 5-10 g / l, is made. Suggestions for the best prevention of these geo-ecological problems are also given.

Keywords: Human activities, oasis landscapes, geocological conditions, anthropogenic factors, soil salinity, pesticides, winderosis.

Introduction:

The Soh River is one of the key factors in the formation and development of Kokand oasis landscapes. Only 0.8 % of this area is allocated for irrigated agriculture. The average annual air temperature in the oasis is 13 - 400 C and the precipitation is 98 mm. Due to the favorable natural conditions in the semi-desert, steppe and hill landscapes due to their geomorphological structure, the wide-scale development of people caused the spread of various types of landscapes.

The oasis of the oasis is a green area surrounded by deserts, highly developed under the influence of human activities, irrigation facilities and natural conditions. Scientifically speaking, it is a component of anthropogenic landscapes that have changed dramatically over the years as a result of human farming in a given area. The virgin landscapes are distinct from the natural, anthropogenic and cultural landscapes by their soil fertility and fertility, the amount of humus in them, their origin and origin.

Analysis:

The origin and formation of oasis landscapes have been studied by many foreign and local scientists. These include A. Isachenko (1965), E. Korovin (1962), P. Gulyamov (1966), A. Abdulkosimov (1983, 2017), Sh. Zokirov (1997, 2007), K. Boymirzaev (2007, 2018). However, some scientists have incorrectly distorted the landscape of the oasis and replaced them with desert landscapes. For example, in a number of his works, Y. Saushkin shows that the oasis is listed as cultural landscapes and mentions the Khorezm and Bukhara oasis in the deserts of Central Asia.

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Negative changes in the oasis of the region have been observed since the last decades of the twentieth century and from the beginning of the 21st century. In particular, as a result of the irrational use of water in the Kokand oasis lands and protected areas, salinization, swamping, intensification of irrigation erosion of cultural soils is observed. The development of scientific and methodological bases for improving the conditions of development is of particular interest.

Understanding Geocological problems understand socially significant situations that have arisen at the same time or within the region as a result of a negative balance between environmental pollution and self-purification.

It should be noted that 1.9% of the scattered landscapes in the Kokand oasis were subjected to wind erosion. According to it, due to wind erosion, small particles of soil, humus, and nutrients are lost in the soil, resulting in lower soil fertility and reduced crop yield. Particularly, restoring the fertility of soils may take several decades.

In the Kokand oasis lands, the saline area reaches 0.5 million hectares, of which 0.65 million ha of medium and strong saline soils. Dust and salt particles fall to the oasis of the area and weigh 600-700 kg/ha. we can see that the groundwater is about 1-3 meters above the irrigated land and their mineralization increases to 5-10 g / l. As a result of such problems, plants do not grow well, only saline plants that can adapt to the saline environment can grow and thrive; Photosynthesis and respiration slow down, metabolism slows down, organic matter accumulation slows down.

“Pravda Vostoka” The May 30, 1990 issue of the newspaper reported that in 1989, 85,000 tonnes of toxic substances were used in agriculture. According to him, the number of contaminants sprayed on each hectare was 20 kg. 28% of the total pesticides used are strong and hazardous (lead, mercury, fluorine, zinc, copper, cadmium, and others). In more than 50% of the region's landscapes, the Geocological situation reaches a “dangerous” level and various diseases related to agricultural products and the Geocological situation.

The United Nations Sustainable Development Program until 2030 addresses the challenge of “Conservation and restoration of land ecosystems, their rational use, rational forest management, combating desertification, stopping land degradation and preventing the loss of biodiversity.” specific goals.

To prevent Geocological problems of the Kokand oasis it is necessary to carry out the following scientific-practical measures. First and foremost, it is necessary to determine the current state of the different salinized landscapes in the irrigated area. Map of reclamation and salinization level of farmland and farmland salinity should be made on a large scale (1: 5000, 1: 10,000). Secondly, it is necessary to reconstruct the existing waterways. In the third place, it is necessary to determine the salt content, physical-mechanical properties, and soil fertility of the soil. In the fourth place is the modeling of the landscape based on the mechanical components, the determination of water regime, irrigation systems and irrigation systems. Fifth, it is advisable to plant-specific cultural plants to improve landscape reclamation by phytomelioration.

Conclusion:

In conclusion, it is important to take the following steps to preserve and optimize the efficiency of the Kokand Rayon landscapes: These are:

- i. The genetics, evolution, and irrigation properties of the steppe soils should be thoroughly studied as their properties and composition emerge as a result of human activities.

- ii. The brown, sandy, and humid soils in the desert are formed on different layers and differ in their fertility.
- iii. The desert-oasis soils are susceptible to wind erosion due to the mechanical composition of the sand and dust particles. In irrigated agriculture, these areas are, first of all, important for the development and implementation of measures to combat deflation and protection.
- iv. In the process of irrigation, the level of groundwater in the oasis of the oceans increases, making the soils more diverse. They also design vertical vagonisations of the system, and monitor the current programing and amelioration.
- v. It is advisable to implement measures to enhance biodiversity in soils and deserts.

Recommendations:

In order to overcome the geocological problems of the oasis lands, the following important actions are required:

- i. It is advisable that qualified agronomists make their recommendations to eliminate water-wasting due to improper and unauthorized use of water;
- ii. To improve the condition of the saline soils, drainage and leaching activities should be combined with other agro-ameliorative and water management activities;
- iii. To prevent and combat soil erosion, for this purpose it is necessary to implement a system of organizational, economic, agrotechnical, forestry-technical and hydrotechnical measures;
- iv. Effective use of cultivated lands is expected to yield the expected effects of adapting agricultural crops to landscape types, taking into account natural and economic geographical factors;
- v. Preservation of existing trees and shrubs should be carried out to prevent wind erosion;
- vi. Replacement of low-water crops in the groundwater areas of the oasis with high water intake;
- vii. Reclamation of existing anthropogenic landscapes, optimization of geographically unsuitable geographic complexes and restoration of their geo-ecological balance.

Improving landscape productivity, erosion and pollution protection as a result of the aforementioned requirements is one of the most important issues in monitoring and conducting research and monitoring, taking into account soil and climatic conditions of the region. is calculated. In summary, it is important to note that each country or region strives for further economic growth, prosperity and well-being of its people. For this purpose, first and foremost, the rational and planned use of natural resources should be our main goal.

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