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BY OPTIMIZING THE GEOECOLOGICAL SITUATION IN THE ZARAFSHAN OASIS WAYS TO STABILIZE SOCIAL AND ENVIRONMENTAL PROBLEMS

Аннотация: В статье подробно описаны причины геоэкологических проблем в Зарафшанском оазисе, меры по их устранению, причины экологической ситуации, влияющей на здоровье человека в оазисе, и пути их стабилизации. Определены меры, предложения и рекомендации.

Ключевые слова: экологическая ситуация, засоленность, загрязнение, экологическая устойчивость, оптимизация, сельское хозяйство, земля и водоснабжение.

Abstract: The article describes in detail the causes of geo-ecological problems in the Zarafshan oasis, the measures to be taken to eliminate them, the causes of the ecological situation affecting human health in the oasis and ways to stabilize them. Measures, proposals and recommendations have been identified.

Keywords: Ecological situation, salinity, pollution, ecological sustainability, optimization, agriculture, earth and water supply.

The Zarafshan oasis is one of the largest centers of civilization in Central Asia with a dense population and ancient agriculture. The impact of human activities on the nature of the oasis has been going on for thousands of years. Rapid population growth, the proliferation of large villages and cities, and the rise of chemicalization in agriculture are exacerbating the ecological situation in the oasis. In this regard, the study, analysis and assessment of the ecological situation in the oasis is one of the most pressing issues of our time.

The land fund of Zarafshan oasis is 2.6 million hectares. Of this, 2.3 million hectares of land are used for agriculture. The main part of 70.4 thousand hectares of arable land is planted with cotton, 49 thousand hectares are occupied by orchards and vineyards. Non-irrigated spring land accounts for 20% of agricultural land. Wheat, barley, oilseeds, legumes and fodder crops are grown on 80% of the arable land, 10% and 10%, respectively.

The Zarafshan oasis provides 20% of the country's grain, 17% of potatoes and vegetables, 100% of tobacco, 12% of fruits, 42% of grapes and 100% of raisins. 20% of orchards and vineyards in Uzbekistan are located in the Zarafshan oasis.

The Zarafshan oasis, which has long been a center of irrigated agriculture, is dominated by cotton plantations, which have become a farm monopoly. In such plantations, such activities as non-compliance with the rules of crop rotation for many years, non-compliance with agro-technical rules on cultivated soils, overuse of mineral fertilizers and pesticides to increase productivity, use of mineralized water for irrigation are associated with soil degradation and contamination with various chemicals. This, in turn, leads to a number of geo-ecological problems as a result of environmental pollution.

One of the factors exacerbating the geo-ecological situation of irrigated lands and creating a geo-ecological problem is the excessive use of mineral fertilizers on cultivated lands, especially cotton plantations.

The constant poisoning of arable lands creates socio-ecological problems that affect the health of people living in the oases. The urgent task today is to identify the causes and identify the measures that need to be taken to eliminate them.

In recent years, inorganic chemical compounds such as magnesium chlorate, calcium chlorate, crushed sulfur, copper powder, etc. are often used instead of the previously used chloroorganic and phosphoorganic pesticides. Due to the increased use of inorganic chemical compounds, the average content of irrigated soils is 1-2 times higher than the permissible level. Irrigated lands are the main producers, and due to the excessive use of mineral fertilizers, excessive use of pesticides, as well as non-compliance with the rules of crop rotation, the landscape of the oasis is facing an irreparable geo-ecological tragedy in the near future. may be encountered.

The geo-ecological consequences are very dangerous, but we do not always realize in time that they have a negative impact on all living organisms, even human health, and we can not assess the damage. Therefore, it is necessary to study the problem of pollution of the environment with toxic chemicals, the geoecological situation and its serious consequences for human health and wildlife.

Excessive use of mineral fertilizers in order to obtain high yields from irrigated lands is a temporary measure. However, agricultural experts need to be aware that the large amounts of toxic chemicals - mineral fertilizers and pesticides - that accumulate on irrigated lands every year are exacerbating the geo-ecological situation and harming crops, the environment and human health. In recent years, their negative effects have been felt in irrigated soils, cultivated plants, fruits and vegetables, and all living organisms. The increase in nitrites in irrigated agrogeocomplexes is affecting the biological properties of agricultural products, especially their quality. Therefore, due to the very low biological quality of the agricultural products currently supplied, they are not able to germinate for a long time. In recent years, their negative effects have been felt in irrigated soils, cultivated plants, fruits and vegetables, and all living organisms. The increase in nitrites in irrigated agrogeocomplexes is affecting the biological properties of agricultural products, especially their quality. Therefore, due to the very low biological quality of the agricultural products currently supplied, they are not able to germinate for a long time.

The main cause of hepatitis, gastrointestinal, lung, asthma, cancer and other diseases, which are very common today, is the impact of the geo-ecological situation caused by pollution of the environment with toxic chemicals and household waste.

To optimize and improve the current geo-ecological situation in geosystems of the Zarafshan oasis, including irrigated soil cover, to study the local and regional management of geochemical processes, metabolism and water-salt balance, which are activated by human activities and it is necessary to organize and conduct regular monitoring and identify measures to stabilize the environmental situation.

Analyzing the above geo-ecological problems, the following work should be done to ensure ecological sustainability in the oasis.

- Development of a regional ecological map of the Zarafshan oasis, a detailed description of them and the development of measures to address them

- Identification of the main sources of pollution based on the development and analysis of map schemes showing the sources of pollution of the nature of the Zarafshan oasis
- Assessment of pesticide contamination of landscapes, identification of adverse events in the oasis, control of pollution sources, monitoring of environmental protection
- Ensuring that the water consumed by the population is at the required level
- To study the geo-ecological changes taking place in the Zarafshan oasis under the influence of man and to take measures and proposals to solve the existing environmental problems and to implement them in practice.
- Make suggestions and recommendations for the prevention of soil pollution based on the results of scientific research
- Based on a comprehensive study of the Zarafshan oasis, a natural geographical description, as well as the development of proposals for its elimination by identifying sources of pollution in the nature of the area
- The implementation of the measures outlined in the solution of the above-mentioned geo-ecological problems can optimize the social ecological problems by stabilizing the ecological situation in the oasis. Sustainable development is the key to scientific research, analysis and response to environmental problems in the country.

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