

OPTIMIZATION OF SUSTAINABLE USE OF AGROLANDSCAPES

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Annotation: The article addresses the interpretation of agricultural landscape concepts, agroecological conditions that have a positive impact on maintaining the fertility of irrigated lands and preventing erosion processes, theoretical aspects, and results of practical experience of agricultural development in desert areas in the case of Norin district.

Key Words: agrolandscape, agroecosystem, natural-territorial complex, biocenosis, erosion, ecosystem, soils.

Introduction

Today, the deterioration of the ecological situation, which is one of the urgent problems of agriculture, prompts specialists in the field to develop measures to preserve and protect the natural environment from unpleasant consequences. Naturally, it is impossible to solve all agro-ecological problems that have arisen in the near future, but it shows that the main problems that form the main basis of agricultural production must be under the constant control of scientific researchers.

First of all, we will dwell on some definitions of the agricultural landscape given by experienced geographers, landscape scientists and environmental scientists. V. A. Nikolayev (2011) gave the following definition of agricultural landscapes. Agrolandscape is the essence of land management, bringing the functions of agroecosystems closer to the functions of natural ecosystems, using the accumulated experience to create landscapes with ecological balance and stability. In other words, a person should imitate natural processes with his activities, that is, he should not disturb the balance of an unrepeatable piece of nature [2].

Methods.

V. V. Udalov, O. G. Nazarenko (2003) took into account the functions of the agricultural landscape and gave the following definitions. An agroecosystem is a stable ecosystem that is artificially created and regularly maintained by humans for the purpose of producing agricultural products. Agroecosystems are components of agrolandscape. Agrolandscape is a set of different ecosystems in nature united by a single production and territorial principle [3].

Discussion.

Agricultural landscape (agrolandscape) is a landscape that has been modified for the purposes of agricultural production and under the influence of environmental stabilization and self-maintenance of many functions. Formation of agricultural landscapes is carried out as a result of reorganization of natural and economic systems on the basis of natural landscapes.

The main goal of the agricultural landscape is the maximum possible production of agricultural products from the existing climatic conditions. But increasing the productivity of agricultural landscapes as a result of chemicalization leads to environmental pollution. An increase in the slope of the earth's surface leads to an increase in the processes of erosion in cultivated fields. This determines the need to implement measures to optimize agrolandscapes.

Agrolandscapes are a joint creation of nature and man and perform the function of natural-anthropogenic formation. Its structure and activity, although based on natural principles, are purposefully changed by man. They should be under human control and to a certain extent controlled by him. The modern agricultural landscape is not just a changed natural-territorial complex, but a multi-component formation with its own natural and economic genesis, phytocenotic appearance and ecological situation. It represents not only a mechanical combination of natural and agricultural components, but also a more complex new formation with all the signs of emergence in its organization.

Results.

Agricultural use of land and water resources in our country, agro-landscape, agro-ecological research in the direction of A.A. Abdulqasimov, L.A. Alibekov, L.N. Babushkin, Sh.S. Zokirov, A. Maksudov, A.A. Rafikov, K. Boymirzayev, oasis landscapes in the Ferghana Valley , and scientific researches on Kashkadarya region were carried out by scientists such as I.A. Khasanov, S.A. Nishonov. In the following years, S.I. Abdullayev, M.A. Fayzullayev, among the scientists of Karshi State University. I.Kh. Jonkabilov and M.G. The Nazarovs conducted research on the geoecological conditions of Kashkadarya region's land and water resources, anthropogenic landscapes, and ecosystems, and created maps in this regard.

The agricultural landscape is characterized by ecological instability. The balance of the agrolandscape is ensured by the system of agrotechnics, melioration and environmental measures. In the analysis of the state of agricultural landscapes, the steepness, length, shape and exposure of the surface slopes, the size of the contours, the hydrological regime, the type, variety and degree of soil erosion, the distance of water sources from the farm, agricultural It is necessary to take into account the influence of uncultivated land, reclamation systems and the presence of roads connecting the area.

Agro-ecological assessment of land in agro-landscapes is carried out based on the comparison of the requirements of crops for growth conditions with the agro-ecological conditions of a certain area and their biological requirements for environmental impact and agricultural technologies. The agro-ecological assessment of lands is an assessment of their productivity, in which it is determined how profitable it is to grow one or another crop in a certain area [1].

The agrolandscape should not be monotonous, because the decrease in the diversity of the types of land resources in them reduces the resistance of agrocenoses to drought, pests of agricultural plants, etc. If its components (arable land, forests, meadows) are equal to 30% for each component, it will be possible to form a sustainable agricultural landscape. For example, the total land area of

Nishon District is 211,100 hectares, all agricultural arable land in the district is 52,100 hectares, that is, 25.1% of the total area is irrigated. Perennial tree plantations in the district are 1.3 thousand hectares, of which: orchards 0.8 thousand hectares, vineyards 0.3 thousand hectares, orchards 0.3 thousand hectares, pastures 102.4 thousand hectares, in addition to residential estates (arable land) is 3.1 thousand hectares [5].

In the Karshi desert, agricultural industries - cotton growing, grain growing, vegetable growing, policing, viticulture, horticulture, along with the main specialized branches of animal husbandry are formed. Despite the initial establishment of the Nishan district in the Karshi desert, only a quarter of its area is arable land, and 50% of its territory is used as pasture all year round [6]. The soil and climatic conditions of Nishan District are favorable for the development of agriculture. Average annual rainfall is 250 mm. This area receives the most solar radiation in our country. The amount of annual radiation here is 8700-7000 mdj/m. sq. up to.

Another feature of the district is that it is located in the south of the region, on the one hand, between the ancient irrigated farming region and the sandy-rocky Sandiqli desert, which is strongly influenced by dry and hot winds from the south-west, but cold from the north-west. the winds arrive slightly altered. The main Karshi canal, which receives water from the Amudarya, and its branch, the Kasbi canal, pass through the district. At the same time, waste water collected in the regional collector-drainage stations passes through the district through the southern collector.

The irrigated farming areas in Nishan district are located at an altitude of 280-450 meters above the sea level, so they are in a very hot and dry hydrothermal zone, thermal resources are 5300-4900 degrees. Such agro-climatic conditions are very favorable for the cultivation of late-ripening, thin-fiber varieties of cotton. Nishan region is very suitable for alfalfa, it can be harvested 5-6 times a year [7]. The use of thermal opportunities for the cultivation of late-ripening varieties of

grapes is twice as much as in the foothills of Qamashi and Yakkabogh districts. When planting rice, it is necessary to have TRFK - 1.38 - 1.60, so that such an opportunity is enough to get an abundant harvest of rice when there is water in the irrigated areas of Nishon district.

Agro-ecological aspects related to its geographical location complicate the agro-climatic characteristics of the Nishan district and require additional measures to be taken in the use of agro-landscapes in the district. Another aspect is that the land of the district decreases from 450 meters to 250 meters from the sea level from north-west to south-west. The lands of farms such as "Aqoltin", "Navbahor", "Shirinabad", "Dostlik", "Samarkand" are connected to the hills in the east, which has led to the development of soil erosion in agricultural areas. The agroclimatic assessment of the territory of Nishan district under the influence of the mentioned natural geographical and anthropogenic factors is an important area of the ecological geography of the region that needs to be researched.

As a result of low-quality soil cultivation, excessive application of mineral fertilizers, excessive use of toxic substances against pests, improper implementation of land reclamation works, groundwater is polluted and erosion occurs, soil fertility is reduced. is decreasing, the land is becoming saline [8]. Soil salinity is one of the reasons that disrupts the ecological balance in agriculture. According to the information on soil salinity level of irrigated land areas of Kashkadarya region (0-100 cm thickness), 34625 hectares of land area is saline. In our research of highly saline areas, the saline areas of Nishan district farms are as follows: Samarkand farm 3078 ha, Turkmenistan farm 3052 ha, Khamza farm 3180 ha, Aydin farm 2983 ha, Ibn - 2212 ha in Sino farm. is The most strongly saline areas are 640 hectares in the Aydin farm. The soils scattered in the target districts are very prone to salinity, and they are always in need of irrigation and drainage reclamation [9]. It is evidence that the soils of the Karshin desert were formed due to the high level of salinity and the rise in the level of underground water. The size of the saline areas in these regions is due to the location in the arid

zone of the Karshi desert and the high level of evaporation in the soil and soil cover. Consequently, the absence of constant surface flow, the presence of dry riverbeds, the high salinity of soil and soil, and much more evaporation compared to precipitation are typical for the Karshi desert [10]. As a result of land development without taking into account the specific characteristics of the Kary desert, processes such as soil washing, various manifestations of erosion phenomena, and the rise of the underground water level are observed in large areas. As a result, many damaged landscapes were created. The main ways to increase soil fertility in the district are good tillage, irrigation, moderate use of mineral fertilizers, soil fertilization, salt washing, crop rotation and other agrotechnical measures.

Conclusion.

In conclusion, in the following years, as a result of the development of erosion in the region, the worsening of the problem of soil cover degradation is associated with the increase in the intensity of anthropogenic effects. But the stability of agriculture depends not only on the fertility of the land. In this case, the creation of land on the basis of agrolandscape is also of great importance, with the help of which new agrolandscapes that meet the requirements of nature use are created. It is known from the obtained results that in this case the ratio of land is individual and depends on the natural conditions of the area.

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