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TRANSFORMATION AND DISRUPTION OF THE SUSTAINABILITY OF NATURAL ECOSYSTEMS AS A RESULT OF ANTHROPOGENIC IMPACTS

Abstract

Man gets from nature what he needs for himself, air, water, material goods, raw materials for industry, and so on. As a result of the blind use of these resources for many years, the environment has changed worldwide. Increase in the use of these treasures, the introduction and expansion of new technologies in energy, industry, agriculture, transport, anthropogenic changes in world landscapes, the complexity and expansion of international economic relations, and other factors strengthen human interaction with the environment and human activity has led to an increase in the anthropogenic burden on the environment.

Key words: *environment, anthropogenic impact, environmental hazard, living being, international cooperation*

Ülvi Ələfsər oğlu Məmmədov

Təbii ekosistemlərin davamlılığının transformasiyası və mübahisəsi antropogen təsirlərin nəticəsi kimi

Xülasə

İnsan özü üçün nə lazımsa-hava, su, maddi nemətlər, sənaye üçün xammal və s.-ni təbiətdən alır. Bu sərvətlərdən yüz illərdən bəri kor-təbii istifadə olunması nəticəsində ətraf mühit dünya miqyasında dəyişilməyə məruz qalmışdır. Yer sərvətlərinin istifadəsinin durmadan çoxalması, energetika, sənaye, kənd təsərrüfatı, nəqliyyat sahələrində yeni texnologiyaların tətbiqi və istehsalının genişlənməsi, dünya landşaftlarının antropogen dəyişməsi, beynəlxalq təsərrüfat əlaqələrinin mürəkkəbləşməsi və genişlənməsi-bu və ya digər amillər ətraf mühitlə bəşəriyyətin qarşılıqlı əlaqəsinin güclənməsinə və insanı əhatə edən mühitə antropogen yükün artmasına səbəb olmuşdur.

Açar sözlər. *ətraf mühit, antropogen təsir, ekoloji təhlükə, canlı varlıq, beynəlxalq əməkdaşlıq*

Introduction

The ecological crisis is not only the pollution of air, water, soil and nutrients. Transformation and in some cases, degradation of natural ecosystems as a result of anthropogenic impacts lead to disruption of biogeochemical circulation and ultimately, environmental sustainability. This is reflected not only in the negative changes in the environment, but also in the structure of the human genome. The steady increase in hereditary diseases in all countries of the world is due to changes in the genome. This is primarily due to the need for public health to be directly dependent on environmental hazards.

Ecology was formed within the framework of the philosophical worldview of human society. Logically, the development of ecological science was influenced by the generalized dialectical ideas of philosophical knowledge. In the history of ancient philosophical thought, the dialectical approaches between "space-man" played an important role in the genesis of ecological science. At the same time, it should be noted that in some cases, the environmental crisis manifests itself in changes in the environment both domestically and internationally.

Mankind, as a living being is inextricably linked with the material and energy processes that take place in the biospheres of the Earth's geological crust. It makes up a very small part of the biosphere in terms of the mass of living things, about 0,25% (Novikov, 2003:544 p, Sariyev, 2004). It is concentrated on land, in water bodies, in the atmosphere in the form of a thin layer. The process of evolution applies only to living organisms. According to V.I. Vernadsky, living organisms

perform biogeochemical function in the biosphere. The main purpose of environmental protection is to study the impact of various factors, primarily anthropogenic factors, on the element of the biosphere. Mankind is increasingly convinced that the earth is a unique creation with its own biosphere and living things.

The degradation of the biological world as a result of anthropogenic and technogenic impacts annually leads to the destruction of a large number of plant and animal species, creating "dead zones" in a particular territory. Currently, the environment is so polluted that the ecological crisis in local areas continues to threaten the lives of living beings and people, and in recent years, this process has accelerated. If this situation persists in the biosphere, serious threats to the life of living beings and humans may arise in the future. At present the world science and humanity are watching with great excitement the dangerous events that could cause possible disasters for this unique planet. These catastrophic events are due to the profound changes in the industrial and agricultural activities of modern man, who is considered the world's most horrible. Human activities primarily have a strong impact on the atmosphere, which leads to catastrophic changes in ecosystems.

At present, the influence of the human element on the ecosystem has grown exponentially, as the technology created by man and used as a means of influencing nature has become an uncontrollable and anarchic factor, with the systems that is practically independent of man (Sokolova, 2004:256 p. Kingslan, 2004:374 p.). As a result, there are now Global problems that are of great concern to mankind and are becoming increasingly difficult to solve, and it is difficult to say that they will not continue to arise. The direction and maintenance of the balance formed in nature depend very much on the economic season of man, balance determines the development of nature by its own laws. International cooperation in the field of environmental protection has further expanded and acquired a Global character. There are two forms of such cooperation:

Intergovernmental agreements and conventions on environmental protection and national use of natural resources participation in the work of international nature protection organizations. Interstate agreements and conventions are concluded, above all, between states with similar physical and geographical conditions and common borders. Great work is being done on international cooperation in the field of environmental protection in the United Nations system. From the earliest days of the United Nations, environmental protection has been one of the organizations' practical tasks. In 1949, the first United Nations action in this area was held in Lake Sachs, USA. Efficient use of natural resources and environmental protection have been at the center of attention of the world community over the past hundred years. After the Second World War, under the influence of public opinion, many states took important measures and decisions in this regard. It should be noted that nature conservation has been an important issue since the beginning of the 20th century. In the last 45-50 years, the global public exchange of views on environmental issues has become more and more widespread. At the suggestion of most countries, the International Conference on the Protection of the Biosphere and its Resources, held in Paris in 1968 under the auspices of UNESCO, the Congress of the Economic Commission for Europe on Environmental Protection in Prague in 1971, and in recent years the United Nations Conference on Environmental Protection environments have set important tasks for society in the field of nature protection.

Brief historiography. The disturbance of the environment of the environment, the ecological balance, was almost unnoticed at the beginning of the 20th century, the people of the earth received fresh air, drank pure water, and the world was considered infinite, inexhaustible with natural resources. It is unfortunate that in just a few years, humanity has been on the bank if a catastrophic environmental catastrophe, and many ecologists now believe that if the world continues to follow this path, if the human race remains indifferent to what is happening, it will be more serious disasters await. It is interesting to note that J.B. Lamarck's idea that "the main goal of modern man is to make the earth useless first and finally to destroy himself" The way out of all this is reflected in Epicurus' call not to use force against nature but to subdue it and brutally repel all evil deeds while using nature for your desires. Beginning in the second half of the 20th century, rapid population growth and scientific and technological revolutions marked the beginning of a sharp decline in the biosphere.

Ecological crisis is not only the pollution of air, water, soil and nutrients. Transformation and, in some cases, degradation of natural ecosystems as a result of anthropogenic impact lead to disruption of the biogeochemical cycle and, ultimately, environmental sustainability. This is reflected not only in the negative changes in the environment, but also in the structure of the human genome. The steady increase in hereditary diseases in all countries of the world is due to genetic changes. This is primarily due to the fact that the health of the population is directly dependent on environmental hazards. At the same time, it should be noted that in a number of cases, changes in the environment during an ecological crisis are reflected both within the country and internationally.

Natural ecosystems formed over millions of years have undergone significant changes, becoming intolerant of human external influences and becoming unsustainable. The result of human activity is the destruction of forests, plowing of steppes, the creation of artificial lakes, seas, land reclamation, the establishment of, mega cities, the construction of roads canals, highways, in general, changing the landscape of the earth's surface. It should be noted that the literature shows that natural ecosystems are declining at a rate of 1% per year, including that the area of most tropical forests is declining by 2000.000 ha per year and that the area of deserts is expanding by 60.000 km² per year (Aliyeva, Mustafayev, 2004:426 p. İsmayılova, 2016: 8-11p). Disturbance of the earth's heat balance, global warming occurs as a result of the mass accumulation of gases and dusts in the atmosphere, which have a greenhouse effect, and as a result of these processes, 1-2 % of the ozone layer is depleted per year.

Expansion makes the bitter disaster inevitable. It was from the above period that the results of human activities on Earth became theoretically interesting for the first time. In addition to being regarded as the beginning of the science of ecology, this period of reflection has created certain ecological systems in the ecology of human activity in many fields of education and science. The more nature is exposed to pollution, the less effective the protection and preservation of the organism from xenobiotics. The science of genetics has proved that the pollution of the environment with harmful and noxious substance has a very negative effect on the genetic program of living things especially, man and leads to the development of many diseases. For these reasons, while further intensifying the "production" of biological products we must prioritize eco-problems and plan as much as possible to maintain optimal living conditions.

Presentation of the main text: Living nature is not an irregular or accidental union of living beings, but a stable and organized system formed in the process of the development of the organic world. These funds do not amount to even one percent of the damage to environmental, social and economic development in the process of nature management. Such "protection" of nature and the environment is similar to the treatment of a seriously ill patient in intensive care without a medical history. It should also be noted that the amount of marginal waters discharged into the Caspian Sea from large cities and towns on the Absheron Peninsula is many times higher than the norm. Pollutants from natural sources are often short-lived. Higher pollutants are generated in human-related production processes. This situation has led to a fundamental change in the composition of industrial waste and a new quality of air pollution. As a result, dust of heavy and rare elements and synthetic compounds entered the atmosphere.

In this system, living things with different lifestyles interact both with themselves and with the environment around them (Rustamov, Farkhadova, Seidov, Askerzade, Agasiyev, Mamedov, 1997: pp. 26-32.). It is ecological science that studies the regularities that arise in these relations. The objects that exist in the world around us can have four important properties, depending on the level of development. There are the physical, chemical, biological, and finally, ecological properties that arise from the interaction of objects. Ecological property occurs in the relationship between living and non-living objects.

The results of ecological science are applied in nature protection, agriculture and many industries, in this regard, the solution of many environmental problems is of particular importance. Among them are problems such as the lack of control over production processes based on the identification of mechanisms of adaptation to the environment, the regulation of the number of populations, the determination of the amount of energy, matter, information flows in tropic levels problems can be shown.

Pollutants from natural sources are often short-lived. For example, forest and desert fires, and volcanic eruptions.

Higher pollutants are formed in production process related to human activities. Anthropogenic pollutants vary in type and number of sources. If at the beginning of the 20 th century 19 types of chemical elements were used in industry, at the end of the century all the elements of the Mendeleev table began to be used.

This situation has led to a fundamental change in the composition of industrial waste and a new quality of air pollution. As a result, dusts of heavy and rare elements and synthetic compounds entered the atmosphere. It is estimated that the world's production doubles every 10-12 years, and the amount of pollutants released into the atmosphere increases accordingly (Mammadov, Khalilov, 2005: 879 p).

The main purpose of environmental protection is to study the impact of various factors, primarily anthropogenic factors, on the elements of the biosphere. Mankind is becoming more and more convinced that the Earth is a unique creation with its own biosphere and living beings. At present, world science and humanity are watching with great excitement dangerous events that can cause possible catastrophes for this unique creation of the planet Earth (Ananichev, 1974, Odum, 1975). Although the technical and economic impact of man on nature and its resources to meet the material and cultural needs of the population was initially primitive, later it became more intense as a result of the intervention of scientific and technological progress in our lives. The development of technical progress, the satisfaction of the need for means of production, consumer goods, cultural and household goods accelerates the use of natural resources, especially minerals. The irrational use of natural resources prematurely depletes resources, slows down the process of self-healing within the framework of natural processes, and creates favorable conditions for the formation of ecological crises in the environment.

These catastrophic events are due to profound changes in the industrial and agricultural activities of modern man, who is considered the most honorable in the world. Human activity primarily has a strong impact on the atmosphere, which leads to catastrophic changes in ecosystems. The more nature is polluted, the less effective is the protection and preservation of the body from xenobiotics. The science of genetics has proven that environmental pollution with toxic and harmful substances has an extremely negative effect on the genetic program of living beings, especially the person himself, and leads to the development of many diseases. The attitude of human society towards nature has changed from time to time. In the beginning, nature was only a source of food for man, and man remained indifferent to the fate of nature.

The scientific and cultural achievements of man during the period of 40-50 thousand years of civilization were taken from nature, and all the shortcomings that he has encountered so far have been the result of his mistreatment of nature. Man is the only living being that is trying to completely change the environment. The main goals and objectives of ecology in our time are to discover the interactions and relationships of anthropogenic ecosystems with nature. The study of ecosystems allows you to determine the volume of metabolism and energy conversion. Man-made productive ecosystems are important in comparison with energy populations and biocenoses. In the conditions of the modern development of science and technology, population growth, the interaction of nature and society has become a universal problem. Raising the material and cultural standard of living of people, increasing the production of material goods raises the question of the efficient use of natural resources. The impact on nature as a result of the activities of people armed with technology and energy is so great that its negative factors can be compared with the strength of many impacts in geological periods.

All living things conform to the laws of nature. Only man breaks the laws of nature and tries to completely change them in accordance with his infinite needs. A person's "successes" in this area are actually his failures (Johnson, Strinchcombe, 2007:257 p, Nikanorov, Khoruzhaya, 2003:288 p). Based on the foregoing, we can conclude that the historical role of ecology in human life is an indisputable fact from the moment of the existence of the human race to the last moments of the existence of humanity. Thus, a person interacts with the environment from the day of his existence in the world, and as a result of this interaction, his negative and positive (in most cases this impact is considered the most negative) manifestation in any form in the environment does not necessarily manifest itself.

Conclusion

The results of research conducted by scientists on environmental by scientists on environmental problems show that there is a dialectical relationship between humans and nature. Mans experimental activity effects nature. The effect of subjective factor on the environment has two characteristics. This is ecological incompetence and ecological realism.

References

1. Novikov, Y.V. (2003), Ecology, environment and man". M.Grand Faur.
2. Sariyev, R. (2004), Optimization of human-nature relations: unity of legal mand morel factors": Baku: Elm.
3. Sokolova, L.P. (2004), Ecology". Moskva; Prior-published.
4. Kingslan, S. (2004). "Conveying the intellectual challenge of ecology: An historical perspective". *Frontiers in Ecology and the Environment* 2 (7): pp.367–374.
5. Aliyeva, R., Mustafayev, G. (2004), "Ecology", Baku: Elm.
6. İsmayılova, S. (2016), "The role of ecology in human life". *Journal of "Science and Life"*, №3, 8-11 pages.
7. Rustamov, M., Farkhadova, G., Seidov, Z., Askerzade, S., Agasiyev, R., Mamedov, D.(1997), Fuel Potential of Oil Refining Industry in Azerbaijan /Fourth Baku International Congress/Baku, Azerb. Republic, Sept. 23-26, vol. 7, pp. 26-32.
8. Mammadov, G., Khalilov, M. (2005), Ecology and environmental protection. Baku, "Elm", 2005, 879 pages.
9. Ananichev, K.V. (1974), "Environmental, energy and natural resource issues" Moscov:Nauka
10. Odum, V. (1975),"Fundamentals of ecology". Moscow: Mir.
11. Johnson, M. T.; Strinchcombe, J. R. (2007). "An emerging synthesis between community ecology and evolutionary biology". *Trends in Ecology and Evolution* 22 (5): 250–257.
12. Nikanorov, A.M., Khoruzhaya, T.A. (2003), "Global Ecology": Study Guide , Moscow,"Knigaservis".

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