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ОСВОЕНИЕ И ВОЗНИКАЮЩИЕ ГЕОЭКОЛОГИЧЕСКИЕ ПРОБЛЕМЫ СЕВЕРНОГО ФЕРГАНСКОГО ПРЕДГОРЬЯ ПОД ВЛИЯНИЕМ АНТРОПОГЕННЫХ ФАКТОРОВ**DEVELOPMENT AND EMERGING GEOECOLOGICAL PROBLEMS OF THE NORTHERN FERGANA FOOTHILLS UNDER THE INFLUENCE OF ANTHROPOGENIC FACTORS****Наимов Х.Н., Мирзахмедов И.К.**

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Аннотация. В данной статье описывается почвенно-экологическое состояние горных и предгорных районов Узбекистана, освоение их под влиянием антропогенных факторов и влияние минеральных удобрений на плодородие почвы, а также рекомендации по их профилактике.

Abstract. This article describes the soil and ecological state of the mountainous and foothill regions of Uzbekistan, their development under the influence of anthropogenic factors and the influence of mineral fertilizers on soil fertility, as well as recommendations for their prevention.

Ключевые слова: долины, горные и горные районы, экология почв, процессы засоления, химические полимеры, осадки, экологические проблемы, антропогенные факторы.

Keywords: valley, mountain and mountain regions, soil ecology, salinization processes, chemical polymers, rainfall, ecological problems, anthropogenic factors.

A number of reforms and measures in the agricultural sectors carried out by the leadership of our country are also aimed at effective use of irrigated land, increasing soil fertility and agricultural crop yields. At the same time, it is noted that it is necessary to make good use of existing irrigation facilities, pay attention to the landscape features of the developed land, develop a system of crop rotation, correctly take into account the possibilities of the land, apply melioration and agrotechnics on a scientific basis, and increase the productivity of irrigated land in the future. According to the decision of the president of the Republic of Uzbekistan dated March 25, 2022, PQ-179 "on measures to increase soil fertility and productivity in cotton fields, support the introduction of new irrigation technologies", currently, more than 20 million hectares are grown in agriculture, including more than 3.2 million hectares of irrigated arable land, the necessary raw materials for food, agricultural and economic sectors for the needs of the population.

Despite the scarcity of irrigated land and cotton fields, which are our main wealth, the expansion is extremely low compared to the increase in the number of our people. This is due to the fact that during the period 1980-1990, on average, more than 90 thousand hectares of new land were appropriated in our republic per year, while in recent years, due to water shortages, this figure is 5-6 thousand hectares. More than 50% of irrigated land is saline and is being reduced in productivity and decommissioned in agricultural sectors due to its poor ecological-reclamation condition.

It should be noted that in the irrigated cultural soils of our country, the level of salt Waters is around 3-5 m, mineralized to varying degrees, they are directly involved in the re-salinity of soils. The accumulation of salts and salinity of the lands is accelerating in the regions of the steppe region and the hungry-rich soils region, namely the regions of the Republic of Karakalpakstan, Khorezm, Bukhara, Syrdarya (8.1 thousand hectares are strongly saline, 49.8 thousand hectares are moderately saline, and 220.5 thousand hectares are poorly saline), in the regions of the Kashkadarya, Surkhandarya, Navoi, Samarkand, Farghana Valley. According to him, after the 2010s, we will see that the level of salinity of soils has increased by the Republic by 2446.9 hectares, that is, by 65.9 percent. On the territory of the Khorezm region and the Republic of Karakalpakstan, about 91% of irrigated land has undergone soil salinization, desertification and agroecosystem degradation processes are also observed. In particular, geobotanical surveys of 5.3 million hectares of grasslands in the islet showed that 2.4 million hectares of land had been degraded, compared to 45%.

The Fergana Valley is distinguished from other regions of Uzbekistan by the variety of landscape complexes as a result of changes in its natural conditions and Geosystems in accordance with the latitude and altitude regionalization. At the same time, the territory of the Valley has long been characterized by the fact that obikor farming is well developed and its nature is strongly assimilated due to human economic activity. The most densely populated, mountain and mountainous landscape complexes are clearly distinguished from other regions as a transformed region under the influence of an anthropogenic factor. All landscape complexes of the Fergana Valley have favorable natural geographical conditions and landscape complexes for the development of agricultural agroeconomics and various industries, as well as recreational systems.

The topic covered in this article is devoted to anthropogenic factors affecting the soil-ecological conditions and fertility of the Fergana Valley Mountain and mountain regions, and is also distinguished by the fact that it causes various environmental problems in the landscapes of the mountain and mountain regions, eliminates unpleasant environmental consequences, and the development of recommendations for the protection of

Objectives and objectives of the work: research is carried out on a number of priority areas to determine the level of anthropogenic impact on cultivated lands in advanced countries of the world through modern methods, including research by Russian scientists on the impact of anthropogenic factors and mineral fertilizers on the soil-ecological conditions and fertility of the Fergana Valley Mountain and mountain regions, using improved Determination of the influence of natural components on the absorption and formation and development of mountain and mountain areas under the influence of anthropogenic factors, study of the soil-ecological state, taste of natural and anthropogenic processes affecting soil fertility

Research results and their discussion. The constant evolution of mankind and its development will bring new changes to the world. Thanks to the vital activity of the human community, the planet is constantly moving towards an environmental disaster. Global warming, ozone holes, extinction of many animal species and extinction of plants are often associated precisely with the influence of the human factor. According to scientists, due to the constant growth of the population, over time, the consequences of human activity will increasingly affect the surrounding world, and if the necessary measures are not taken, it is this process that can be the cause of the extinction of all living organisms on the planet. The mountain and mountain regions are also rich in mineral, energy, construction, forest, fruit, animal, medicine and recreational resources from the beginning. Therefore, for the first time in the stages of human society, civilization has long been formed in the mountain valleys, and tara

It is necessary to take into account the dynamics, law of development-yachts and laws of Mountain Nature complexes in the use of nature. The variability of mountain and mountain complexes is determined by such factors as the composition of the rocks that made them up, the slope of the slope, the degree of overlap with plants, the nature of human economic activity. A person often carries out economic activities without fully taking into account the landscape condition of the slopes, dynamics and stages of development. Anthropogenic influence can vary in the current state of the landscape, dynamic variability and general direction of development. The most important thing is that when resources are used inappropriately, negative changes begin to occur in the structure and dynamic state of mountain landscapes. This results in a violation of the law of mutual natural dependence and influence between landscape components and complexes. As an indicator of degradation, it can first be shown that natural-anthropogenic processes are formed, which then occur when the territory completely leaves the circulation of its use in the farm, unfit. Biological and landscape diversity increases the productivity of the use of mountain and Highland nature several times, since landscapes with a diverse structure are practically confirmed in their stability in relation to anthropogenic and natural influences. The law of diversity nature is very important, ascribes in the use of resources, in particular in the circulation of the riches of land, pasture, vegetation, recreation.

The homogeneity of landscapes leads to the development of undesirable processes in large areas. The law of diversity regulates the emergence and progress of negative processes in the territory. There are many laws and laws of change and development of nature, the study of which, knowledge facilitates the optimal use of resources, the development of landscapes in the direction of degradation, environmental pollution, as well as the browning of wealth are obtained. The influence of human economic activity on changes in Mountain and Mountain natural processes, complexes, geoeological situations, resources.

Natural complexes of mountain slopes, valleys and mountain plains are present in regular change under the influence of gravitational force, geoeological features of Environmental Protection in the big Fergana Valley and materials of the Republican scientific and practical conference on their optimization slope, Mountain-Valley Winds, groundwater and surface water flow and other factors. As a result of human economic activity, the placement of industrial enterprises on mountain slopes and valleys is influenced by the above factors, pollution, degradation of the environment, out of circulation occur. Industrial enterprises (Kyzylkia, Haidarkon, Sulyukta, Anzob, Khondiza, thin, Almaliq, Angren) that provide production activities on the upper slopes are polluted by underground and surface water basins, soils, natural and cultural plants, heavy metals, atmospheric air, is gas, methane, nitrogen two oxides, zot oxide and other gases in the lower parts and plains of the valleys.

Mountain-valley winds are distributing polluted air across plains and mountain (Ohangaron, Surkhan, Fergana, Chirchiq) valleys. As a result, groundwater is contaminated with heavy metals, petroleum products, and heavy metal ions in the soil and plant are several times more susceptible to contamination than the recommended norm. Various diseases are spreading among the population due to drinking water pollution. On the slopes of the mountain, the development of processes such as erosion, surilma, flooding, suffosia, coastal collapse due to the effects of surface and groundwater is widely observed. This is also prioritized by the direct influence of human economic activity in certain places.

On the banks of the mountain and Mountain reservoirs (cattle, stagnant, Nurek, chimney, Talimarjon, Chordara, Kayroqum, Hisor, etc.), as a result of the water-carving event of the lyoss and lyosim rocks, grunt kissing, frequent recurrence of the flood, their shallowness due to the flow of turbid, sand, small gravel stones. The degradation of the grass cover on the slopes, in particular due to the shearing of trees and shrubs as building material, improper Organization of cattle grazing, is causing erosion (washing of 5-20 tons of soil per hectare and more) and intensification of surilmas (3-8 tons per hectare). As a result, I carved the slope-the depth increases, and its use in the farm becomes more complicated. Surilma, suffosia and erosion of the ravine in combination with the flood phenomenon are causing changes in nature complexes without a complex. This

phenomenon is often a priority in the low mountain region and in the upper part of the mountain range. The distribution of lyose and lyose rocks creates good conditions for erosion, abrasion and violent movement of floods. The formation of a typical bedland form is composed in relatively quick periods. As a result, a strongly decomposed new natural complex is formed in the place of a sloping slope with a ledge.

Since the mountain and mountain regions are single, interconnected natural complexes, taking into account the exchange of matter and energy and their one-sided movement, it makes it possible to also be called a whole geosystem in a certain sense. Mountain complexes are formed, formed and developed at the expense of mountain Geosystems. Taking into account this law, all structural-dynamic changes in Mountain complexes depend on the scale of influence of the natural and anthropogenic functional phenomenon and processes occurring in the mountains. Changes that occur in Cone spreads: rough rocks or lyossil deposits, increasing the thickness of the body, the decrease in iodine depends on the erosion and speed of floods that occur on the slopes of the mountain. The geoecological features of Environmental Protection in the Fergana Valley from the norm of heavy metals in the soil of the foothills of the Fergana Valley cone arcs and their optimization the materials of the Republican scientific and practical conference will be several industrial enterprises located on the slopes of the low mountains (Kyzylkia, Haidarkon, Sulyukta, etc.).) is explained by the production activities of. Technical means contaminate geocomplexes with carbon monoxide, nitric oxide and carbon gases. Technical vehicle emissions also have an impact on the exchange of matter and energy in landscapes.

The composition of industrial complexes of alpine landscapes is made up of cotton cleaning, light industry, food, mechanical engineering and metal processing, chemical and building materials industries. Alpine landscapes industrial complexes are unevenly distributed over its territories, even for the processing of its raw materials. In the first years of independence, in order to develop industrial complexes and rationally use raw materials resources, many joint ventures were established in the territory. The development of reserve land in the alluvial-prolyuvial plains below the mountain, where regular guaranteed crop production depends in many cases on the nature of irrigation farming activities in their upper reaches.

If a large amount of water is used above normal in irrigation in the upper part of the alluvial-prolyuvial plain due to the size of the wet transfer capacity of the grunt, a steep rise begins to prevail in its lower part due to the slow movement of the current and approaches the ground bet. As a result, due to the evaporation of moisture, the soil is given to salinity. During the last years of the last century, the land in Zafarabad District of Tajikistan was appropriated, and when irrigated, 50,000 acres of dry and partially irrigated land in the Mirza-desert were heavily affected by the salinization process. In particular, the irrigated arable area in Northern Fergana was 1413834 hectares, and when the soil sample was analyzed it was found that 89929 hectares were weakly saline, 29577 hectares were moderately saline, and 3698 hectares were strongly saline.

The geoecological and economically stable development of mountain and mountain complexes is primarily due to such factors as the convenience of natural conditions, the rationality of the process of using nature, the fact that the geoecological situation is in a satisfactory state, and the high economic indicators on this basis. The most important thing is to use natural resources in moderation on a scientific basis, to ensure the release of man-made waste into atmospheric air and water bodies in the minimum (recommended) amount, to obtain contamination of soil and plant cover with heavy metals, petroleum products, pesticides, radioactive substances obtained and geoecological stability can be achieved if the public health is maintained at a high level. A favorable healthy geoecological situation makes it possible to put the rich economic potential of the territory on the path of sustainable development.

Table. Saline soils of the Northern Fergana regions (2022 year)

<i>№</i>	<i>District name</i>	<i>Unsalted thousand acres.</i>	<i>Strongly salted thousand acres.</i>	<i>Moderately salted thousand acres.</i>	<i>Low salinity thousand acres.</i>
1	<i>Mingbulok</i>	23,138	0,090	2,932	12,030
2	<i>Kosonsoy</i>	24,977	0,030	0,061	0,138
3	<i>Namangan</i>	21,673	-	-	0,075
4	<i>Norin</i>	16,938	-	-	-
5	<i>Pop</i>	32,954	0,512	1,862	5,331
6	<i>Touraqourgan</i>	18,774	-	-	0,261
7	<i>Uychi</i>	20,450	-	-	0,063
8	<i>Uchkurgan</i>	24,103	-	-	-
9	<i>Chortok</i>	20,195	-	0,009	0,153
10	<i>Chust</i>	33,526	0,090	0,110	0,216
11	<i>Yangikurgan</i>	27,698	-	0,033	0,106

Consequently, sustainable development is a complex dynamic system, it covers many aspects. As a basis, it covers natural conditions, the state of resource use, the direction of the geoecological situation (together with the health of the population). As an indicator, it is permissible to indicate socio-economic development. It is usually noted that in areas where industrial production is strongly developed, the geoecological situation is tense or tangent.

This situation is due to the nature of production, its provision with technology that is suitable for modern, world templates, the levels of resource use and environmental awareness, the effectiveness of man-made waste treatment chemicals at the enterprise and the influence of many other factors. It is clear to everyone that industrial enterprises produce finished products and bring huge income to its owners. The second side of the issue is that during the production process of the enterprise, the environment is polluted by man-made waste, the population is given to various diseases, there is no serious importance in impoverishing and degrading the quality of existing resources. Before the administration of the enterprise, this seems to be a supposedly secondary, not very practical matter. If the losses incurred are accounted for in monetary terms, the total one-year loss must be close to all the income of the enterprise within that period.

Particular importance should be attached to this problem, an in-depth study and an appropriate conclusion should be developed. We are talking about the environmental situation of production, the quality of resources, the complication of the geoecological situation, the harm it causes to the health of the population. A very important, serious urgent issue, the positive solution of which is the same provision. In the Fergana Valley, geoecological features of Environmental Protection and materials of the Republican scientific and practical conference on their optimization have many unimproved aspects that provide organization and development, both in the economy and in production.

By studying internal conflicts and imperfect aspects in the "nature-farm-population" system-it is advisable to establish an optimal path of progress based on their elimination, as well as to develop production sustainably. There are problems of eco-economic sustainable development in Mountain and mountain complexes. First of all, it is necessary to stabilize environmental development, and then at its core it is advisable to stabilize economic development. If geoecological and economic sustainable development is achieved in Mountain and mountain complexes, then it is easy to achieve an advantage in the stability of progress in this aspect in the plain.

Geoecological-management of geographic anthropogenic change, strategies and priorities for the use of nature. Man is constantly developing his productive forces, based on the exploitation of existing resources, carrying out large projects of construction in the mountain and mountain regions. It has a perennial stable function if large-scale anthropogenic modifications (reservoirs, cellars, iron and highways, canals, Hydro-tunnels, tunnels, various engineering structures) are in line with the local natural conditions of the area and the influence of omillri.

So, if the tolerance of an engineering structure to the influence of environmental factors is stagnant, in turn, from its man-made impact on the environment, sharp changes in its dynamic state are not felt, then their stability functions will last for a long time. In certain structures, this feature can be impaired. As a result, he becomes obsessed with natural factors and begins to move away from performing his individual functions, ceasing his activities after a certain period of time. Chordara, Kayrokkum, Degrez and other reservoirs are now filled with turbidity, the useful coefficient of work has a much smaller indicator. In such a situation, taking into account the extreme shortage of water in the area, it is advisable to repair it and bring the water capacity to the indicator in the project. Managing a task within such a complex hydrological, hydrogeoecological and practical landscape is not an easy task.

To do this, a deeply worked project should be prepared in every possible way. In this case, the implementation of work in the field of engineering hydrological and geoecological and landscape, Hydro-landscape areas in a complex way allows you to achieve the intended goal. The use of nature is planned, phased, normative, with a vision of a distant future, tactics of bringing resources into circulation in a scientifically based way, savings, another non-exhaustive alternative option of natural finishers (wind, solar energy, etc.) in the event of their widespread use, increased use in the production of secondary resources, timely quality execution of recultivation, regular application of low-waste and waste-free technology, full preservation of environmental purity, to achieve a favorable level of geoecological situation and rely on other principles.

In the process of using the natural environment, it is also important to take measures to protect it at the same time and some in advance, replace as much as possible toxic chemicals used against diseases and diseases in plants with biometodes, apply large fines for contaminating and violating it in the use of nature, and in general, switch to the use of

Geoecological problems are processes and phenomena caused by natural and anthropogenic factors that negatively affect the health and economic activity of people, causing an imbalance in their relationship with the natural environment and in one whole of geoethics. Geoecological problems are subject to natural geographical laws. Therefore, research methods, approaches and principles of natural geographical sciences should be used in its research. It is also possible to study the geoecological problem within the framework of an ecosystem, biogeocenosis or administrative-territorial unit. But in this case, the territorial boundaries of this problem do not always correspond to the boundaries of the geosystem.

When a person uses natural resources, first of all, natural conditions begin to change, its main influencing factors are in dynamic change, changes in certain directions of Geosystems are made up. Geoecological problems are usually systemic in nature, and these properties are manifested in:

- interaction of natural and social processes and laws;
- science that requires the integration of geography, ecology, geology and other sciences is of particular importance;

- the presence of a number of users of resources for various purposes;
- it is impossible to characterize the state of a Geoenvironmental or geoecological problem by a single indicator.

The geoecological problem is not a hardened, fixed state, but a system of regular dynamically changing and evolving, multiple simple problems. For example; while the Geoecological problem in the islet began to arise from the early 1960s, it moved to the formation stage in the mid-1970s (after the construction of the 1974 Taxiotosh seaplane, when natural flooding in the Delta ceased). At first, with the rise of the grunt waters, the soils began to saline, then EOL relief forms appeared. Soils are changing in the following direction: alluvial Meadow-Meadow and Marsh-Meadow, Saltmarsh and Meadow-Taur-typical Saltmarsh-taury Saltmarsh and Taur-sand desert soils (A.Rafikov, 1997).

There fore, in the decision of the president of the Republic of Uzbekistan dated March 25, 2022 "... on measures to increase soil fertility and productivity, support the introduction of new irrigation technologies"[1] PQ-179, practical work is being carried out to test our country in certain regions to improve soil fertility and improve its ecological condition

A number of advances have been made through cross-sectional testing. In particular, due to the return of irrigated land to agriculture, the arable land increased by 326 thousand hectares; cotton-planted areas decreased by 258 thousand hectares, and today crops are grown there that are low in moisture, resistant to salinity and, most importantly, capable of gradually improving the quality of soil (for example, legumes, oil crops, licorice); On an area of 443 thousand hectares, water-saving technologies were introduced, which made it possible to save about ten percent of the total volume of water consumption; as a result of assessing the quality of 3 million 136 thousand hectares of irrigated land, as well as monitoring the salinity of 797 thousand hectares, salinity maps of the soil were compiled.

To eliminate the geoecological problem, it is necessary to first understand the restoration of the primary natural balance. Natural equilibrium (ecological equilibrium) retrieval is the convergence, engagement, and movement between natural components and geoism closer to its original state, but cannot be reversed to its original state. In the measures to restore the disturbed natural balance, it is necessary to bring the living conditions and health of the population to the same state as before. For example, Islands and islets are inextricably linked problems, the solution of which can only be solved if they apply a measure of complex interrelated measures. In this, it is necessary to achieve a clean and high amount of water coming from the outside in the first place. Because, the accelerating force of the problem is the phenomenon of desertification in arid climates.

Conclusion. The strategy for the use of nature - when dividing the nature of the territory and its resources in production circulation for a long period (5-10 years or more), is understood as the principles of its use, methods and methods, regulatory indicators, the introduction of wealth into rational circulation, the Prevention of qualitative and drastic quantitative changes, savings, etc. The priorities for the use of Natural Resources, let's say, consist in the step-by-step application of a new progressive technology in irrigation, following the standard and improving quality of water in all areas, in particular in irrigation farming.

The geoecological and economic sustainable development of mountain and mountain complexes positively affects the satisfactory state of the natural environment, the rational use of resources, the optimal state of nature protection and geoecological situation, in turn, a high level of Public Health. In such a favorable geoecological environment, economic sustainable development is ensured.

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