

**GEOECOLOGICAL CHANGES IN THE USE OF THE NATURE OF
THE FERGANA VALLEY**

Annotation: This article covers the geoecological changes in the use of the nature of Fergana Valley, the impact of natural and anthropogen processes on them.

Key words: Nature, geoecological changes, anthropogen landscapes, irrigated land, agrofytocenoses, surface and groundwater.

The transformation and evolution processes taking place in the natural landscapes are gradually moving from quantitative changes to qualitative changes, bringing into being new anthropogen landscapes and creating conditions for their sustainable development. Due to the influence of human economic activity on nature, not only natural, but also anthropogen landscapes and without changing some of their components, changes in their morphological structure have occurred and are taking place.

It is necessary to use natural resources wisely, maintain the convenience of natural conditions, protect not only natural landscapes, but also enrich them and maintain the stability of the natural balance between their components. Because the miracle created by man can be reconstructed, but the miracle of nature, which is destroyed, cannot be restored.

The Fergana Valley is characterized by a variety of landscape complexes as a result of changes in natural conditions and geotisms from other regions of Uzbekistan to the region of latitude and altitude. At the same time, the territory of the valley is characterized by the fact that from ancient times obikor pleasant farming was well developed and its nature was strongly assimilated due to human economic activity.

In the Fergana Valley, where the most densely populated natural landscapes are distinguished from other regions as a highly transformed region under the influence of anthropogen factor, there are favorable natural geographic conditions and

landscapes for the development of agro-economic and various industrial sectors and recreation systems.

The first natural landscapes, as a result of which the plains that make up the main part of the Fergana Valley, the range of Adiruldi, the plains of between hills, all the spreading of rivers and shadows, have long been used in the farming of high yielding and ruby, are replaced by anthropogenic and natural – anthropogenic landscapes. In fact, Fergana Valley is a region with favorable natural geographic conditions and economic potential for the wide development of industrial and agricultural sectors, whose nature has been engaged in economic activity of people from time immemorial and is still widely used. (A.A. Abdulqosimov, 1966, 2010).

In the region, cases such as the overexpression of anthropogenic influence, i.e., the non-use of land, water resources, ignoring the reclamation conditions of the land, the inability to carry out exchanging planting, the improper use of feedings, lead to a violation of the ecological balance. This leads to the development of natural–anthropogenic processes in all landscape regions of the Fergana Valley, such as salinity, water erosion, precipitations, surges, suffocations. The sharp impact of human economic activity has been the cause of the emergence and formation of a number of types of landscapes such as new agri, gidrogen, urban and rural seliteb.

Over the past years in our country, the land reclamation situation of 1 million 700 thousand hectares of irrigated land has improved. The land on the surface of the Sizot water at the most severe level, that is, up to 2 meters, was reduced to a shallow 500 thousand hectares or one-third, while the strong and moderately saline lands were reduced to 100 thousand hectares or 12 percent. In the crop areas where melioration activities were carried out, cotton yield increased by an average of 2 – 3 cents per hectare, while grain crops with a spike increased by 3 – 4 cents per hectare. Despite the low area of irrigated land, which is our main wealth, the increase in the number of our people is extremely low. This is due to the fact that in 1980 – 1990 years in our republic on average, new land was mastered from 90 thousand hectares per year, and later in 2010 – 2018 years due to water scarcity, it forms 5 – 6 thousand hectares. More than 50 percent of irrigated land is saline and has a poor melioration condition, with a decrease

in fertility and exclusion from use on the farm of the village. Such negative cases are also observed in all landscape types of the Fergana Valley.

In addition, a number of economic reforms carried out in our country are aimed at such pressing issues as effective use of natural resources, intensification of irrigated lands, and for this purpose-raising the agricultural culture, increasing the yield of agricultural crops, growing high-quality, environmentally friendly, competitive products to the world market. For this purpose, it is worth emphasizing the availability of favorable natural and climatic resources, rich mineral resources, as well as a huge source of opportunities in all regions of Uzbekistan. In particular, the natural geographic conditions of the Fergana Valley are a region in which since the earliest times there have been all conditions for the lifestyle of people and their economic activity, as well as for the composition of anthropic landscapes of different views. Especially in the last decades of the last century and even now the influence of human economic activity on the territory of the Valley has intensified, and even now this process continues at a rapid pace.

The economic activity of man and the location of production are directly related to natural geographic conditions and territorial landscape complexes. At the same time, both the natural conditions and the landscapes themselves change under the influence of anthropogenic factors. This leads to a variety of disruptions in the process of exchanging matter and energy through the interaction scale between society and nature. Such processes that have been taking place for many years have led to a disruption in the proportion between the natural landscape and the anthropic landscape. Until now, natural landscapes in the structure of the landscape sphere of the earth have come to be territory-oriented, whereas in the near future the role of government can be played by anthropic landscapes. In the Fergana Valley, too, there is an increase in pollution, poisoning and the occurrence of unpleasant environmental problems, which are life-threatening, with harrowing wastes of the natural environment. And this shows that the correct and rational use of the Available natural resources is one of the most urgent and vital problems of the present day.

The strength of the anthropic impact on the nature of the Fergana Valley along with the emergence of cultural landscapes, landscape – environmental problems are also emerging. These environmental problems are inherent in the climate, surface and groundwater, soil, plant and animal world, which means that the interaction of natural components influences all landscapes. With the change of one or two components of nature in the course of human economic activity, it also affects all components, causing a violation of its evolutionary state, function and balance. As a result, adverse environmental processes can occur in the landscapes, deforestation in the taiga leads to erosion of the soil, changes in microclimate, decreased water resources, loss of plant and animal species.

When the landscapes of the mountains surrounding the Fergana Valley are observed, such unpleasant landscapes as the sparseness of the mountain forests, in some cases the trees are cut off, the slopes are very carved – deep, steep ravines, the washing of the soils, the opening of the mountaingins as a result of the irradiation phenomenon are noticeable. Such processes lead to the fact that in the last years, floods and surges occur more often, especially catastrophic floods occur almost every year (A.Maksudov, 1990). Restoration of trees, artificial forests in the mountainous regions is one of the factors preventing natural disasters, while maintaining the balance of the mountainous regions. Fergana Valley, even in the regions of the countries of the army have developed programs for the restoration of long-term forest massifs, and if they are not put into practice, complex natural processes related to climate and water can occur.

The taiga region provides to some extent accurate information about the past of nature and the processes taking place in it. It is necessary to list as monuments of nature the various forms of relief that have arisen under the influence of the rays of the mountaineers, the work of glaciers, the wind. Because monuments of nature have historical and cultural aesthetic significance and are irreplaceable objects. On the territory of the Valley, botanic monuments are also widely distributed, including hundred - year-old trees, endangered relic plants in all landscape zones, even in the three.

The mountainous plains of the Fergana Valley and the unfavorable environmental processes in the landscapes of the hills are considered one of the biggest problems in the protection of the nature of the Valley. Because the crossing of trees and shrub vegetation in this region, the fact that farming has been ecstasy-developed for many years, the use of non-feeders in the feeding of livestock has led to the strong development of flood and erosion phenomena. These phenomena led to the fact that in the steppes the soil cover was not thick, sometimes completely washed away, the deposits of lyosimum were already given to erosion. The cultivation of jungles, not chosen as before, led to a negative change in the ecological environment in the landscapes of the region.

If a part of the water used for irrigation in the steppes flows as flowing water, then part is filtered water, which is absorbed into the ground. The filtered water moves according to its configuration after the waterproofing solidifies, in some places it approaches the surface of the earth. Such sizot water in the hill is mineralized, accelerating the re-salinity in the spreads. And secondary syringes are formed in the upper part of the spreads, the amount of salts dissolved in water is more than 1,5 – 2 percent, they consist mainly of sulfate, chlorine ions. The newly formed agricultural areas are becoming unsuitable, especially for cotton growing. Degraded geocomplexes, which have such a negative feature, require the implementation of soil – reclamation work. But in these places the collector does not solve the problem of restoring the cellar, washing the saline of the land. First of all, it is required to find and implement convenient ways in which it will be most convenient to master the names. It is desirable to irrigate agricultural crops using water-saving irrigation methods in order to avoid the formation of wastewater and to save water from filtration.

The Fergana Valley is connected in many ways not only to the construction of forests, but also to the rational implementation of practical organizational work, agrotechnical and agromeliorative and hydrotechnical works of different sizes, to preserve the naturalness of the foothills and landscapes of the hills, to solve environmental problems. The organization of agrofitocenoses in the hills prevents not only flooding, but also water erosion. The soil is suitable for the development of grass-

field farming, horticulture and viticulture in the foothill plains and the region of the hills, taking into account the correct nature of the interdependence of plant and water.

The hill regions of the Fergana Valley, especially the deserts, along with the emergence of cultural landscapes of the strength of the anthropic influence on the nature, are also generating landscape – environmental problems. These unpleasant environmental problems are inherent in the microclimate of deserts, terrestrial and underground waters, soil, plant and animal worlds, which means that the interaction of these natural components also affects all landscapes, natural components. According to A.Abdulkasimov, within the framework of the landscape – typological indices, the sand dunes of eol 521 kv.km you know what? or, if the plain part of the Valley occupies 1,6% of the area, then the shurkhok steppes 1254 kv.km. or 4,4 % occupied the area. As a result of anthropogen factors, with the change of one or two components of nature, it also affects all components, causing a violation of its evolutionary state and balance (K.M.Boymirzaev, 2004).

As a result, negative environmental processes occur in the desert landscapes, shrub and crop degradation leads to erosion of the soil, changes in microclimate, a decrease in fresh water resources, a change in the level and mineral composition of the sizot waters, the emergence of double salinity and the overgrowth of saline soils, the disappearance of species of the natural organic world.

In connection with the rapid development of science and technology, a sharp increase in the population, the use of man in nature, the relationship between society and nature has qualitatively entered a new level. In particular, this process has gone so far in the Fergana Valley that the natural landscape and environmental conditions in the region are changing dramatically. To do this, it is necessary to be attentive to the nature of the Fergana Valley, to make rational use of its landscapes and to carry out a number of practical work in the protection of its natural resources (K.M.Boymirzaev, 2007) should be paid attention:

To study the geographical consequences of using the nature of the Valley and to establish scientific co-operation with landscape subjects and to apply them to practice ;

to study, develop and explain the scientific foundations of rational use of landscapes and their importance in the development of the Valley economy;

antropogen landscape regtivasization, optimization of unsuitable geographic complexes and restoration of geoecological balance in them, creation of favorable conditions for the development of ecosystems and environmentally sound development;

expansion of research in the geocomplexes of the Fergana valley in order to eliminate the landscape – environmental problems that have arisen in the region, organization of special expeditions for improvement;

replacement of land with demand types of agricultural crops, reconstruction of irrigation systems and structures in places where underground waters are formed, low water demand;

development of management measures for the rational use and protection of Valley landscape from the Oasis formed in the Valley;

improving the technique of application of organic and mineral fertilizers and processing of soils on soils in the method of propagation of soils subjected to soil erosion;

reconsider the characteristics of agricultural crops, adapting to soil types and giving wide place to horticulture, fruit and vegetable networks;

To bring into being the highest quality of the system of environmental sciences and the state education standards in the system of secondary special education meet the requirements of the system of environmental sciences, the formation of the ecological culture of all the population in the student – youth, and like to increase literacy.

References:

1. Абдулқосимов А.А. Ландшафтное районирование Ферганской котловины // Ландшафты Узбекистана -Т.: Фан, 1966. -57с.
2. Абдулқосимов А.А., Абдурахманова Ю.Х., Давронов К.Қ. Зарафшон ботиғи воҳа ландшафтлари ва геоэкологияси.- Т.:“IQTISOD-MOLIYA”, 2017.
3. Боймирзаев К.М Воҳа ландшафтлари: вужудга келиши, шаклланиши ва ривожланиши // Ўзбекистон География жамияти ахбороти. 24 – жилд. Т.: 2004 йил, 45 – 49 бетлар.

4. Боймирзаев К.М Фарғона водийси воҳа ландшафтларидан фойдаланиш ва муҳофаза қилиш. Тошкент; "Фан", 2007 йил, 130 – бет.

5. Максудов А. Изменение почвенно-экологических условий Ферганской долины под антропогенным воздействием. -Ташкент; Фан, 1990. 92 с.