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About The Effects And Solutions Of Anthropogenic Factors On Mountain And Sub-Mountain Areas Of Uzbekistan

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Abstract: the article describes the impact of anthropogenic factors on mountain and sub-mountain areas in Uzbekistan and their consequences, human economic activities in these areas, scientific recommendations for reducing the impact of anthropogenic factors. In Uzbekistan, the anthropogenic impact on the environment is increasing due to the seasonal needs of the population living permanently in the mountain and sub-mountain regions. In the winter season, the population mainly cuts down trees to heat their homes, to meet their daily needs and to prepare fodder from unique plants to feed their livestock.
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1 Introduction

Today, in order to increase the efficiency of tourism in mountain and sub-mountain areas, the anthropogenic impact on nature is increasing year by year. This leads, firstly, to a sharp deterioration of the environment, and secondly, to the emergence of large-scale, difficult-to-solve contradictions between the interests of nature protection and public health in mountain and sub-mountain areas. In this regard, the efforts to reduce the anthropogenic impact on the protection of mountain ecosystems, forests and wetland systems, which are carried out by the UN throughout the world, are actively being carried out. Ecosystem degradation affects not only biodiversity, but also related services. Due to this, it is important to study the impact of human economic activities on desertification, degradation of soil-vegetation cover, pollution of surface and underground water. Priority is given to assessing the negative impact of human economic activity on the natural environment, including soil and water pollution, desertification processes, and developing and improving adaptation measures to such conditions, preventing their acceleration, and using modern geographic information systems - GAT technologies in this regard [1].

2 Materials and methods

At the moment, the issues of determining the root causes of the ecological situation caused by anthropogenic factors on a global scale, improving the methods of their quantitative and qualitative assessment, improving the environmental monitoring system in order to ensure favorable natural conditions for human life, and for this purpose, the issues of wide-scale application of GAT technologies is important.

Change of relief under the influence of anthropogenic factors Yu.F.Chemekov (1972), F.N.Milkov (1973), A.A.Abdulqasimov (1983), L.I.Kurakova (1976, 1978, 1983), I.S.Zonn (1981), G. K. Belyaev (1981), A. Maksudov (1988, 1990, 1993), K. M. Boymirzaev (1995, 2005) and others. More than 70% of the territory of Uzbekistan consists of areas 500 m above sea level and below, and the remaining 30% consists of mountain and sub-mountain areas. Cartographic, statistical, and observational research methods can be used to assess the impact of anthropogenic factors in sub-mountainous and mountainous areas [2-6].

The influence of anthropogenic factors is high in the regions of northeastern, eastern and southern parts of Uzbekistan. We can observe the impact of the following anthropogenic factors on the mountainous and sub-mountainous regions of Uzbekistan. At altitudes of 500-800 meters above sea level, the level of impact on the environment by the population for agricultural purposes is considered strong. The reason is that the majority of the population in the regions has been engaged in irrigated agriculture since ancient times. Such areas

mainly include river valleys of mountain and sub-mountain regions, terraces, conical expanses and low mountains and hills with a small slope. With the help of the following map, we can see the level of environmental impact by anthropogenic factors in the territory of Uzbekistan (fig. 1).

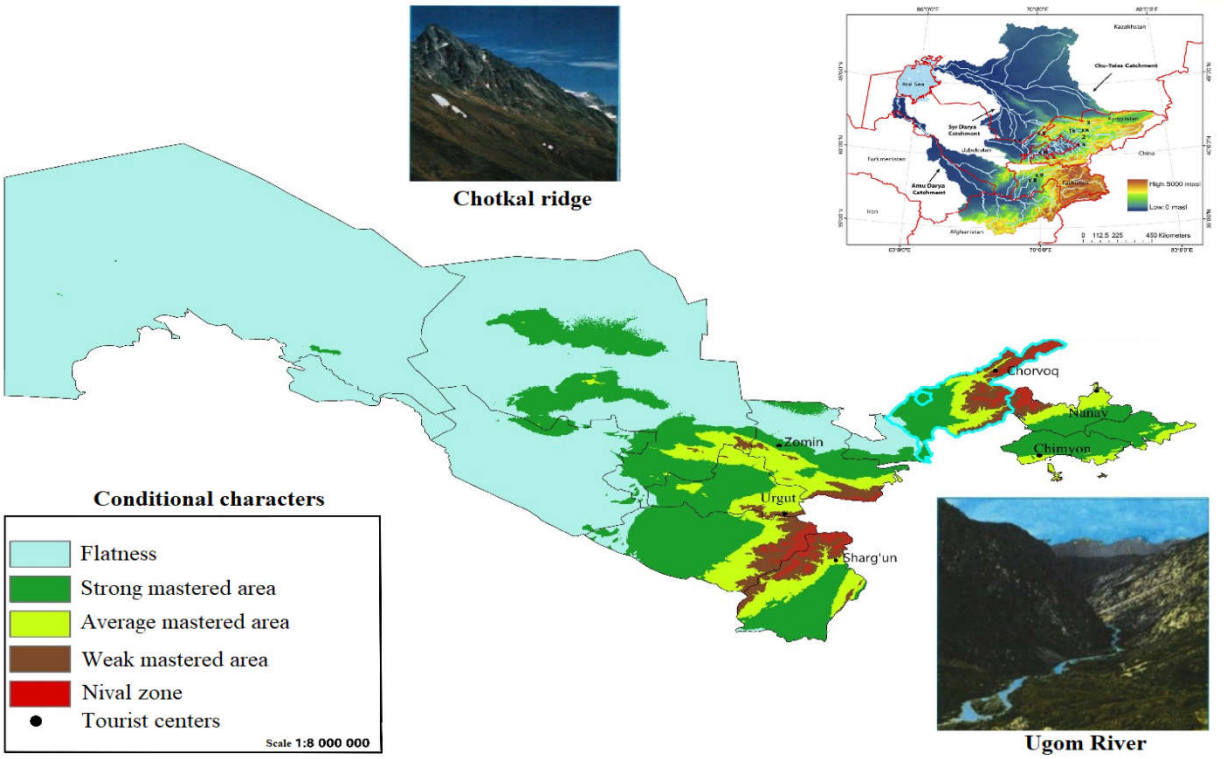

Figure 1. Impact of anthropogenic factors on mountain and sub-mountain regions of Uzbekistan

Today, due to the rapid development of mountain tourism among tourism sectors in the world, the anthropogenic impact on the environment in mountainous areas is increasing. This indicates that special attention should be paid to the protection of ecosystems in mountainous areas. Also, the use of mountain and sub-mountain areas for many purposes is increasing in our country. Figure 1.2 below shows the anthropogenic factors affecting mountain and sub-mountain regions in Uzbekistan. By placing production enterprises in mountain and sub-mountain regions where there are many raw material resources, the enterprises save a little from the transportation costs. For example, we can mention Almalyk Mountain Metallurgical Combine, Bekobot Metallurgical Combine, Angren and New Angren GRES, Marvel Juice, Hydolife-eco.

Currently, all over the world, special attention is paid to the development of tourism in mountain and sub-mountain regions. This, in turn, causes an increase in the impact of anthropogenic factors on the environment in these areas. In Uzbekistan, the government is also paying attention to mountain tourism. In particular, paragraph 2 of the decree of the President of the Republic of Uzbekistan No. PF-5273 dated December 5, 2017 on the establishment of the Charvoq tourist and recreational zone defines tasks such as the establishment of specific tourist destinations, taking into account the possibilities of the region's environment. But now, in mountain areas, especially in areas such as Chorvok, Chodak, Nanay, Chimyon, Kosonsoy, the amount of household waste emitted by tourists and local tourists is increasing.

The Charvok reservoir and its surrounding areas are the most visited by tourists in our country. Around 12 million local and foreign citizens visit the Chervok reservoir during the year. This number of tourists was determined based on the information of the tourism police, and 80-90 percent of tourists visit tourist facilities located in settlements such as Chorvok, Khumson, Yakkatut, Burchmulla and Sijjak on Saturdays and Sundays. Toza Hudud DUK of Bostanliq district goes to these areas twice a week to collect waste, but at the expense of unregistered guest houses and other

tourist facilities, excessive household waste is collected, as a result of which it affects the micro-ecological conditions of the area.

As a result of the development of public service networks in mountain and sub-mountain regions and the lack of systematic activity, the creation of waste landfills in unspecified places in mountainous regions requires the establishment of systematic work in service networks. Due to the increased demand for service industries on weekends, a lot of household waste is released into the environment on Saturdays and Sundays (fig. 2).

Figure 2. Anthropogenic factors affecting the ecological conditions of mountain and sub-mountain regions of our country

In Uzbekistan, the anthropogenic impact on the environment is increasing due to the seasonal needs of the population living permanently in the mountain and sub-mountain regions. In the winter season, the population mainly cuts down trees to heat their homes, to meet their daily needs and to prepare fodder from unique plants to feed their livestock.

4 Conclusion

The impact on the environment depends on the volume of production, and today in Uzbekistan, we can find mainly non-ferrous metallurgical deposits in mountain and sub-mountain regions. Through this industry, we can see the damage that the toxic substances released into the air from metal smelting, which are released into the environment by the extraction of ore, are caused by the wind to the vegetation that grows in the foothills. Bekobod metal processing plant, Almaliq mining and metallurgical combine are damaging the soil, water and vegetation in the mountain and sub-mountain areas of the Chirchik-Ohangaron valley.

In order to reduce the impact of anthropogenic factors on mountain and sub-mountain regions in the conditions of Uzbekistan, it is appropriate to implement the following recommendations:

– Application of drip irrigation or sprinkler irrigation technologies for irrigated farming in the foothills and mountainous areas;

– Reduction of anthropogenic factors affecting a certain area by feeding livestock on pastures in specific massifs;

– Allocation of tourist visits in foothills and mountainous areas to regions based on a specific schedule;

– In this, mainly on Saturdays and Sundays of the week, reducing the tourist burden on landscapes and preventing environmental pollution;

– To reduce environmental pollution by increasing the attractiveness of areas other than popular tourist areas in foothills and mountainous areas, and to

organize special ecocamps in areas crowded with tourists, and to describe the location and routes of tourist objects and special ecocamps through mobile applications;

– Reduction and optimization of chaotic footpaths organized by the population in foothills and mountainous areas;

– Preventing cutting down of trees by continuously providing fuel and energy resources for the spring-autumn season to the people living permanently in the foothills and mountainous areas;

– It is desirable to prevent the pollution of running water by introducing a special sewage system for guest houses and other types of tourist facilities in the foothills and mountainous regions.

References:

[1]. Boymirzaev, K. M., and I. K. Mirzahmedov. "Oakh Landscapes And Their Creator Factors Study." *The American Journal of Applied sciences* 2.09 (2020): 118-127.

[2]. Boymirzaev, Karimjon M. "REGISTRATION OF INITIAL ACTIVITIES OF CIVIL GEOECOLOGICAL SITUATION OF NORTHERN FERGANA AND ISSUES OF OPTIMIZING THEM." *Journal of Geography and Natural Resources* 1.1 (2022): 41-49.

[3]. Boymirzaev, K. M. "GEOECOLOGICAL CHANGES IN THE USE OF THE NATURE OF THE FERGANA VALLEY." *Экономика и социум* 7 (2020): 7-12.

[4]. Mirzaxmedovich, Boymirzaev Karimjon, and Khalilova Khurshida Teshaevna. "Fergana valley distribution landscapes establishment and exploration." *ACADEMICIA: An International Multidisciplinary Research Journal* 11.8 (2021): 286-289.

[5]. Mirzakhmedovich, Boymirzaev Kharimdjon. "Geoecological Problems and their Prevention in Kokand Oasis Landscapes." *Electronic Research Journal of Social Sciences and Humanities* 1 (2020): 134-137.

[6]. Mirzahmedov, I. K. "SOILS OF THE KOKAND OASIS AND THEIR ECOLOGICAL RECLAMATION." *Экономика и социум* 3-1 (2021): 182-186.

[7]. Mirzahmedov, I. K. "Use And Protection Of Natural Resources Of Kokand Oasis." *Nature and Science* 12 (18) (2020): 49.

[8]. Akaboyev, I. Z., & Mirabdullayev, B. B. (2020). THE IMPORTANCE OF ELECTRONIC MAPS IN THE DISTRIBUTION OF AGRICULTURAL. *Theoretical & Applied Science*, (4), 123-126.

[9]. MIRZAAXMEDOV, X. S., & AKABOYEV, I. Z. O. G. L. (2021). MAPPING THE POPULATION OF NAMANGAN REGION USING MODERN GIS TECHNOLOGIES. *THEORETICAL & APPLIED SCIENCE Учредители: Теоретическая и прикладная наука*, (12), 1070-1074.

[10]. Makulov, Ja T., and I. Z. Akaboyev. "ANALYSIS OF DRAINAGE AND RAIN INTENSITY TO SOLVE THE FLOOD PROBLEM IN TASHKENT." *Экономика и социум* 6 (2020): 126-129.

[11]. Akaboyev, I. Z., and B. B. Mirabdullayev. "The importance of electronic maps in the distribution of agricultural Theoretical & Applied Science 4 (84) 123-126." *DOI* 10 (2020): 15863.

[12]. Jumakhanov, Sh, M. Jalolidinova, and Sh Zoirjanov. "NOTIONS ABOUT THE NATIONAL TRADITIONS OF THE PEOPLE OF THE OASIS AND THE VALLEY." *Вестник магистратуры* 4-1 (127) (2022): 16-22.

[13]. Акабоев, И. З. Значение картографирования в географическом исследовании сферы услуг населения / И. З. Акабоев, Ш. Д. Хасанова // Экономика и социум. – 2022. – № 10-1(101). – С. 887-890. – DOI 10.46566/2225-1545_2022_1_101_887. – EDN FQKLYV.

[14]. Jumakhanov, Sh Z., and A. Toshpulatov. "Geographical models of enclaves/exclaves in the type of “Matryoshka”." *ISJ Theoretical & Applied Science, 11 (103)* (2021): 1142-1149.

[15]. Jumakhanov, Sh Z., and A. M. Toshpulatov. "Geopolitical view of the Central Asian region: Uzbekistan's geographical location in the region and its relationship. ISJ Theoretical & Applied Science, 11 (79).–Philadelphia, The USA.-P. 515-519." (2019): 515-519.

[16]. Kamalov, B. A., and E. A. Soliev. "Estimation of large intermountain depression river runoff response to global climate warming." *Russian Meteorology and Hydrology* 37.11 (2012): 783-789.

[17]. Мирзахмедов, Хамидулло и Хусниддин Наимов. "ЭТО ХАРАКТЕРИСТИКА ТЕРРИТОРИАЛЬНЫХ СИСТЕМ РАССЕЛЕНИЯ НАСЕЛЕНИЯ НАМАНГАНСКОЙ ОБЛАСТИ." Научный вестник Наманганского государственного университета 1.1 (2019): 204-209.

[18]. Soliev, E. A. Assessment of the river runoff reaction of large intermontane depressions on global warming.

[19]. KAMALOV, BA, and È. A. SOLIEV. "Ocenka reakcii stoka rek krupnyh mežgornyh vpadin na

global'noe poteplenie klimata." *Meteorologiâ i gidrologiâ* 11 (2012): 65-74.

[20]. Soliev, I. R., & Gulomjonov, D. (2019). REACTION OF FERGANA VALLEY RIVERS TO CLIMATE CHANGE. *Scientific Bulletin of Namangan State University*, *1*(12), 219-224.

[21]. Makhmudova, Manzura Juraevna. "PROSPECTS FOR VITICULTURE IN THE NEW UZBEKISTAN." *Theoretical & Applied Science* 8 (2021): 90-92.

[22]. Makhmudova, M. J., and A. A. Shomurodov. "Improvement of intensive garden expansion in namangan region." (2021).

[23]. Махмудова, Манзура Джураевна. "ПЕРСПЕКТИВЫ ВИНОГРАДАРСТВА В НОВОМ УЗБЕКИСТАНЕ". Теоретические и прикладные науки 8 (2021): 90-92.

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