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TERRITORIES PROTECTED AS OBJECTS OF THE ECOSYSTEM (BY THE EXAMPLE OF THE GISOR STATE RESERVE)

Abstract: The article studies the specific aspects of the development of ecotourism in specially protected natural areas, the peculiarities of the climatic and natural conditions of the region and provides information on the aspects of ecotourism, geomorphological aspects of the Kashkadarya basin, natural and geographical aspects of the development of ecotourism in its mountainous landscapes, and its effective use ., At present, the development of ecotourism both on the territory of the reserve and on the territory of its buffer zone has been studied, information on its features and possibilities has been given.

Key words: Ecotourism, Gisar, climate, reserve, mountain-foothill, basin.

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ТЕРРИТОРИИ, ОХРАНЯЕМЫЕ КАК ОБЪЕКТЫ ЭКОСИСТЕМЫ (НА ПРИМЕРЕ ГИСОРСКОГО ГОСУДАРСТВЕННОГО ЗАПОВЕДНИКА)

Аннотация: В статье изучены специфические аспекты развития экотуризма на особо охраняемых природных территориях, особенности климатических и природных условий региона и дана информация об аспектах экотуризма, геоморфологических аспектах Кашкадарьинского бассейна, природно-географических аспекты развития экотуризма в его горно-горных ландшафтах, и его эффективное использование., В настоящее

время изучено развитие экотуризма как на территории заповедника, так и на территории его охранной зоны, дана информация о его особенности и возможности.

Ключевые слова: Экотуризм, Гисар, климат, заповедник, горно-предгорный, бассейн.

Introduction. In recent years, great attention has been paid to the development of promising sectors of recreation and tourism in the mountainous regions of our republic. The President of the Republic of Uzbekistan Sh.M. Mirziyoev noted that "the unique nature of our country, national reserves, and mountainous areas have great potential for tourism development." One of the main tasks today is to support the development of tourism activities, increase the efficiency of using the tourist potential of the regions, improve the conditions for recreation and tourism, as well as create new jobs in the field of tourism services and increase the employment and well-being of the population. Including, to raise tourism to a strategic level in Kashkadarya region, to dramatically increase the volume of domestic tourism, to create the necessary conditions for them, to improve the quality of tourism services provided, to create additional opportunities for business entities operating in the tourism sector, as well as to provide employment to the population and their large-scale work has been done to expand the source of income.

Currently, 51 hotels, 221 guest houses, 16 hostels provide services for the tourist sector in the region. There are 17 major tourist facilities in the region, which receive more than 700,000 tourists a year. The Kashkadarya basin geomorphologically consists of mountains and plains, depending on zonal and vertical stratification of landscapes, specific thermal regime and moisture conditions, relief and other factors (Abdullaev, Usmonova, 2003). In the mountainous part of the Kashkadarya basin, the horizontal zonation of landscapes was replaced by vertical zonation. Vertical zonation in the mountains above all geographical consequence of morphostructural stratification. In the mountains, it occurs due to a sharp decrease in the height of the zonal radius of the landscape, as

well as a change in the amount of precipitation (at first increasing and then decreasing). As in other mountainous regions, the systems of altitude zonation are diverse in the mountains of this basin, and each altitude zone has a different type of altitude zonation (Nazarov, 2020). In the mountainous part of the Kashkadarya basin, hypsometric height helps to distinguish the following subclasses in landscapes depending on the genesis and degree of fragmentation of the relief:

1) landscapes of mountainous hills and low mountains; 2) mountain landscapes of medium height; 3) high mountain landscapes. Also, in the sub-class of mountainous hills and low mountain landscapes, it is possible to distinguish the zonal type of mountain barren landscapes on moderately dry typical gray soils (Abdullaev, Usmonova, 1997).

The main part. In the world, the only models or methods that are convenient for the development of ecotourism, which are directly compatible with the natural climatic conditions of each country and the use of their tourism resources, have not yet been developed. However, the issues of using national parks and state natural reserves in the development of ecotourism have been well researched (Yarashev, Khasanov, Qurbanova, Sadulloeva, 2021). First of all, it is necessary to establish national reserves in the state reserves located in Uzbekistan, that is, to develop tourist itineraries where tourists can see the nature of the reserve, the protected flora and fauna without harming its biodiversity (Yarashev, Hasanov, Badalov, 2020). The Hisar state reserve can be a vivid example of this as a standard object in the organization of ecotourism.

Hisar state reserve is the largest of the republic's reserves in terms of area, and the task of natural reserves is to preserve the original landscape with its unique ecosystem, and the establishment of such reserves prevents the disappearance of some species. It was established in 1983 for this purpose, to preserve the natural complex and ecosystems of the Hisar mountains. It is located on the western slopes of the Hisar range at altitudes ranging from 1750 m to 4349 m.

The reserve includes the landscapes of the upper regions of the Western Hisar mountains and the upper part of the Kashkadarya catchment, that is, it is

located in the territories of the Shahrisabz and Yakkabog districts of the Kashkadarya region. The area of the reserve is 80986 ha, and 12,203 ha of the territory of the reserve is covered with forest. Grasslands are 27,450 ha. About 60 species of trees and shrubs are typical for forests. In addition to juniper, maple, hemlock, hawthorn, cherry, willow, poplar, walnut, larch and other trees and shrubs grow in the forests.

More than 800 species of tubular plants alone are considered in the territory of the reserve. There are a lot of species belonging to marigolds, marigolds, umbels and other families. Among legumes, astragalus is especially common (70 species), three of which are found only in the Hisar reserve. 40 out of 50 species of flowering plants are endemic to West Hisar. The composition of the fauna of Hisar reserve is also diverse, 30 species of mammals, more than 100 species of birds, 9 species of reptiles and 2 species of fish have been taken into account. Among mammals, animals such as snow leopard, white-clawed bear, lynx, wild boar, lynx, gazelle, and boar are protected, and some of them are included in the "Red Book of Uzbekistan" and the International Union for Nature Protection.

There are also departments of Hisar State Reserve, Kitab Geological and Surkhan (Kohhitang and Paygambarorol). Tugay and mountain forest reserves, as well as other protected landscapes in the regions of South Uzbekistan, are part of the object of the Hisar state reserve. The 2,000-hectare area of the reserve is a protected zone for the development of ecotourism. The reserve is divided into 4 sections: 1. Land area of Gilan department - 18838.1 ha; 2. Miraki department, land area - 11821.0 ha; 3. Land area of Tankhozdarya department - 20233.0 ha; 4. Land area of Kyzilsuv department - 30094.0 ha. The territory of the reserve consists of 17 borders, 54 circulation lanes. The main part of the Hisar State Reserve, not excluding its sections, as a single massif stretches 37 km from east to west and 90 km from north to south. The mountains in the Hisar Reserve are younger mountains formed in the Alpine folding

The crystalline ground of the Sumsar-Shertog and Hazrat Sultan mountains adjacent to the territory of the reserve consists of metamorphosed limestones

formed from marine deposits of the Silurian and Devonian periods of the Paleozoic era. The territory of Kitab Geological Reserve is one of the unique geological monuments in the world in terms of preservation of Silurian-Devonian-Carboniferous marine deposits. The area of Aksuv river from the village of Hisorak to Hazrat Sultan mountain is composed of Devonian limestones, these rock complexes were affected by the uplift of the Zarafshaon mountain range in the Permian period, thickened and sometimes metamorphosed (Mamatov, 2001).

The relief of the area is highly fragmented. The height of its peaks is from 2500 m to 4421 m In particular, Mount Hazrat Sultan - 4643 m, Khoja Kirshavor - 4303 m, Tortkoylik - 4366 m, Mount Bibi Olmas - 4349 m. One of the highest points of Uzbekistan is an unnamed peak located at an altitude of 4421 m above sea level in the Tortkoylik mountain of the reserve. In the region, karst processes are widespread in Mesozoic-Cenozoic limestone deposits. Under the influence of karst processes, there are many relief forms such as gorges, gorges, shelves and caves. Mountain rivers and streams form deep canyon-like gorges in the area.

The main part of the region consists of mountains with a height of 2500-3000 m, which had an impact on the formation of soil-vegetation cover. The fact that the mountain slopes are open from the northwest and west, blocked by the Zarafshan and Hisar mountain ranges in the northeast, east, and southeast also had an impact on the formation and distribution of soil-vegetation cover as an important natural factor. Based on the sum of the listed factors and the geobotanical criteria of the formation and distribution of plants and landscapes in general by Q. Zakirov, we observe that three of these four landscape regions, hill, mountain and pasture regions, are clearly manifested in the Hisor reserve. At the same time, it is natural that landscapes of an introzonal character can also be found in these regions. The height of the soil and plant regions depends on the exposure of the slopes, and the size of the distribution area depends on the relief features of the slope (Mamatov, 2001).

The Hisar mountains are located far from seas and oceans, therefore the reserve area has continental climate characteristics and meteorological indicators

change frequently. Westerly air currents moving in layers of the atmosphere from 2-3 km to 12 km high easily penetrate the mountains of the reserve, but their direction and influence change during the seasons. The fragmented topography of the reserve area causes the wind direction to change here, that is, the wind blows from the mountain to the plain at night, and from the plain to the top during the day. All the researchers who studied the Hisar mountains noted that the mountain gorges here are special, unique natural objects.

It is desirable to organize ecotourism routes in the territory of the Hisar state reserve. In the world experience, the convenience of developing ecotourism is that it does not require the construction of hotels with a high level of service to tourists. In this type of tourism, traditional recreation and domestic amenities are considered secondary. In addition, in ecotourism programs, the goal of increasing the ecological knowledge and culture of tourists is also taken into account.

In order to enjoy the unique scenery of nature, special requirements are observed when erecting tents and camping sites. In this regard, the service of highly qualified specialists and ensuring the safety of vacationers are among the most important issues. From this point of view, special attention is being paid to the construction of new roads leading to the beautiful natural habitats of the reserve and the repair of existing ones. In order to expand the ranks of young personnel interested in the field, activities of such directions as "Tourist services", "Hotel services manager", "Cooking" have been launched in several vocational colleges. At the same time, in the development of the reserve as an ecotourism object, attention should be paid to the following:

it is necessary to establish a visitor center in the territory of the reserve and to form this center as an eco-tourist object, and to turn the center into a modern information center that collects environmental information, advertises and presents it. Equipping this center with modern information technologies, including multimedia tools;

formation of tourism infrastructure based on modern requirements, organization of ecotourist routes (on foot and horseback) and ensuring their safety

equipment. Including the organization of horseback and walking tours for tourists visiting Hazrat Sultan Shrine and Amir Temur Cave;

implementation of ecotourism promotion work, i.e. placing advertising leaflets about the nature and activity of the reserve in large-scale public places (parks, car and railway stations, airports, etc.), on the internet;

preparing and publicizing information on ecotourism, advertising booklets, pamphlets, photo collections, video clips, etc

creating a website of the reserve, posting information on eco-tourism there and promoting it;

Advertising of places of interest of the reserve, such as the banks of the Oksuv River, mountain forests, including the Suvtushar section, in the media and social networks, etc.

Streams, tributaries, and rivers that start and flow through the territory of the reserve create waterfalls of different shapes and forms in their watershed. The biggest of them is Suvtushar waterfall. This waterfall is located at an altitude of 2100 m above sea level, at the beginning of the Suvtushar stream, in the Miraki section of the nature reserve. The height of the waterfall is 84 m, and it is located among large rocks and juniper trees. Sometimes the waterfall turns into ice due to extreme cold. According to the research worker of the reserve, as a result of the air temperature cooling down to -18, -200C, the phenomenon of freezing of the waterfall is observed in January. The waterfall is formed due to the waters emerging from the Osmontalash snowy rocks of the Hisar mountain range at a height of 4000 meters.

About 20 thousand foreign and local tourists come to the village every year. In addition, there are about 10 large and small lakes in the territory of the "Hisor" state reserve. In particular, there are 3 lakes in Gilan district, 3 lakes in Miraki district, 1 lake in Tankhozdarya district, and 3 lakes in Kyzilsuv district. To date, the lakes have not been fully studied, only some of their morphometric indicators have been determined. These lakes can be used for ecotourism purposes. It is expedient to organize guest houses, dining establishments, and rest areas in

providing services to tourists. According to the information of scientific research institutions and experts, today the development directions and prospects of ecotourism are formed in connection with the laws of nature and the stability of geosystems.

According to the decision of the Cabinet of Ministers of the Republic of Uzbekistan No. 94 dated February 18, 2020, the status of nature protection was changed in the area with a total area of 13231.3 ha, including 11231.3 ha of protected zone and 2000 ha of land of different land users. In this way, it was possible to develop tourism, including ecotourism, in some parts of the territory of the reserve. Currently, there is practically no infrastructure for the development of tourism either in the territory of the reserve or in the territory of its conservation zone. Taking into account the above, it is advisable to carry out the following activities for the development of ecotourism in the reserve area:

1) enclosing areas for the purpose of ensuring safety - regulation of the number of visitors to the area near the waterfall;

2) organization of transfer points;

3) visitor service point, which sells tickets and issues permits to visitors to the ecotourism facility (waterfall);

4) a border crossing point with a turnstile, a special place for a reserve security guard (who will admit visitors to the territory based on the obtained permits);

5) construction of a facility with a rest room, a warehouse for storage of equipment and equipment, and a kitchen for the employees of the reserve;

6) to facilitate the passage of tourists through the stream - to build a bridge;

7) creation of eco-trails on the territory of the object - for the convenience of visitors, construction of eco-trails leading to the waterfall, for getting to know the territory of the reserve. In this case, the length, width, and covering of the trail should be chosen correctly, as well as fences should be installed for the

safety of tourists. The creation of such a trail serves to prevent the visitors from harming the existing natural grass-plant world and harming nature;

8) It is necessary to organize recreation areas and build a viewing area on the territory of the object. Nowadays, people who come here try to get as close as possible to the waterfall or go down to the stream in order to take a picture "for memory", etc.

Summary. Hisar Nature Reserve is important for the protection of mountain landscapes, and it is possible to use them as an important object of ecological tourism and recreation, in addition to carrying out scientific-research work on the study of landscapes and individual components of landscapes.

Currently, in many countries, including Uzbekistan, serious attention is being paid to the creation of nature reserves and national parks and their area expansion. From this point of view, it is appropriate to expand the Hisor Nature Reserve by adding adjacent areas and to establish the Hisor National Park, to implement measures aimed at nature protection, scientific research, and self-sufficiency using some parts of the national park for ecotourism purposes.

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