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Economic and Legal Aspects of the Protection of Natural Ecosystems

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Abstract. Recently, the problem of preserving natural ecosystems, which has long been given secondary importance, has been actualized. The focus of modern society on sustainable development and conservation of biodiversity has led to new changes in the legislative and economic spheres of regulation of harmful effects on nature as a result of human activity. The main measures of managing the process of ecosystem protection and lean nature management are considered. The problems accumulated during the periods of transformation and industrial transition of the world ecological and economic paradigm to a new high-tech level of development are listed. Conclusions are drawn about the need for an integrated approach to environmental management.

INTRODUCTION

International agreements on the implementation of a global model of sustainable development within the framework of the conservation of planetary biodiversity represent a strategic plan for the future development of society in harmony with wildlife. This harmony is impossible without the implementation of the principles of conservation of natural ecosystems in conditions of deteriorating ecology and reduced biodiversity. To this end, it is necessary to conduct a comprehensive inventory of the state of existing ecosystems for their sustainability and productivity of ecosystem services. The quality of life of every person on the planet depends on nature, thanks to which we have clean air, fresh water, fertile soil for agriculture and a diverse animal world. To preserve this condition, the natural ecosystem is able to reproduce itself, but the excessive anthropogenic impact of recent decades does not give it the opportunity for self-healing, which gradually leads to its destruction. As the practice of recent years proves, natural ecosystems are constantly experiencing environmental and human impacts, which quite often have a negative impact on its stability and preservation (1., 2.). The number of environmental factors is constantly increasing and it is already possible to talk about the complexity of factor impact on ecosystems. Let's take a more comprehensive look at the factors of negative impact on ecosystems (Fig. 1).

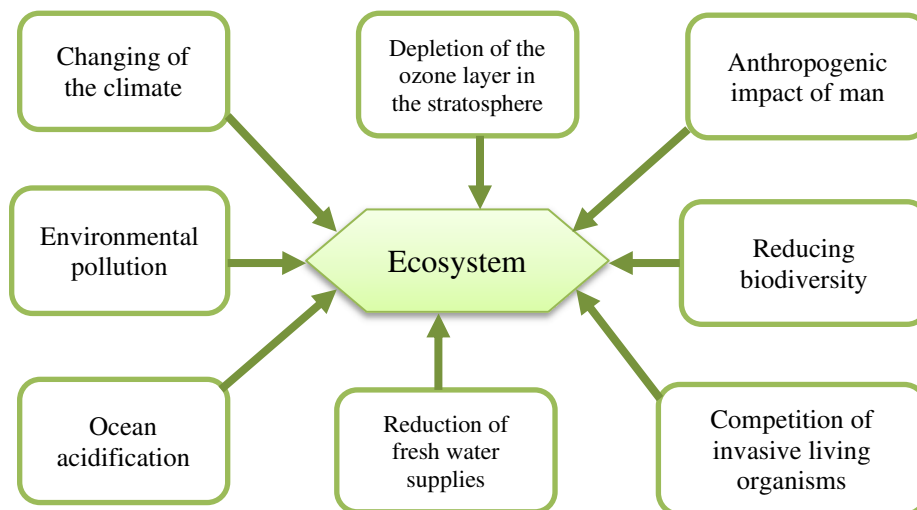


FIGURE 1. Complex of factors of negative impact on ecosystems.

The presented complex of negative factors affects the stability and productivity of natural ecosystems, makes them transform and lose biodiversity. Among the complex of factors, experts distinguish anthropogenic impact on ecosystems. It is generally accepted that this factor is one of the key factors in the formation of conditions for resolving the sustainability of ecosystems. As part of this factor, such mechanisms as the destruction of natural habitats due to the expansion of areas for agricultural activities and the development of infrastructure, depletion of the Earth's ozone layer under the influence of greenhouse gases and harmful emissions, pollution of water resources and soils work. Thus, first of all, it is necessary to reduce the harmful effect of this particular factor, since the rest actually act as derivatives (3., 4., 5.).

Every year the rate of destruction of ecosystems increases and the number of lost species of plants and animals increases. More stable and parasitic organisms that are unfavorable and useless for humans appear on the vacated niches in the natural ecosystem. According to the estimates of the World Wildlife Fund (WWF), which regularly calculates the Global Living Planet Index 2020, about 75% of the earth's surface has undergone changes, about 85% of wetlands with their unique ecosystems have been lost, the number of mammalian populations has decreased by 68%. South and Central African countries, the index fell by 94%. Humanity had such results for 2020.

The loss of biomes and living forms has long become not just an ecological catastrophe, but also a problem of economic development, security of systems, ethics and morality (6.]. The higher the biodiversity, the more sustainable the human life support system and, above all, the food system. The high level of biodiversity allows the ecosystem to fully perform its functions and self-reproduce. Consequences of additional negative factors in 2020-2021 - natural disasters, the COVID-19 pandemic, insect invasions - have made new adjustments to the indicators of the conservation of natural ecosystems, have changed the world's opinion about the importance of preserving biodiversity on the planet. It becomes obvious that it is necessary to qualitatively revise the existing mechanisms of interaction, regulation and management of environmental management processes (7., 8.).

MATERIALS AND METHODS

The logic of scientific research is built in accordance with the tasks set and the empirical data obtained. The work used official statistical press releases, analytical data from government programs to support industries, materials from analytical companies, which were processed using methods of content analysis and graphical data analysis. To generate new knowledge, the works of Russian and foreign scientists working in this direction were used, which were studied by the methods of generalization and analogy, graphical forecast and systematization. With the help of hypothetical methods, the future directions of the development of the agricultural technology market were developed in the context of state support and the formation of a new technological order.

RESULTS AND DISCUSSION

Planetary biodiversity has evolved over several billion years so that today there are a variety of natural ecosystems, of which man is a part. The natural evolution of ecosystems today is disturbed by the impact of many environmental factors, one of which is the person himself and his life. The growth of the population of human civilization and its technological development require large natural and resource costs, which in some cases cause irreparable damage to nature (9.). But for more than 50 years the world community has been dealing with the problem of biodiversity loss, but it is impossible to stop this process without the efforts of the largest producing countries. Within the framework of this movement, the concept of international diplomacy in the field of biodiversity (biodiversity diplomacy) was born, which today is one of the key trends in international environmental policy. Let's trace the development of this concept and the documents developed in the framework of international diplomatic negotiations (Fig. 2).

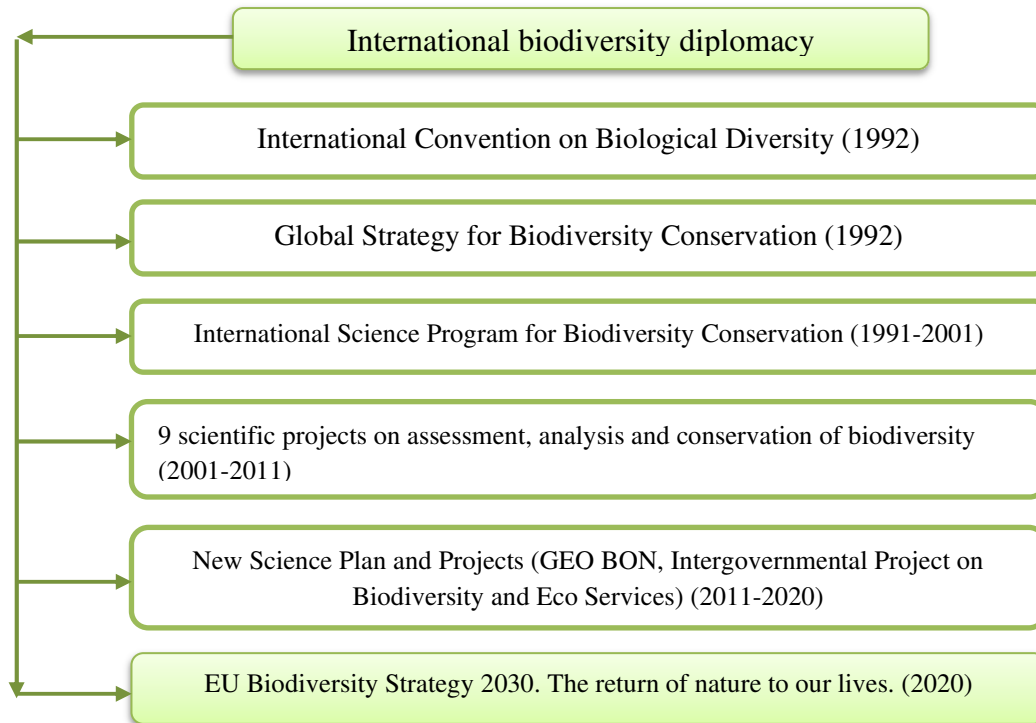


FIGURE 2. Chronology of the adoption of international instruments in the framework of biodiversity diplomacy.

According to the presented Scheme 2 of the chronology of events in international diplomacy on biodiversity, we see that in fact this direction has existed for more than 30 years, which proves the complexity and ambiguity of this problem and the absence of agreed mechanisms for its solution. First of all, the leaders of the world powers must realize that this is a common problem of a planetary nature and start taking action to protect and restore their own natural ecosystems (10., 11.). The last document - the EU Strategy until 2020 - focuses the attention of the world community on the need not only to preserve territories, but to work on them within the framework of the concept of sustainable nature management. The EU plans to increase to 10% the share of protected areas with high biodiversity potential, which in the future are able to recoup the resources spent on their restoration and protection in 3 times the amount.

A new structure for international biodiversity management needs to be built, but this can start with national structures. For example, within the framework of the EU, thanks to the Strategy 2030, the direction of support by European business to the idea of preserving biodiversity was born (Fig. 3).



FIGURE 3. New system of management and control over biodiversity of natural ecosystems

The presented scheme of management and control over biodiversity of ecosystems is a variant of finding a compromise between business and state ecological monitoring of the state of the environment. In such a structure, the mechanisms of legal regulation, economic incentives and support for the activities of business structures, stimulation of investment in the conservation and restoration of biodiversity will work harmoniously. In response to these measures, the ecosystem is able to produce ecosystem services and increase the natural capital of the territory. Any national management system is integrated into the international system of biodiversity management and conservation, therefore, communication with international funds and organizations is inevitable and justified (12.).

Within the framework of international conferences held under the auspices of the UN, states are trying to develop common principles and rules of work for solving global problems. In some cases, the negotiation process becomes complicated rather due to the mutually exclusive interests of different countries in the field of environmental management and the use of natural genetic material. As a rule, these are contradictions between developed and developing countries, between countries-consumers of genetic resources and countries-owners of genetic resources (13., 14.). Often, it is the developing countries (Africa, Asia, South America) that are the owners of the rich genetic diversity in their territories, which are so necessary for industrial growth and the development of biotechnology in developed countries (USA, Japan, South Korea, Canada).

The world industrial centers of developed countries are constantly demanding new types of biological substances to expand productivity and develop technologies in the pharmaceutical, medical, cosmetic, food industries, so they need unhindered access for scientific laboratories to the unique biological resources of these developing countries. Developing countries do not agree with such an attitude towards their own resources and demand parity in terms of the exploitation of their own biodiversity and compensation for damage to ecosystems. In fact, we are talking about the drafting of a global legal treaty on the regulation of access to genetic resources and the use of benefits. Developing countries want to receive compensation payments and profits from the exploitation of national biodiversity, and not act as a raw biological appendage for world-class biotechnology laboratories. Thanks to such payments, these countries will be able to support their own economies and provide the indigenous population with social guarantees (15.).

Russia occupies a special place in international diplomacy on biodiversity, as it possesses vast territories and unique natural landscapes, which by 65% remain undisturbed or slightly disturbed. Russia's contribution to the

ecological uniqueness of the planet is quite large, which determines its role in the arena of international diplomacy. For this purpose, the Russian Federation has developed 2 scientifically grounded conceptual approaches to biodiversity conservation (population-specific, ecosystem). The approaches are closely related and complementary, since they define each species as a unique genetic system that makes its own unique contribution to the overall ecological picture of the world (16.).

Biodiversity management systems are distinguished by a clear hierarchy of their structure, with the allocation of biological levels to ensure human life. The levels will differ from each other in the complexity of the species presented, therefore, for each it is necessary to develop its own economic and legal mechanisms for management and control of preservation. The natural ecosystem is a complex phenomenon, therefore the stability of each level is important and determines the uniform stability of the entire structure. In addition, it is necessary to develop clear criteria for assessing the state of biodiversity of species levels, as soon as in this case the coordination of development and the preservation of ecosystem functions will be possible (17.).

CONCLUSION

At the end of our study, we will cancel that protecting and maintaining the sustainability of natural ecosystems is the only way to protect a living form on the planet. The economic and legal mechanisms developed and working today, and measures to preserve the sustainability of ecosystems must be constantly reviewed in the light of the ongoing global changes and new challenges and threats of the external environment. Therefore, the formed new direction of world communication - international diplomacy on biodiversity - is the response of the world community to the threat of a decrease in biological resources and the disappearance of natural ecosystems. External influencing factors, unfortunately, have a negative effect on the stability of natural ecosystems until they are completely destroyed. Therefore, international diplomacy of biodiversity has appeared, which is designed to reduce the consequences of the influence of these factors and level the harmful effects as a result of anthropogenic activities (18., 19.).

Joint efforts of the leading world powers, the list of approved supranational documents on biodiversity conservation, ratification of these documents by many countries allows to systematize the work on control and monitoring of the state of biodiversity, to coordinate national biodiversity conservation systems in accordance with international rules and standards, to form a multi-level ecological and economic policy of interaction between different countries.

The effectiveness of the economic and legal mechanisms of international diplomacy will depend on cooperation and consistency, the degree of trust and integration between countries that produce and consume ecosystem services, between countries that are custodians of genetic resources and countries that are biotechnological leaders. Only by eliminating the existing contradictions and confrontations between countries, the world community will be able to protect and restore natural ecosystems and prevent the trend of loss of biological species on the planet.

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