



## Interrelation Of Turkestan Ridge And Foothills

**Alisher Turgunov**

Master's Student Jizzakh State Pedagogical Institute, Uzbekistan

**Sarvinoz Baymuradova**

Researcher Jizzakh State Pedagogical Institute, Uzbekistan

### ABSTRACT

The exchange of matter and energy between the Turkestan ridge and its foothills has been studied and analyzed.

### KEYWORDS

Turkestan ridge, Goralash pass, Zaamin river, natural resource, ecosystem, geopara, mountain plain, groundwater.

### INTRODUCTION

The Turkestan ridge was first included in the Pamir-Alay and then the Aloy-Gissar mountain ranges, and is divided into the Turkestan, Zarafshan, and Gissar ridges to the west of the Mastchoh node, which is a continuation of the Alay mountain range. This ridge stretches from the Mastchoh pass to the city of Jizzakh in a meridional direction for 320 km, the height of which decreases from east to west. The eastern part is high, so there are glaciers here. In the eastern part of the ridge, some peaks rise to 5,620 m, with an average height of more than 4,000 m, while the western part is low, forming several branches on the northern slope. They are separated from each other by

ravine-like rivers. These networks include sediments, sloping plains, and deep river valleys. The lands of the Turkestan ridge close to the Fergana valley consist of wide hills, and the southern slope is short, rising steeply above the Zarafshan valley.

### THE MAIN FINDINGS AND RESULTS

In the western part of the ridge there are several convenient passes (Shahristan, G'oralash, Qoshtepa, Lattaband and Sovurbel). The most famous of these is the Shahristan Pass (3380 m) on the road from Uratepa to the Zarafshan Valley and from

there to Dushanbe, located in the territory of the Republic of Tajikistan. Shahrstan Pass is one of the passes in history that contributed to the development of the Great Silk Road.

The Turkestan ridge is divided into two branches, the North (Molguzar Mountain) and the South (Chimkartag) Mountains, in the headwaters of the Zaamin River, the Goralash Pass. Between these mountains is the Sangzor Valley, famous for its beautiful nature.

It should be noted that the study of the interdependence of mountains and foothills is not only relevant in solving serious problems of natural conditions and the use of natural resources, but also from a general scientific point of view. In fact, it is here that the interdependence of nature and society, that is, the territorial interaction between the mountain and the plain, is manifested in the full sense, with all its depth, versatility, and complexity.

As a result, the Turkestan ridge and foothills allow to study many different variants of the models of "Nature and Society" systems, and on this basis, to find common patterns of interaction between nature and society and to develop tactics and strategies for optimizing these interactions. However, so far the interdependence, development, and performance mechanisms of similar systems have not been studied. The fact is that human economic activity in the Turkestan ridge today affects the processes taking place in its large natural complexes - ecosystems, showing the clear existence of mountain-plain systems, that is, the direct contact and influence of mountains and plains. However, for a long time in ecology, natural geography, economics and other sciences, mountain and plain landscapes (ecosystems) are considered in special groups and separated (with a Chinese wall in the middle), as a result, to some extent lags behind the requirements of practice.

It is especially important to determine the dynamics of change of landscapes (ecosystems) in the current context of increasing overall impact on the environment and natural resources, especially in the current context of declining productivity of natural resources due to improper and wasteful use of natural resources. Therefore, there is a need to examine the mechanisms that ensure the interaction of the Turkestan ridge and the foothills. On the basis of many years of research and collected materials of Professor L.A. Alibekov, a natural-geographical concept of geopara - "mountain-plain" twin geocomplexes was developed and introduced. Geopara - a system of twin natural geographic complexes of different levels "high mountains", "average mountains", "low mountains", adjacent natural-territorial complexes, the common origin of which is the commonality of modern matter and energy exchange processes.

A geopara is a territorial sum of mountains and plains in which opposing natural-territorial complexes are directly related and develop and form as a whole system with the presence of interactions. The basis of the general existence of the geopara is the large-scale tectonic and atmospheric movements in the landscape crust. Tectonic movements cause the mountain and the plain to develop in interdependence, and usually adjacent areas are also involved when mountain ranges rise. The atmospheric factor, the circulation of air masses, is also very important in ensuring the integrity of the geopara. Due to air currents, dust is carried away, which plays a very important role in the "mountain-plain" geopara.

The functioning of the geopara is due to the reserve of internal and external energies. Energy comes to the geopara regularly from solar radiation and atmospheric circulation. This factor mainly ensures the transport of air masses from the plane to the mountain. But in the geopara, gravity serves as the most

important energy source that drives different currents of matter in the mountains. A very complex sequential (cascade) cycle of energy begins with water vapor rising to the top of mountain ranges and ends with the flow and crushing of rocks in riverbeds. Part of the gravitational energy of gravitational energy is converted into surface energy accumulated by deposits in the plains and foothills. The systems of the geopara are unequal, they accumulate in the mountainous part, there is a continuous loss of energy stored in the reserve, and in the plain part, it accumulates in a connected (combined) form.

The Turkestan pre-mountainous proluvial plain is characterized by the absorption (filtration) of transit groundwater and atmospheric oil from the mountain, which is an underground stream, as well as the flow of water flowing from the mountain along the river.

The hydrogeological conditions of the foothill plain of Turkestan depend on many factors, such as geological structure, lithological composition of the rock, altitude and climatic conditions. The groundwater surface of the proluvial rock is evenly distributed, and its slope is consistent with the slope of the surface. Groundwater lies at different depths depending on geomorphological conditions. In the foothills, groundwater cone discharges are common and proluvial deposits are located deeper in unsorted areas. As we move away from the mountain, the slope of the foothills decreases sharply and the lithological composition of lyossimon suglinoks increases. As a result, the water permeability of rocks decreases and groundwater approaches the surface, and in some places even rises to the surface as a spring.

The groundwater formed on the northern slope of the Turkestan ridge moves north. Due to such movement of groundwater, large reserves of groundwater are accumulated around the cities of Zaamin and Dashtobod. More than 100 artesian wells have been dug in

the area to use groundwater for agricultural purposes, and artesian wells are still being drilled. As a result, in recent years there has been a sharp decline in groundwater levels. The decline in groundwater levels in the plains is also affecting the mountains.

## **CONCLUSION**

As a result of many years of observations and research conducted by the Turkestan ridge and its foothills, it has been found that the northern slopes of the ridge are degraded due to the decrease of groundwater level in the foothills. For this reason, it is necessary to develop and strictly adhere to the limit of groundwater use in the foothills.

## **REFERENCES**

1. Alibekov L, Alibekova S, Hazarov I, Gudalov M. About some regularities of degradation geosystems in Central Asia, Tatranka Javorina, Slovakia, 2012, Vol 21, № -1, -p. 42-44 r
2. Gudalov M. Foundation of Aydar-Arnasay lakes system and their effects on the environmental landscape. Nature and Science. Volume 17, Number 11 November 25, 2019 USA New York.
3. Go'dalov M. Nature of Jizzakh region and its protection. Monograph. Tashkent. Science and Technology Publishing 2014. -p. 110
4. Brother Eagle. Mountain sounds. Tashkent: "Labor", 1992.
5. Sh, S., Gudalov, M., & Sh, S. (2020). Geologic situation in the Aydar-Arnasay colony and its atropy. Journal of Critical Reviews, 7(3).
6. Mukhamajanovich, S. S., Gayratovna, S. S., & Ravshanovich, G. M. (2020). The use of the mountain kars in the tourism sphere in cort and recreation zone of chimgan-charvak. Journal of Critical Reviews, 7(3), 475-481.

7. Kholikulov, A., & Nematov, O. N. (2020). The Role Of The Principalities Of The Kashkadarya Oasis In The Political History Of The Bukhara Emirate In The XIX-Early XX Centuries. *The American Journal of Social Science and Education Innovations*, 2(11), 79-85.
8. Mirkomil, G., Gulshoda, J., & Ilyos, J. (2020). Ways To Develop Ecotourism In The Molguzar Mountains. *The American Journal of Applied sciences*, 2(11), 1-5.
9. Kushbakova, M., & Ozodbek, N. (2020). The importance of electron resources in historical research. *Proceeding of The ICECRS*, 5.