

GEOECOLOGICAL ASPECTS OF INCREASING THE EFFICIENCY OF USING THE LANDSCAPE AUTHORITY OF KARSHI DESERT

Mukumova H.I, Rasulova L. Ya, Bozorova S.

Karshi State University

Annotation: *In this article, the uniqueness of the natural conditions of the landscapes of the Karshi desert and the scientific importance of using them from an economic point of view are studied. The characteristics of agrolandscapes belonging to the category of anthropogenic landscapes of the desert were analyzed.*

Key words: *landscape, anthropogenic landscape, agrolandscape, natural anthropogenic landscape, pasture landscape, man-made landscape, sacred landscape*

ГЕОЭКОЛОГИЧЕСКИЕ АСПЕКТЫ ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ ИСПОЛЬЗОВАНИЯ ЛАНДШАФТНЫХ ОРГАНОВ ПУСТЫНИ КАРШИ

Аннотация: *В данной статье исследуются уникальность природных условий ландшафтов Каршинской пустыни и научная значимость их использования с экономической точки зрения. Проанализированы характеристики агроландшафтов, относящихся к категории антропогенных ландшафтов пустыни.*

Ключевые слова: *ландшафт, антропогенный ландшафт, агроландшафт, природный антропогенный ландшафт, пастбищный ландшафт, рукотворный ландшафт, сакральный ландшафт.*

The analysis of the features of landscape change under the influence of anthropogenic factors in the Karshi desert area shows that the change of natural complexes here is not only the result of the change of one or another component, but also between the components and morphological parts. is also related to the exchange of matter and energy between them. In other words, the change of vertical and horizontal relationship in the landscapes causes the change of the landscapes.

The level, scale and speed of landscape change under the influence of anthropogenic factors in the Kary desert are different. Here, the degree of change of landscapes is related to their natural features, on the one hand, and to the level of human influence on landscapes, on the other hand. The natural characteristics of landscapes, such as self-management and regulation, strength or weakness of regenerative features, resistance or resistance to external forces, including human activities, have occurred differently in different landscapes. At the same time, the forms of human activity are also very diverse. In the conditions of agriculture,

pastoralism, mining, and water management, various modified categories are created.

It is known that at present, landscapes whose structure has been fundamentally changed due to human activity are called anthropogenic landscapes in geography. The influence of human activity in the Kary desert has caused the change of landscapes to different degrees and led to the spread of colorful landscapes according to the level of anthropogenic change. However, it would not be correct to include all the landscapes that are currently distributed in the Karshi desert into the group of anthropogenic landscapes. For this reason, we consider it appropriate to divide the Karshi desert landscapes classified by S. Abdullayev into a) natural, b) natural anthropogenic and c) anthropogenic landscapes. As a result of the classification of the current landscapes into such groups, the development of measures to optimize and protect the natural potential of landscapes from the point of view of economic activity is one of the important factors.

In our opinion, the methods recommended by F.N. Milkov (1972) and A.M. Ryabchikov (1972) for the classification and mapping of anthropogenic landscapes can be used to change the landscapes of the Karshi desert under the influence of anthropogenic factors and the formation of anthropogenic landscapes. can be used for learning.

F.N. Milkov and A.M. Based on Ryabchikov's classification of anthropogenic landscapes, we divide the current landscapes of the Karshi Desert into the following classes and groups:

- A. Natural landscapes
- B. Pasture-anthropogenic landscapes
 - I. Pasture landscapes
 - V. Anthropogenic landscapes
 - I. Agricultural landscapes (agro-landscapes)
 - a) Landscapes of irrigated lands (agro-irrigation landscapes)
 - 2. Landscapes of dry lands (with the landscapes of dry lands).
 - 3. Seliteb landscapes (village settlements).

4. Man-made landscapes.

In the Karshi desert, the largest area is made up of landscapes related to agricultural production, and they are called agro-landscapes in geographical literature. Among the agro-landscapes, the largest area is occupied by the landscapes of irrigated lands, which are called agro-irrigation landscapes due to the radical change of the structure.

A.M. Ryabchekov (1962) distinguishes the types of anthropogenic landscapes based on the forms of production activities. Based on this classification, the following types of anthropogenic landscapes can be distinguished in the Karshi desert: I. Related to construction and mineral production: a) Cities and industrial-energy nodes

b) Villages

c) Surface communications

g) Artificial reservoirs and canals

d) Quarries related to the extraction of mineral raw materials, oil and gas rigs, etc.

II. Related to land reclamation:

a) Irrigated lands-fields, gardens, vineyards, meadows, fields:

III. Lalmikor is related to agriculture:

a) Fields

b) Gardens and plantations of perennial crops

c) c) patrov and dry lands;

IV. Related to animal husbandry;

a) phytomeliorated grasslands and hayfields

When mapping anthropogenic landscapes, it is appropriate to divide them into the following classes:

1. Agricultural landscapes - agro-landscapes.

2. Man-made landscapes

3. Selected landscapes

4. Sacred landscapes

The agro-landscapes associated with agriculture are the most widely spread anthropogenic landscapes in the Karshi desert. Therefore, we describe in more detail the geocological activities aimed at increasing the productivity and protection of landscapes belonging to this group.

The creation of agrolandscapes is directly related to the agricultural activities of people. Therefore, anthropogenicization of natural landscapes based on irrigation in arid climatic conditions is the most effective activity from an economic and ecological point of view.

Irrigated agriculture has a long history in the Karshi desert. Not only the local water resources, but also the water basins of the neighboring river basins were used for irrigation here even before our era. In the aerial photographs of the Karshi desert, traces of ditches built for irrigation in the past, contours of fields can be distinguished. However, large-scale irrigation works began in the 60s of the 20th century, in connection with the creation of the energy base in the country. During this period, 200,000 new lands were acquired in the Karshi desert and started to be used for agriculture.

The expansion of agro-irrigation landscapes in the Karshi desert led to a change in the dynamic balance embodied in nature. Hydrotechnical and agrotechnical measures related to irrigation have positive effects from an economic point of view, as well as an increase in undesirable processes that harm production from an ecological point of view, destruction of soil structure and humus removal, changes in biological and physico-chemical properties, and this also caused development. The intensification of such processes naturally leads to a decrease in the yield of agricultural crops, and in some cases, studies have shown the beneficial effect (amount that can be absorbed by plants) of mineral fertilizers that are produced under current technological conditions and are widely used in agricultural practice. shows that it is not very big.

The gradual development of the processes that cause a decrease in the productivity of agro-irrigated landscapes requires the rational organization of their use in agricultural production on a scientific basis and the establishment of a set of

measures that are both ecologically and economically effective for the purposes of effective use of their resources. Therefore, the production of geological maps based on the study of the natural characteristics of agro-irrigated landscapes and their conditions of change under the influence of anthropogenic factors is of great practical importance. To do this, first of all, using various methods, monitoring the conditions of changes in anthropogenic landscapes and their components (especially changes in the level of groundwater, soil changes, etc.) would be appropriate.

The following are the main factors that negatively affect the productivity of agroirrigated landscapes.

a) Changes in soil-forming factors, increased irrigation erosion;

b) Reshaping of the hydrological regime of irrigated lands and their immediate surroundings, rivers, reservoirs, and underground waters are widely used in the fields of mineral fertilizers, protection of agricultural crops, and against weeds. contamination with sewage containing harmful chemicals due to the washing of chemicals;

g) Change of microclimate conditions;

Thus, agro-irrigation, created by irrigation on irrigated lands, is aimed at increasing the productivity of landscapes, first of all, by identifying and mapping landscapes (or morphological units) undergoing processes unsuitable for agricultural production, and then at slowing down or completely eliminating them. reclamation measures should be carried out. These activities must be carried out based on the features of the landscape.

The formation of certain types of agrolandscapes in the Kary desert is related to the use of seasonal moisture resources in arid climatic conditions. The anthropogenic landscapes that are formed in dryland cultivated lands are also close to the agroirrigated landscapes of irrigated lands due to the change in their structure. relatively "lighter" under anthropogenic influence (during a certain season). Therefore, there will be no fundamental changes in the relief and microclimate.

In Kashkadarya region, about 280,000 hectares of land (24,000 of which are semi-arid lands) are cultivated. Because the yield of agricultural crops in dry lands depends on the amount of atmospheric precipitation that falls in the spring months. That is why it is impossible to grow agricultural crops on dry lands in dry spring years. In the Karshi desert, the main massifs of dry lands are located on the sloping plains before the mountains, in the areas where light gray soils are scattered. Depending on the climatic conditions, dryland farming is not carried out in Kasbi, Nishon and Mirishkor districts.

Grain crops are mainly grown in dry lands. Also, there are opportunities to improve livestock feed base in dry lands. The location of dry lands mainly on sloping plains increases the tendency of the soils in these lands to erosion processes. Therefore, anti-erosion measures should be determined when using dry land landscapes. Especially in the summer months, the air is dry and it causes destruction of the fertile surface layer of the soil.

Ikhotozors are very important in preventing or slowing erosion processes in dry lands. Ikhotozors provide an opportunity for better soil moistening due to reduced evaporation, moisture accumulation in winter and spring, and reduction of the tendency to fly away (deflation) of soil particles as a result of slowing down the speed of winds.

Large areas in the Karshi desert have been used since ancient times as pastures for grazing cattle and hayfields for preparing winter fodder. Due to the climatic conditions and the long duration of the vegetation period, it is possible to graze cattle in these fields almost throughout the year. For this reason, the structure of the landscapes in the areas used as pastures has been slightly changed, but since these changes do not belong to fundamental changes, pasture landscapes can be included in the category of natural-anthropogenic landscapes of the current landscapes.

As noted above, the productivity of pasture landscapes in the Karshi desert is not very high. Therefore, it is necessary to develop a system of measures to increase their productivity. According to the natural conditions, the experiments

conducted in the regions close to the Karshi desert showed that it is possible to increase the productivity of pastures by 3-4 times by planting fodder crops adapted to local conditions. Artificial pastures with higher productivity should also be established on irrigated and dry lands.

The area of pastures here has been shrinking since the years when the complex development of the Karshi desert began. But at the same time, due to bringing water to the desert, water was released to all pastures, and as a result, conditions were created for the improvement of their water supply. Development and use of pastures should be carried out taking into account the characteristics of natural conditions and resources (climate, soil and plants). For example, seasonality of grasses and types of plants should be organized on the basis of their use in pastures, taking into account the number of hooves of cattle, it is necessary to properly organize livestock grazing in pastures throughout the year.

Serious attention should be paid to increasing the productivity of the landscapes of the Karshi desert that can be used as pastures and their protection. Because all types of pasture soils are under the influence of erosion processes expressed to different degrees, depending on the features of the relief, as mentioned above. Also, the use of pastures without taking into account the bioecological conditions of the plants in the vegetation cover makes it difficult for the regeneration of plant resources and leads to the thinning of the vegetation cover.

In the western regions of the Karshi desert, the excess of the number of hooves compared to the feed "capacity" of the pastures led to the complete appearance of the plant cover in many areas, and to the illumination of the possibilities of regeneration, it is obvious that the open plots and launch pits were created. is thrown into z. This is especially evident around wells. It is especially evident around wells.

In the use of landscapes as pastures, it is necessary to increase biological productivity of plant cover and bioecological conditions of plants, and to increase pastures with reduced productivity by planting nutritious crops.

Summary. The change of landscapes and the current state of the natural environment in the Karshi desert is also related to the strong man-made effects on them. The construction of Mubarak gas processing, Shurtan gas extraction, Shurtan gas-chemical complex, Mubarak gas compressor station and other huge industrial facilities in this area, the ongoing geological and prospecting work have led to fundamental changes in the landscape. was also the basis for the creation of the technical structure.

It is necessary to take into account the influence of man-made factors in the rational use of the natural potential of the desert landscape and the organization of environmental protection. Especially the stability of the delicate desert ecosystems and their resistance to external anthropogenic influence are important for the construction of industrial facilities and their development. requires comprehensive environmentalization of the impact of man-made factors in organizing the production process. Therefore, the influence of man-made factors should not be ignored in the organization of effective and reasonable use of the natural potential of Karshi desert landscapes.

References

1. Abdullaev S. I., Murtazaev B. Ch., Nazarov M. G. Natural potential landscape //Life Sciences and Agriculture. – 2021. – no. 1 (5). - S. 135-140.
2. Nazarov M.G., Rasulova L., Ermuminov B. Classification of desert landscapes and their geocological status // Economics and society. – 2023. – no. 4-2 (107). - S. 221-224.
3. Nazarov M., Murtazaev B., Yakshiboev B. Scientific and theoretical basis of research of anthropogenic landscapes //Economics and society. – 2022. – no. 3-2 (94). - S. 726-731.
4. Milkov F.N. Human and landscape. Essay on anthropogenic landscape science. -M.: Mysl, 1973. -224 p.
5. Nazarov M. G. Facilities of plain landscapes of Uzbekistan and sustainable development //European Science Review. – 2018. – no. 9-10-1. - S. 88-90.
6. Geldiyorovich N.M. The variety of anthropogenic landscape and the scientific theoretical basis of their classification //American Journal of Interdisciplinary Research and Development. - 2023. - T. 14. - S. 127-132.
7. Ryabchikov A.M. Structure and dynamics of the geosphere, ee estestvennoe razvitie i izmenenie chelovekom.-M.: Mysl, 1972.-224 p.
8. Khaitbaev, A., Yarashev, K., Karimov, Y., Nazarov, M. (2024). Anthropogenic transformation of oasis landscapes in Khorezm Province, Uzbekistan: A geocological analysis. In E3S Web of Conferences (Vol. 497, p. 02043). EDP Sciences
9. Abdullaev S.I.,Mukumova H.I., Nazarov M.G. Ecological and geographical problems of agriculchural water use in Central Asia. Journal of Geography and Natural Resources SJIF 2022: 6.037