

GEOGRAPHICAL BASIS OF LANDSCAPE AND ECOLOGICAL DEVELOPMENT OF THE MIRZACHUL REGION

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ABSTRACT

The article takes into account the theoretical aspects of natural-geographical zoning, issues of natural-geographical and geo-ecological zoning carried out in our republic, the emergence of landscape-ecological situations in the Mirzachul geosystems, the role of nosogeographical conditions in landscape-ecological zoning, types of diseases of the population and environmental protection in this case There are opinions about the geographical basis of landscape-ecological zoning.

INTRODUCTION

The basis of natural-geographical zoning is the identification of individual objects and territorial complexes that exist in nature and on the surface of the Earth. Landscape-ecological zoning of territories is currently one of the most important types of natural geographical zoning, which takes into account the natural conditions and resources of the entire territory under study and the geographical distribution of their landscapes.

Natural geoisms are not stagnant, they constantly develop, improve and change. In particular, due to the increased tabora of anthropogenic load, changes in landscapes are gaining momentum, new types are emerging in connection with the expansion of their scale.

As you know, the issues of natural geographical zoning (TGR) in our republic are L.N.Babushkin and N.A.Carried out by Kogai (1964), the research on this TGR stands out from the previous ones in its excellence. It distinguishes the following system of taxonomic units according to Uzbekistan: Territory - province - small province - district - group of districts - raion - landscape. L.N.Babushkin and N.A.In Kogai's 1964 zoning system, the territory of Uzbekistan is divided into Turon province, a plain and Mountain - Mountain provincials in its composition, 13 counties. The lowland sub-provinces of our republic are regions that need to conduct non-delay scientific and practical research on geoecological sustainable development. In it, the Aral Sea crisis, climate change, pollution and high levels of mineralization of groundwater and groundwater, soil salinity and degradation and desertification

processes are areas that are sharply manifested in themselves [110; -263 B, 205; 6498-6501 p].

In recent years, various landscape-ecological situations have arisen in all types of geosystems in our republic. Such landscape-ecological situations are caused by various pollution sources. Therefore, it is appropriate to approach the landscape-ecological point of view in the study of current natural and anthropogenic landscapes. The completion of landscape-ecological studies requires, first of all, the creation of landscape-ecological or geoecological maps, and secondly, the implementation of landscape-ecological zoning based on these maps [82; - 220 b]. According to A.G. Isachenko (1991), the work of TGR is the core direction of the doctrine of geosystems and one of the methods of geographical knowledge, which are interrelated, quantitative and qualitative. It ends with defining, describing and mapping the boundaries of geosystems that differ in their indicators. Although the geographical shell has unity, it also has locality, that is, it is stratified. TGR is a separation and generalization of geosystems [131; - 366 b, 133; -346 b].

At this point, it should be noted that the Mirzachol region was considered one of the regions where natural reclamation processes are actively taking place. The activity of natural geographical processes is associated with saline and marshy areas, which are subject to irrigation erosion, deflation and salinization. It is important to carry out large-scale mapping of natural landscapes of Mirzachol and reclamation objects of the region,

because the studied area of Mirzachol is the main dynamic element of the natural reclamation state.

It is important to use traditional cartographic and field research methods in the classification of the geoecological situation of Mirzachol. The current innovation policy requires the application of active entrepreneurship and innovative-technological research methods to this issue, their rapid planning and implementation [204; 365-367 p].

In the conditions of Mirzachol, the areas include unstable, sufficiently developed parts of the plain with low mineralization, i.e., highly saline bogs and salt marshes fed by highly mineralized various salts. Based on this, the main taxonomic units of zoning, reflecting the landscape-ecological, natural-ameliorative conditions and natural-anthropogenic conditions of the land, are the territory and the developed area. Therefore, it is appropriate to use the theoretical and scientific foundations of TGR in landscape and geoecological studies, including zoning.

A.A.Rafikov (1976), L.A.Alibekov, S.A.Nishonov (1978), Kh.Vakhobov (2004), A.N.Nigmatov (2004), Sh.S.Zokirov and I.Muminov (2004), I.A.Hasanov with problems of geoecological zoning in Uzbekistan (2004); others were engaged.

A.A. Rafikov (1976) carried out zoning of the agricultural land of Mirzachol in terms of natural and melioration, in which the geomorphological structure of the area, relief features, soil type, composition and level of groundwater, composition and salinity of groundwater taking into account ten reclamation districts [171; - 160 b].

L.A. Alibekov, S.A. Nishonov (1978) classified Mirzachol naturally geographically as part of the Central Asian plains as part of the Southern (subtropical) desert zone, Tashkent-Mirzachol and South Kyzylkum province, Mirzachol and South-East Kyzylkum subprovince and divided into Jizzakh, Mirzachol, Forish and Kyzilqumoldi regions [100; - 206 b].

In these zoning works, the current Mirzachol region will include Jizzakh, the entire part of Mirzachol TGR, the southwestern parts of Kyzylqumoldi TGR, but it will consist of the highlands, mountainous areas and a part of Kyzylkum deserts of Forish TGR. is not included because

According to A.N. Nigmatov (2004), as the scientific basis of general geographic zoning, emphasizing that the laws of interaction between nature and society should be manifested in a specific geographical area within the geographical shell, economic or social geographic zoning, as well as hydrological or both demographic zoning and climatology or geoecological zoning emphasize serving the same goal - achieving harmony between man and nature [56; - 220 b].

Sh.S.Zokirov, I.Muminovlar (2004) TGR to determine the natural geographical complexes objectively existing in nature, map them according to a certain taxonomic order, to know its composition, structure, dynamic state, development and several other features and describe. The main scientific goal of the authors of TGR is to clarify the natural geographical complexes of this or that region, their vertical and horizontal structure, territorial differences [89; 10-11 p].

I.A. Khasanov (2004) proposed to separate the following natural-recreational regions in each of the isolated districts in the sub-mountainous and mountainous parts of Uzbekistan, based on the principle that each separated region is distinguished by its own set of natural conditions, that is, by the suitability of natural conditions edati: togoldi; highlands of medium height; highlands; natural geographical regions of permanent snows and glaciers [78; 24-25 b].

Kh. Vakhobov et al. (2004) ecological zoning is one of the most common concepts in the science of geography, these concepts are divided into the following two groups: the first group is qualitative zoning concepts that are very common in geography, that is, in this zoning, depending on the state of the ecological conditions of a certain area: divided into comfortable, moderately comfortable, uncomfortable and very uncomfortable levels; the second group is divided mainly on the basis of quantitative indicators, in which the main indicators are surface and underground water, atmospheric air, soil pollution with pesticides, non-compliance of drinking water and food products with state standards, etc. [76; 283-285 b].

S.B.Abbasov (2007) divided 10 geoecological regions based on the landscapes created in the geoecological zoning of the Kyzylkum desert and taking into account the ecological situations of the following years, and divided the level of tension of the ecological situation into satisfactory, moderately satisfactory, moderate, severe, tense lgan [8; 234 b].

N.R. Alimkulov (2008) made a landscape-ecological zoning map of the region based on the study of the landscape-ecological conditions of the Jizzakh region, and three landscape-ecological regions, i.e. north-west, north-east and south, were separated. , taking into account the complex structure of the landscape-ecological conditions, he divided the mountain plains, flat mountains, high mountains and hollows between the mountains into small landscape-ecological regions [21; -152 b].

A. Rakhmatullayev (2018) recommended to study the large rivers in Central Asia by dividing them into three large functional parts, i.e. the catchment basin, the middle-transit part and the lower delta part. considers it necessary to study in three parts, which are Upper, Middle and Lower Zarafshan [69; - 59 b].

Q.S. Yarashev (2018) proposed to divide the Surkhondaryya basin into 4 geoecological regions: weakly polluted and degraded Termiz-Amudaryya valley geoecological region; the Lower Surkhan oasis-desert geoecological region, severely degraded due to deflation and salinity; Orta Surkhan oasis-chalachol geoecological region polluted with chemical compounds; Upper Surkhan oasis-steppe geoecological region polluted with metallogenic dusts [84; - 41 b].

V.N. Fedorko (2018) divided 7 natural-economic regions in Mirzachol district into 3 groups: 1) plain-oasis (Old developed Mirzachol and Newly developed Mirzachol); 2) mountain and plain (Jizzakh, Forish, Zomin mountains); 3) mountainous (Northern Nurota, Zomin mountains) [183; -162 p].

K.M.Boymirzayev (2020) The principles of territorial integrity, complexity, genetic, relative homogeneity and anthropogenic factors were followed in the separation of oasis landscape regions in the Ferghana basin, and using methods of field investigation, cartographic, similarity, typological mapping of regional units. divides oasis landscapes into Sokh-Fergana oasis landscape region, Chust-Maylisuv oasis landscape regions and gives a natural geographical description [41; - 229 b].

K.S.Yarashev (2022) divided the regions of Southern Uzbekistan into 19 landscape-ecological regions in the landscape-ecological zoning research, and the location of the regions in the Surkhondaryya basin is based on quality and quantity indicators, and the levels of tension of landscape-ecological situations from a landscape-ecological point of view. gave a comprehensive description [82; - 220 b].

O.T.Mirzamakhmudov (2023) divided the hills of the Fergana Valley into 5 landscape-ecological regions in terms of geological and geomorphological structure, climate, internal waters, and distribution of soil and flora. , developed a prediction of the current state and change of landscape-ecological conditions and recommendations for their improvement [48; - 216 b].

There are different approaches to TGR of Mirzachol region. Some scientists have separated it as a separate district, while others have separated it as TGR.

In addition, Mirzachol's TGR issue can be seen in the works of E.M. Murzaev (1953), V.M. Chetirkin (1960), L.N. Babushkin, N.A. Kogay (1964), N.A. Kogay (1969), P. Baratov (1996) and others. This area is zoned for different purposes: natural geographic, ecological, geoecological, geobotanical, zoogeographic, economic use of nature and other purposes.

K. Sh. Tojibayev and others. (2018) in the botanical-geographical zoning scheme, 8 districts and 15 districts are allocated in the Uzbek part of the Turan province. In the zoning scheme allocated by the authors, Mirzachol is allocated as a district in the Middle Syrdaryya district [181; -17 - 28 b].

In the zoogeographical zoning map of Uzbekistan, Palearctic zoogeographical region, Mediterranean zoogeographical region (small region), Kyzilqum district of Turan-Kazakhstan-plain province is separated as Mirzachol small district (district) [208].

P. Baratov (1996) deals with the TGR of Uzbekistan and includes Mirzachol as part of the Tashkent-Mirzachol district in the mountainous and mountain provinces of Uzbekistan. He writes that Tashkent-Mirzachol district is divided into Farish-Jizzakh,

Mirzachol, Chirchik-Ohangaran natural-geographic regions [40; -264 b].

I.A. Khasanov and others (2010) in addition to the studies and zoning of L.N. Babushkin and N. Kogay, separate Mirzachol as a separate natural geographical district within the sub-mountainous sub-province of Turan natural geographical province. They divide the Mirzachol district into 4 TGRs: Forish, Zomin, Mirzachol, and Syrdarya regions [79; -100 p].

In the national atlas of Uzbekistan (2020), the Mirzachol region is included in the sub-province of Togoldi - Togh of the Turan province and divided into 3 TGRs, which are Forish, Zomin and Mirzachol [208; 221 b].

There are some inaccuracies in the TGR studies cited above. In most of them, Mirzachol is separated as a separate district, but within this district, TGR is also separated under the name of Mirzachol. It is interesting that the natural border of Mirzachol corresponds to neither the natural geographical district nor the TGR. If Mirzachol is considered as a separate district, Zomin and Forish TGRs should not be included in it, and if it is considered as a TGR, its border should include a large part of Zomin and Forish TGRs.

Most of the analyzed zoning works were carried out from the point of view of natural geographic (landscape) zoning, which did not take into account the landscape-ecological situation of the Mirzachol region. In recent years, negative landscape-ecological situations have arisen in geosystems, including the landscapes of Mirzachol. Therefore, it is appropriate to approach the landscape-ecological point of view in the study of current natural and anthropogenic landscapes. Landscape-ecological studies require the creation of landscape-ecological maps and the implementation of landscape-ecological zoning based on this [27; 25-33 b].

The territory of Mirzachol is distinguished by its constant anthropogenic influence, the level of development of landscapes and the severity of its natural-geographical conditions, the northern, northwestern and southern regions, which are separated from each other by different components. Landscape studies and field studies conducted by the author, analysis of different space rates, degree of change of landscapes as a result of anthropogenic effects and on the basis of other information, it is necessary to develop a new landscape map of Mirzachol and to conduct landscape-ecological zoning works based on this map as the basis of the landscape map.

It is known that all geographical components, matter and energy exchange processes in nature are interconnected. A large amount of mineral fertilizers, pesticides and herbicides, hydrogen sulphide, chloride and sulphite accumulated in the irrigated lands of Mirzachol due to the interrelationship, interdependence and interaction processes between the components. compounds affect internal waters, atmospheric air, plants, agricultural and livestock products, living organisms in general. As a result, it creates drastic landscape-ecological situations and changes in Mirzachol's environment, urban and rural sedimentary landscapes, irrigation systems, agro-landscapes, which in turn have a negative impact on the health of the population living in this area and causes various diseases. Such factors determine the landscape-ecological zoning of the Mirzachol region.

In recent years, in the nosogeographic situation of the Mirzachol region, diseases of the nervous system, eye and its additional apparatus (per 10,000 inhabitants), respiratory organs, blood and blood-forming organs, and some disorders affecting the immune system it can be seen that the cases of infection with However, along with this, some problematic situations are also observed. Among the population, there are some infectious and parasitic, endocrine system, complications of pregnancy, childbirth and postpartum period, complications related to injuries, poisoning and some external causes, some conditions that appear in the perinatal period, mental and behavioral disorders. slightly increased [220; 70-122 b].

The analysis of the diseases spread in Mirzachol and their medical geographic and nosogeographical analysis in the separate landscape-ecological regions was studied on the basis of the medical geographic atlas of the Republic of Uzbekistan published in 2023 by the state research and production enterprise "Kartografiya". In Mirzachol, the main reason for the large number

of respiratory, circulatory system, some infectious and parasitic diseases, viral diseases, diseases of the eye and its accessory organs, diseases of the urogenital system and other diseases is the environment. It has led to negative landscape-ecological situations caused by toxic chemicals, water pollution, increased soil salinity, air pollution, winds, man-made and household waste. That is why the health of the population living there occupies a special place in the system of socio-ecological problems of Mirzachol.

It can be seen that some factors are also involved in the death rates of the population in connection with the occurrence of the landscape-ecological situation in Mirzachol. For example, according to the statistics agency under the President of the Republic of Uzbekistan, the death rate in the republic is 4.8 per thousand (for every 1000 inhabitants), while the total rate in the Mirzachol region of Sirdarya is 4.8 per thousand. is 6.9 per thousand in the city of Gulistan, 5.2 per thousand in the city of Shirin, 5.1 per thousand in the city of Yangiyer, 6.0 per thousand in the district of Gulistan and 5.4 per thousand in the district of Mirzaabad. The fact that it was 0.0 per thousand indicates the severity of the environmental situation.

As a result of several years of field-research observations, statistical data, analysis of topographical and thematic maps of various scales, requiring a separate comprehensive study of Mirzachol, its geomorphological structure, climatic features from the point of view of landscape-ecological conditions, landscape-ecological zoning works were carried out taking into account indicators such as soil salinity and humus content, the level of changes in landscapes, the level of groundwater and the level of mineralization, pollution of groundwater, types of diseases of the population as a result of these factors, and environmental protection, and the following landscape-ecological regions were allocated. 1. Moderately polluted and moderately changed Jizzakh oasis region; 2. Arnasoy-Tuzkonyoni district, which is strongly polluted and strongly and moderately changed; 3. Moderately polluted and strongly changed Central Mirzachol region; 4. Lightly polluted and little changed Syrdarya region; 5. South Mirzachol region, which has changed on average due to deflation and erosion; 6. Lightly polluted and little changed North Mirzachol region.

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