



## Functional Integrity Of Oasis Landscapes And Their Study As Dynamic Geotism

Mirzahmedov Ismoiljon Karimjon ugli<sup>1</sup>, Abbasov Subkhon Burkhonovich<sup>2</sup>, Boymirzayev Karimdjon Mirzakhmedovich<sup>3</sup>

<sup>1,3</sup>Department of Geography Namangan state University, Samarkand 140104, Uzbekistan,

<sup>2</sup>Department of Geography, Samarkand State University, Uychi street 160136, Uzbekistan

[mirzahmedovismoil@mail.ru](mailto:mirzahmedovismoil@mail.ru)

**Abstract:** The article describes the dynamic changes in the landscapes of the Fergana Valley oasis, their study as a separate geosystem. It also provides recommendations on landscape – environmental processes in the oases and their elimination.

[Boymirzaev K, Abbasov S. **Functional Integrity Of Oasis Landscapes And Their Study As Dynamic Geotism**. *m.Nat Sci* 2021;19(5):44-45]. ISSN 1545-0740 (print); ISSN 2375-7167 (online). <http://www.sciencepub.net/nature> 6. doi:[10.7537/marsnsj190521.06](https://doi.org/10.7537/marsnsj190521.06).

**Keywords:** Oasis, landscape, geosystem, landslide, suffocation, reclamation, agrophytocenosis, degradation.

### 1. Introduction

The use of land for various economic purposes, agricultural development and reclamation in landscapes, the study of areas using different methods for horizontal and vertical stratification of landscapes and their structure using functional-dynamic integrity are among the current issues. is calculated.

The influence of various factors on oasis landscapes, the peculiarities of the formation, distribution and sustainable development of oasis landscapes, oasis landscapes formed in oasis and their gradual change, the issues of natural geographical zoning require serious research.

A number of measures are being taken in our country to ensure the efficient use of irrigated lands, improve the culture of farming, intensively increase the productivity of agricultural crops, produce high quality, environmentally friendly products for the world market. It is important to study anthropogenic landscapes and oasis landscapes that are part of them, to separate, delimit, classify and map morphological units for different sectors of the economy, to analyze the geochemical composition of landscapes, to develop ways to use them effectively [1; 42-43 p.].

Over the past years, the reclamation of 1.7 million hectares of irrigated land has improved. Groundwater levels have been reduced by almost 500,000 hectares, or one-third, at the heaviest levels, up to 2 meters, and by 100,000 hectares, or 12 percent, of heavily and moderately saline soils. Cotton yields increased by an average of 2-3 quintals per hectare and cereals by 3-4 quintals per hectare in the reclaimed areas. Although our main resource, irrigated land, is scarce, it is far from expanding as our population grows. This is due to the fact that during the 1980s and

1990s, an average of 90,000 hectares of new land was developed annually in the country, while in recent years the shortage of water has reached 5,000-6,000 hectares. More than 50 percent of irrigated land is saline and reclaimed due to poor land reclamation and decommissioning. Such negative phenomena are observed in all landscape types of the Fergana Valley [3; 14-23 p.].

### 2. Material and Methods

The location of human economic activity and production is directly related to natural geographical conditions and regional landscape complexes. At the same time, natural conditions and landscape complexes themselves change under the influence of anthropogenic factors [1; 42-43 p.]. This leads to an increase in the interaction between society and nature, which leads to various disorders in the metabolism of matter and energy. Such processes, which have been going on for many years, have led to a disruption of the balance between the natural landscape and the anthropogenic landscape. While the Earth's landscape has dominated the structure of the Earth's crust to date in terms of area, anthropogenic landscapes may play a dominant role in the near future [5; 84-86 p.].

The strong anthropogenic impact on the nature of the Fergana Valley, along with the emergence of cultural landscapes, also causes landscape-ecological problems. When observing the landscapes of the mountains surrounding the valley, the mountain-forests are sparse, in some cases trees are cut down, the slopes are very carved - deep, steep cliffs, soils are washed away, rocks are exposed as a result of erosion unpleasant scenes are conspicuous. Such processes have led to frequent floods and

landslides in recent years, especially catastrophic floods almost every year [2; 23-36 p.]. The establishment of forests and artificial forests on the slopes is one of the factors that prevent natural disasters and maintain the balance of mountain landscapes. In the Ferghana Valley, for example, long-term forest reforestation programs in neighboring countries can be complicated and complex natural processes related to climate and water can intensify if they are not implemented.

### 3. Results

Unfavorable environmental processes in the foothills and hills of the Fergana Valley are one of the biggest problems in protecting the nature of the valley. This is due to the fact that the extensive development of agriculture in the region for many years, the irrational use of pastures for livestock grazing is one of the reasons for the strong development of floods and erosion. These events have led to the fact that the soil cover on the hills is not thick, and sometimes completely washed away, and the lysosim deposits have already been eroded. The mass development of the hills, rather than the selective ones, has led to a negative change in the ecological environment of the region's landscapes [4; 43-56 p.].

In the hills, some of the water used for irrigation flows as wastewater and some as filtration water is absorbed into the ground. Once the filtered water reaches the impermeable layer, it moves according to its configuration, approaching the surface in some places. Such groundwater in the hills is mineralized, accelerating re-salinization in the floodplains. Secondary salts are formed in the upper part of the deposits and contain more than 1.5-2% of water-soluble salts, mainly sulfate and chloride ions. Degraded geocomplexes with such negative characteristics require soil reclamation. However, the construction of collector ditches and salinization does not solve the problem. The first step is to find and implement the best ways to develop the hills. It is advisable to irrigate agricultural crops using water-saving irrigation methods to prevent the formation of wastewater and water filtration [3; 48-54 p.].

Oases that do not take into account the specific characteristics of the oases include processes such as soil erosion, various types of erosion, rising groundwater levels, salinization and salinization. To prevent such unpleasant geo-ecological problems, it is expedient to develop management measures for the

rational use and protection of oasis landscapes formed in the valley.

### 4. Discussions

The concept of sustainable development, recognized and implemented in the world, including in our country, is based on the equality of natural, economic and social spheres. The rational use of all aspects of nature, their conservation, reclamation, protection, finding solutions to existing environmental problems are the basis for the functional integrity of oasis landscapes and their sustainable development as a dynamic geosystem.

### Acknowledgements:

Grounds: The authors are grateful to the Department of Science and Technology of the Republic of Uzbekistan for financial support for this work.

### Corresponding Author:

Dr. Boymirzaev Karimdjon Department of Geography  
Namangan state University,  
Namangan 160136, Uzbekistan  
Telephone: +998943462922  
E-mail: [mirzahmedovismoil@mail.ru](mailto:mirzahmedovismoil@mail.ru)

### References

- [1]Mirzahmedov I.K. Response Of The Groundwater Regime Of The South Fergana River Basins To Global Warming // New York Science Journal. №3 (14), 2021. –P. 1-4.
- [2]Boymirzayev K.M., Mirzahmedov I.K. Specific features of formation and development of oasis soils in fergana valley. Science and education scientific journal. ISSN 2181-0842. Volume 1, Issue 2. 2020.
- [3]Boymirzaev K.M., Mirzahmedov I.K. Oakh Landscapes and Their Creator Factors Study. The American Journal of Applied Sciences. ISSN 2689-0992. Volume 02, Issue 09. 2020.
- [4]Mirzahmedov I.K. Use And Protection Of Natural Resources Of Kokand Oasis // Nature and Science. №12 (18), 2020. –P. 49-52.
- [5]Raxmatullaev A. Forecasting the ecological situation in oasis geosystems // Information of the Geographical Society of Uzbekistan. –Tashkent, 2009. Volume 33 –B. 84-86.