Natural-climatic and geographical features of the territory in the organization of recreation areas

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Abstract. The study of natural-climatic and geographical features plays a critical role in the organization of recreation areas, ensuring that these spaces not only provide leisure and entertainment but also preserve the environment and cater to the health and safety of visitors. This article discusses the key factors such as climate, topography, vegetation, and water bodies that influence the planning and development of recreational spaces. Climate determines the seasonal availability and type of recreational activities possible, while topography influences the accessibility and types of infrastructure feasible. Water bodies enhance the attractiveness of recreational sites, providing opportunities for water sports and activities while also requiring careful management to prevent environmental degradation. Understanding these geographical and climatic characteristics allows planners to optimize the use of space, enhance visitor experiences, and promote sustainable practices that protect natural resources and adapt to the changing climate. This approach ensures that recreational areas serve as sustainable, enjoyable, and health-promoting environments for all visitors.

1 Introduction

General information about recreation, which is considered the main direction of landscape architecture, that is, the experiences of Uzbekistan in recreation, their current state, were studied and analyzed. It is necessary to take into account the natural-climatic, socio-economic and ecological factors in the creation of recreational facilities in order to overcome the learned experiences, the condition of the collected materials, the shortcomings and achievements.

In the planning of recreational facilities in the mountainous regions of Uzbekistan, it is important to save the time of vacationers as a result of reducing the distance to the natural recreational facilities in the regions for the population, the short distance to the recreational facilities in the areas not far from the city makes the vacationers economically

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disadvantaged, as well as to the area several times. makes it possible to visit[1]. At the same time, it has a positive effect on the ecology and microclimate of residential areas.

Before talking about the ecalogy and microclimate of the inhabited territories, it is necesary to talk about the climate of the Fergana region.

Analysis of the natural-climatic and landscape conditions in the Fergana area shows that the role of the aerated component of the climate is the leader as the most important factor determining the ecologically rational organization of living and recreation in interaction with the plasticity of the relief and the formed landscape of the underground surface, and as the basis for the classification of value qualities of the diversity of many natural landscape States has been identified.

Currently, the leading research and design institutes in Uzbekistan are still not working on recreation. The main direction of the architectural-planning organization of public recreation areas outside the city, which is being researched, is the formation of large recreational formations - recreation areas. According to M.A.Orlov, the excessive number of buildings on the city limits of the main cities of Transoxiana (the modern territory of Uzbekistan) in the Middle Ages and during the ancient Khorezm civilization was one of the reasons for the creation of parks for recreation near Shah cities. Sanam, Dev-kesken, Jenda and others (XII-XIII centuries), in the period of Timurids (XIV-XV centuries), Shahrisabz, Bukhara, Samarkand and others are examples of this. As stated by G.A.Pugachenkova and M.Y.Masson, the length of the avenue called "various suburban landscapes" is several kilometers. Architectural pavilions, teahouses, etc. are located along the avenue, where holidays and celebrations take place, tents are erected. The works of Russian and foreign authors are devoted to the study of the forms of urban planning of the development of recreational formations in the systems of grouped settlements and urban agglomerations, but such studies have not been conducted for the Fergana region.

2 Materials and methods

Methods such as comparative, analysis of Internet materials and architectural projects, photofixation, analysis of collected materials and generalization were used in the research.

Fergana region is a region within the Republic of Uzbekistan. It was established on January 15, 1938. It is located in the east of the republic, in the south of the Fergana valley. It borders Namangan from the north and Andijan regions from the south and east. It consists of 15 districts (Baghdad, Beshariq, Buvaida, Dangara, Yozyovon, Altiariq, Okhunboboyev, Rishton, Sokh, Tashlok, Uchkoprik, Fergana, Furqat, Uzbekistan, Kuva), 9 city (Beshariq, Margilan, Rishton, Fergana, Yaipan, Kuva, Quvasay, Ko'kan, Hamza), 10 towns (Baghdad, Dangara, Dostlik, Yozyovon, Muqimi, Altiariq, Tashaloq , Chimyon, Sho'rsuv, Yangi Margilan), there are 164 neighborhood citizens' meetings (2004). The center is the city of Fergana.

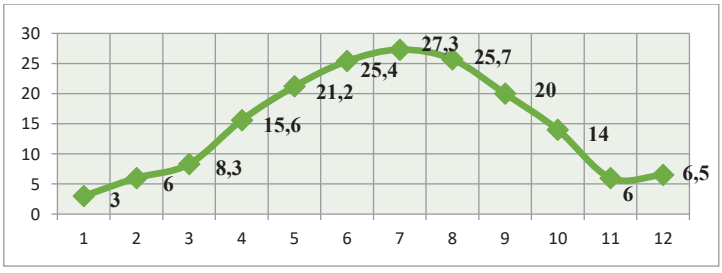

Fig.1. Annual average indicators of temperature in Fergana region.

The northern part of the Fergana region is occupied by the Karakalpak and Yozyovan steppes, and is surrounded by the expanses of rivers flowing from the Olay ridge from the south. In the south, the hills alternate with the foothills of the Olay ridge. Fergana region is a high seismic zone and also climate is continental. The winter is rather mild, sometimes it gets very cold and average temperature of January is - 3, 2º, July is 28º (Fig. 1). The lowest temperature is -27,9º. The highest temperature is 42º. The strong "Kokan wind" blowing in the west of the valley has a negative effect on the climate. The wind speed is sometimes 35-40 meters per second. reaches Harmsel blows in the south-east in summer. 100 mm per year in the west. 170 mm in the eastern part from (Kokan surroundings). up to 270 mm on mountain slopes. Precipitation falls, mainly in spring. The vegetation period is 210-240 days. The Syr Darya flows along the north-western border of the region. Isfara, Sokh, Shahimardon, Isfayramsoy start from the Olay ridge. Rivers are saturated with glacier-snow waters. It overflows in July-August. River water is used for irrigation. Basically, gray soil and meadow-swamp soil are common. Mostly pale and typical gray soils in the hills. There are alluvial-meadow soils on the Sirdarya terraces, and saline meadows and meadows in the northern part of the region. A microclimate is a small area with different climatic conditions from the surrounding area.

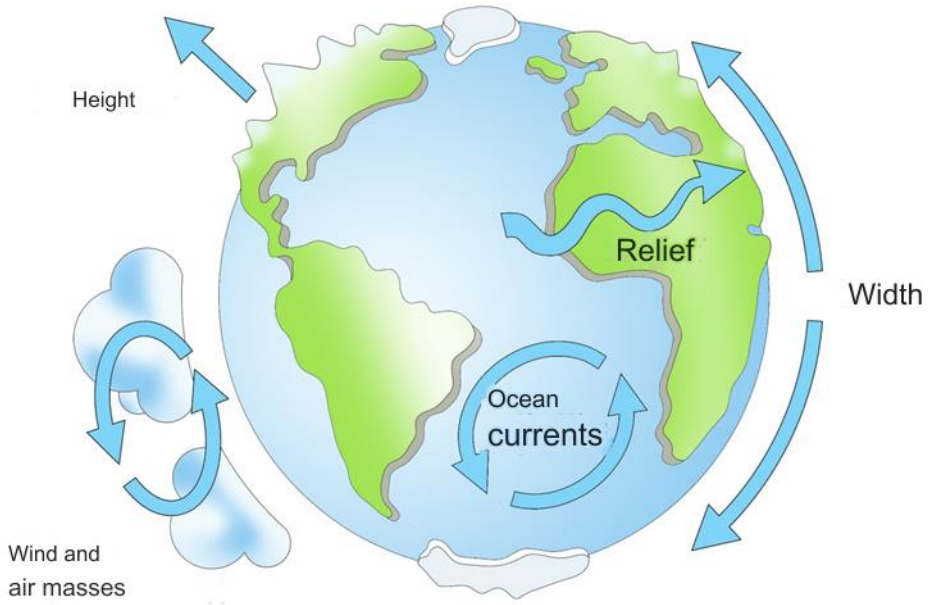

Fig.2. Climatic factors.

Climate is the average annual conditions of temperature, precipitation, wind and clouds in a given area. The climate of the region is determined by two main factors: temperature and precipitation. The main factors affecting temperature are latitude, elevation, and distance from large bodies of water such as lakes and oceans, as well as their streams and land areas (Figure 2). The main factors affecting precipitation are winds, the presence of mountains, and seasonal winds, which vary according to the amount of energy each hemisphere receives from the Sun.

Based on the complex natural and climatic features of Fergana region, the area under scientific research, taking into account the fact that Fergana region is located in a high seismic area, the winter season in this region is somewhat mild, and the summer season is dry and hot. It was found that the strong "Kokand wind" blowing in the region has a

negative effect on the climate[2]. In order to prevent such negative situations, to create favorable climatic conditions, the growth of salt in salt farms, the most important thing is that a large part of Fergana is occupied by crops, as well as poplar, mulberry, larch trees and broad-leaved trees in the river valleys. the presence of forests and arboretums helps[3]. Since the subject of this scientific research work is recreational facilities in the mountainous regions of Uzbekistan, special attention should be paid to such cases during the scientific research. Otherwise, it is natural that vacationers will experience some climate-related inconveniences in their recreation areas. In order to prevent such negative situations, it is necessary to know how to correctly choose plants, trees and bushes suitable for that area, as well as to pay attention to their planting scheme.

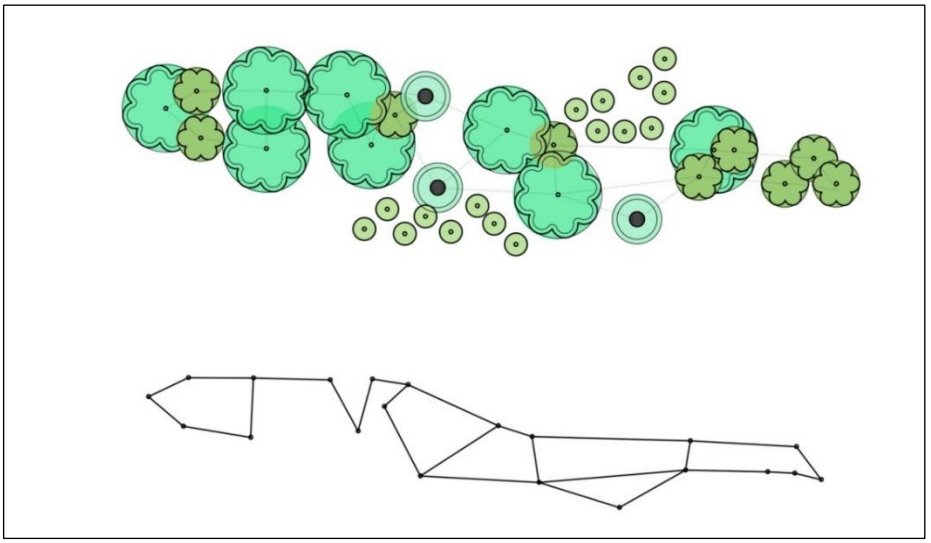

Fig.3. Tree planting schemes for wind protection.

Dense and irregular planting of trees during landscape design makes it difficult for air circulation. If the composition of planting trees in landscape architecture is used correctly (Fig. 3), the above negative situations can be eliminated to a certain extent.[4].
Due to the fact that the mountainous regions of Fergana region, that is, the resort town of Shakhimardon, is located in the neighboring country of Kyrgyzstan, it is appropriate to study the climate and geographical features of this region.
Kyrgyzstan - the country of the highest mountains and wide valleys - is located in temperate, partly subtropical latitudes (39°-43° north latitude). The territory of Kyrgyzstan stretches 900 km from east to west, and the distance between the northern and southern extreme points is 410 km. Majestic mountain ranges stretch for hundreds of kilometers, consisting of rocky peaks rising steeply from foothill plains and intermontane swamps. The mountain ranges are covered with eternal snow and slowly sliding glaciers. Below - alpine and subalpine meadows, forests, dry steppes, sometimes deserts. Rapid water flows along the bottom of the gorges. A variety of landscapes can be seen on the nearby slopes[5]. Such contradictions in the nature of Kyrgyzstan are due to the fact that its territory is significantly elevated above sea level, and is located between the mountainous terrain and the deserts of the temperate region in the center of the vast Eurasian continent.[22-25]
According to the description of PP Semenov-Tyan-Shansky: "Finally, we got to the top of the pass, which presented me with an unexpected sight; the mountain giants were no longer before me, but before me was an undulating plain, from which rose the snow-capped peaks

of the comparatively lower hills. Green lakes could be seen between them...”[6]. Such undulating plains, rising to a great height, are called surfaces, which are one of the distinctive features of the relief of Kyrgyzstan.
All this shows the characteristic large plasticity of the lower surface of the largest "internal" spatial structures on the relief map of the mountainous region.

3 Results and discussion

The construction of the mountainous area was accompanied by earthquakes, and now the mountainous areas are included in the high seismic areas.[7]. The Fergana region of our republic is also located in the areas with a seismicity of 8 points. It should be noted that Shahimardan settlements are located in areas with the highest seismicity - 8, 9 points[1].

At the same time, the avalanche risk of the area should be taken into account. In folk architecture, buildings are built with a large margin of safety and are built using a number of methods, as examples of methods of working with the forces of the elements:

1) The serious complexity of the topography of mountainous regions - deep fragmentation, different exposure of mountain slopes to the sun and air currents creates a great variety of climate characteristics and defines a clearly defined vertical climate zone.

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As mentioned above, it is possible to improve the climatic conditions of the area by properly using the landscape architecture, increasing the proportion of green plants and creating artificial water bodies.

1) the climatic conditions of any region are determined by its geographical location and cannot be changed. But humanity is having a negative and forced effect on the climate without knowing it;

2) the leading role of the aeration component of the climate as the most important factor determining the ecologically reasonable organization of living and recreation in interaction with the plasticity of the relief and the formed landscape of the underground surface;

3) the diversity of many natural landscape situations as a basis for the classification and spatial-ecological assessment of the value qualities of landscapes based on the criteria of contrasting mosaic of the landscape and the degree of dominance of the natural or anthropogenic components of the environment

4 Conclusion

For the first time, the theoretical bases and methodology of climatic and ecological approach in the design of architecture, urban planning, natural and anthropogenic environment objects were developed and tested in the conditions of Fergana region.

- The principle of "anthropocentricity" was developed, which consists in giving a leading role to the human being in the process of regulating the eco-environment and perceiving it in relation to the visually limiting "bird fly" of the environment.
- In the design of "Ecological recreational facilities" it is appropriate to show the nature of the interaction of natural and anthropogenic elements of different levels, based on their developed single classification as fragments of the natural-anthropogenic environment of Uzbekistan.
- Based on the rules of the methodology developed in this scientific research, the experience of conceptual urban planning and architectural design and placement of objects in the mountainous regions of Uzbekistan and in the cases of urban planning is

summarized. The main results and conclusions of the work studied and tested for the conditions of Fergana region can be used in other mountainous cities of the Republic with similar conditions for the formation of natural and anthropogenic environment.

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