GEOGRAPHY AND LOCAL HISTORY

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THE ROLE OF RELIEF FACTOR IN THE MODERN ANTHROPOGENIC TRANFORMATION OF NATURAL LANDSCAPES (LANKARAN NATURAL REGİON, AZERBAİJAN)

Abstract. *Observation of the process of reduction of precipitation in the territory of Lankaran natural region, which is characterized by geological, geomorphological, climatic and vegetation complexity, creates the fact that the relief factor has a greater impact on the studied region than other mountain systems of the Republic of Azerbaijan. The differences caused by the above-mentioned complex effects of relief create differences in the location of people in those landscapes, causing them to be exposed to different levels of anthropogenic impacts on the landscape. If the proper and planned management of anthropogenic impacts on both agro-landscapes and other natural landscapes is not regulated properly, the process of territorial expansion of disturbed landscapes carrying out diversified economic activities will become even faster.*
Keywords: *Agrolandscape, agroirrigation, transformation, anthropogenic complex, ecological problem, differentiation, landscape*

The main features of the relief and orography of the Talysh mountain system, geographical position, inversion of natural terrain due to the barrier effect of the ridges, the structure of sediments and rocks involved in the geological structure, other endogenous and exogenous factors have caused considerable diversity of environmental conditions. The main features of the relief and orography of the natural region are the alternation of parallel ranges and inland depressions in the Caucasus, the dynamics of morphostructures, the geographical position of the region is close to the Caspian Sea, the Iranian plateau can be directly affected by dry continental climate. As a result of the complex influence of the above-mentioned factors, the directions of transformation have been formed in the landscapes of Lankaran region for a long historical period [6, 9].

In landscapes, the main factor that creates vertical differentiation is relief. There are assessments from various aspects in this direction. Examples of these aspects are landscape asymmetry and landscape inversion. Absolute height of the territory in Lankaran natural region in accordance with the structure observed in the whole territory of the Republic shows itself. However, the absolute height of the total area of the Lankaran natural region does not exceed 2500 m. The lack of absolute height did not reduce the number of landscape types compared to other mountain systems of the country. Because the barrier effect of mountain slopes in the Talysh mountains also plays an important landscape-creating role. Moist currents entering the area from the east via the Caspian Sea are prevented by the Talish Mountains. For this reason, the annual rainfall on the south-eastern slopes of the Talysh Mountains is 1600-1800 mm / cm², which is higher than the national average. Humid, humid landscapes of the famous Hirkan type are formed here. The forest landscape in the region is observed from the foothills of the Burovar and Peshtasar ranges to an absolute height of about 200-400 m to 1500-1600 m. Analysis of vertical differentiation shows that, unlike other mountainous areas of the country, in areas with an absolute absolute height of 1600 m above the absolute absolute height, there are no wet subalpine meadows. Also, if a semi-desert landscape type is formed in the foothills of the Greater Caucasus mountain system, in the Talysh mountain system this type of landscape is found in higher parts - in the foothills as a result of severe arid climatic conditions created by hot and dry tropical air masses. These include semi-desert xerophytic shrubs in the highlands and mountain meadows [1, 3, 6, 7].

Morphogenetic differences of the landscapes formed in the high areas of Lankaran natural region cause various anomalies in the area. These anomalies include landscape inversion, intrazonality, and so on. aiddir. Meadow forests, forest-shrubs, etc. are found in the areas of rocky-gravelly, sandy-stony, sandy-clayey rocks of the delivery cones of the rivers of the Lankaran lowland, where the lithological composition of the rocks is characterized by high filtration capacity. landscape complexes predominate. From the lowland part of the province to the middle mountainous parts, there is a change in volcanic sediments and metamorphic

rocks in natural terrestrial complexes. Due to the high filtration capacity of the mentioned rocks, forest landscape and forest-shrub landscape complexes have been developed in the areas of Talysh mountains with absolute height of 1500-1600 m. Although wormwood, ephemeral, saline areas are observed in the Caspian coastal parts of Lankaran natural region, especially in the form of very small steppes in the sand dunes. can not be considered as the background of a semi-desert landscape complex spread over a wide area. A reed-and-chilly swampy landscape complex has developed on the Yellow Peninsula, which is considered to be one of the ancient deltas of the Kura River, and in the inter-tribal basins of the ancient river valleys, located at the confluence of the Lankaran natural province and the Kura basin. Both these areas and the areas covered with forests on the Caspian coast of the Lankaran natural region - where freshwater springs are observed - are examples of intrazonal landscape complexes spread in the region [5, 7].

In general, this region is one of the most developed and densely populated regions of the republic, as the availability of favorable relief conditions creates a favorable environment for the life and economic activities of people in the region. The area is characterized by anthropogenic impact, anthropogenic deformation of ecosystems and extensive development of anthropogenic landscapes, especially agro-landscapes. [3, 9].

To study the dependence of the location of the population in the Lankaran natural region on the hypsometric indicators and the degree of vertical fragmentation, I compiled a physical map of the Lankaran natural region based on CIS (ArcGIS software) (Figure 1) and based on the comparative analysis of the quantitative indicators of the vertical fragmentation map of Lankaran natural region (Figure 2), it is clear that in areas with a vertical fragmentation rate of up to 100 m /$km^2$21.6% of the population lives in the mountainous parts of Talysh. There are a total of 62 rural settlements in this hypsometric range, which corresponds to the arid landscape of the lowlands. The population density is 52.5 people / sq. Km. The total area of crops in this landscape zone is 128 km^2, the total area of pastures and hayfields is 52 sq. Km, the total area of settlements is 22.9 km^2, and the total area of roads is 40.7 km^2 [4, 5, 7].

51.7% of the population living in the Talysh mountainous part of the natural region in the areas with a vertical fragmentation range of 150-200 m / km^2 and a total area of about 836 km^2, corresponding to the lowland forest landscape and altitude of 650-1200 meters - i live. With an average density of 93.6 km^2, 168 residential areas and one city (Yardimli) and one urban district are located in this strip. It should be noted that the amount of precipitation in the north of Lankaran region is gradually decreasing. The driest period in these areas, typical of the subtropical climate, is summer. The number of sunny hours in the area is more than 2,200 hours. As in the fragmented middle broad-leaved forest landscape of the severe middle mountain range, in the described landscape type, forest biogeocenoses have been subjected to human economic activity. As in other areas, vegetation and soil cover in this landscape have changed as a result of human activities. In particular, the anthropogenic impact on the Hirkan forest complex not only destroys vegetation, but also has a serious impact on the water regime of important rivers in the region [4,5,6,7].

19.6% of the population living in the Talysh mountainous part of the natural region in the areas with a vertical fragmentation range of 200-250 m / km^2 and a total area of about 1416 km^2, corresponding to the broad-leaved forest landscape of the middle mountains and altitude 1200-1700 meters lives. The average density of 21 people / km^2 in this zone is 58 rural settlements and is located in a city (Lerik). This zone is characterized by sharp fragmentation of the relief due to tectonic-erosion processes. Sathin inclination is 5 ° -30. The climate here is humid and warm, the average annual temperature is 10 ° C on average and the amount of precipitation is 1200 mm on average. The annual amount of solar radiation is 135-140 kcal / sm^2.Unlike the meadow-steppe landscape, this landscape is well supplied with moisture. As a result, there are favorable conditions for dense vegetation.

Vegetation in this zone is mainly represented by broad-leaved oak, valas, pistachio forests. Deforestation in the broad-leaved forest landscape in some areas of Lankaran province, which is marked by a sharply fragmented middle mountain, leads to the formation of a meadow-shrub landscape and water regulation in areas free of forests. In the middle mountains of Talysh, these forests are of great soil

protection and water importance, so when rain falls due to their degradation, the rainwater does not allow the formation of water flow, thus retaining part of it. Lankaranchay, Astarachay, Vileshchay with the destruction of the forest floor in this way. This affects the regime of major rivers in the region, such as the Tengerudchay and Bolgarchay rivers, which leads to some unexpected changes in all areas where they flow. This manifests itself in the violation of the economic plans of the people who regulate their economic activities according to these rivers. At present, the total area of hayfields in Radeda is 30 km^2. The total area of roads 4/7 is 17.3 km^2.

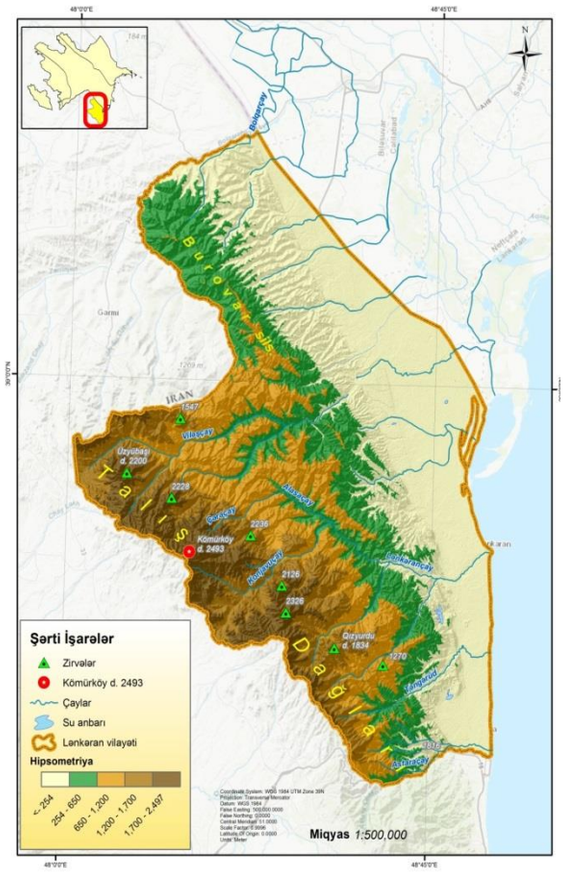

Fig. 2. **Map of vertical division of Lankaran natural region. (Compiled by: S.M. Salayev)**

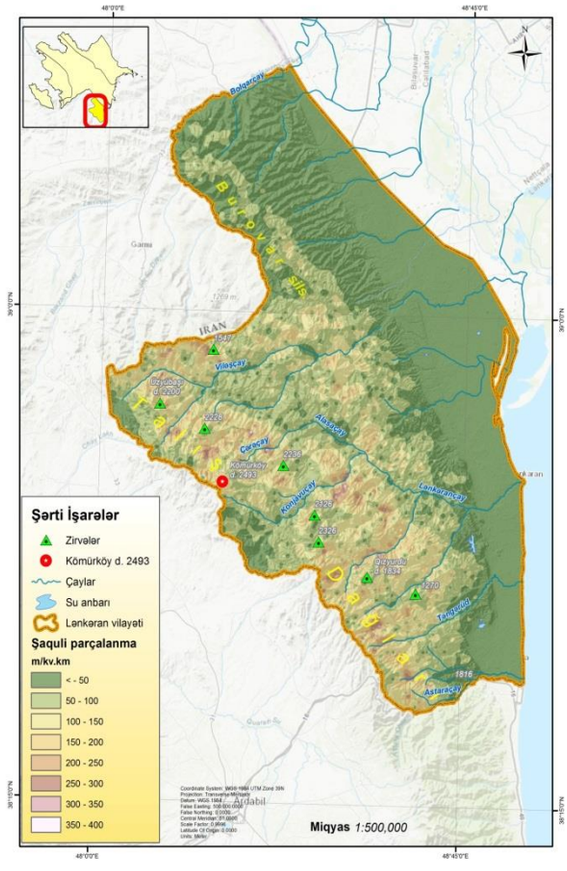

Fig. 2. **Physical map of Lankaran natural region. (Compiled by: S.M. Salayev)**

7.7% of the population living in the Talysh mountainous part of the natural region in the areas with a vertical fragmentation range of 250-400 m / $km^2$and a total area of about 683 km^2, corresponding to the xerophytic steppe landscape of

the middle mountains and at an altitude of more than 1700 m - i live. There are 42 rural settlements in this strip with an average density of 26 people / km^2 In Lankaran province, this type of landscape is widespread on the south-western slope of the middle mountain range and the height of the area fluctuates between 1500-2000 m. Climatic indicators of this landscape type are as follows: annual amount of solar radiation is 135 kcal / sm^2, average annual temperature is 10 ° C, average annual precipitation is 250 mm. Lack of precipitation leads to a lack of moisture. The period of snow cover is about three months. The density of the river network is very low. This is due to the lack of favorable conditions for the normal flow of the river. The production potential of these lands is not great. It is often used as a summer pasture. In recent years, the increase in livestock, uncontrolled grazing has naturally led to the acceleration of erosion processes here. Although the condition of the soil is low, the application of mountain farming, contour and reclamation measures, agro-technical and phytomeliorative measures against erosion in the use of land in this zone can help to restore and increase fertility. The total area of crops in this landscape zone is 71 km^2, the total area of pastures and hayfields is 80 km^2, the total area of settlements is 236.2 km^2, and the total area of roads is 10.6 km^2 [1, 4, 5].

In the areas above the absolute height of 2000 meters from the lands where the meadow-steppe landscape is spread, there are both hayfields, summer pastures, as well as cereals, legumes, etc. in some areas of the region. Planting of crops is carried out. Ecological botanists of the last century noted that in order to maintain ecological stability and balance in natural pastures, it is impossible to graze more than two head of cattle per hectare. Otherwise ground cover may fail. However, we see that on average, at least 7-8 head of cattle per hectare are grazed by the local population engaged in cattle breeding during daily economic activities in the mentioned areas. There are cases of intensive grazing of animals in accordance with the rules. In addition, this type of activity, which is more productive during the mentioned sowing works, causes problems such as increasing the intensity of soil erosion in plowed sloping areas [1, 9, 10].

In order to prevent or minimize the problems mentioned above at various levels and caused by anthropogenic impacts, I consider the following proposals expedient:

– Systematic study of natural landscapes of Lankaran region, ensuring the definition of norms and average limits of anthropogenic loading in each landscape type;

– Placement of the population in accordance with the demographic landscape overload in the region, even at absolute heights, with the exact implementation of state programs on socio-economic development of the regions to optimize anthropogenic impacts.

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