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BIODIVERSITY AND FOOD SECURITY

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Abstract. The link between biodiversity and food security is of global importance today. This article examines various aspects of this topic and analyzes the role of biological diversity in ensuring food security. By examining the complex interplay between ecological systems and human activities, the paper illuminates the profound effects of biodiversity loss or conservation efforts on livelihoods, industry, and global sustainability. Scientific research in the field of genetic engineering, ensuring food safety, cultured and uncultured biological resources, and the first concepts and theoretical ideas were put forward.

Key words**:** *global warming, desertification, atmosphere, food, ecology, rational, biological resource, biological diversity, land, underground, plant, forest, genetically modified organisms.*

Today, during the intensive use of natural resources by mankind, almost 40 percent of the natural resources on earth have been used (of the identified resources) in the last 200 thousand years. As a result of this, nature is creating various emergency situations such as global warming, desertification, pollution of the atmosphere, seas and oceans, forest fires, excessive snowfall, earthquakes, floods[1]. As the global environmental crisis increases, the loss of biological diversity has become the most important problem of the present time [2].

It should be noted that the basis of the concept of protection and use of biological resources is the separation of biological resources according to 4 functional groups. 1- material, 2- creation of the environment, 3- spiritual-aesthetic, 4- providing information-information. From this point of view, it is important to develop a comprehensive approach to the use of biological resources and strictly adhere to it.

During the research, the issues of biological diversity and food safety and its scientific-theoretical analysis were used by the comprehensive research of comparative-legal, logical, scientific sources, induction and deduction methods. I.J. Jalilov, Yu.O.Juraev, U.T.Ayubov, F.S.Namazov, N.K.Skripnikov on theoretical and legal aspects of legal regulation of biological resources protection and use , partially covered in the scientific research works of scientists such as

Biodiversity has become one of the main global problems of ecology. E.O.Wilson, a member of the National Academy of Sciences, stated that the current genetic and species diversity is being destroyed, and the problem of habitat fragmentation will undoubtedly become more complex as it expands[3].

It is difficult to imagine the scale of products and services that are created by biodiversity. In particular, people use about 7,000 plants for food, 90 percent of the world's food products are created at the expense of 20 species, of which 3 species (wheat, corn, rice) cover half of the world population's need for food. Biological resources are also an important source of raw materials for industry and medicine [4].

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When using biological resources, it is necessary to emphasize the following issues in ensuring the quality and safety of food products. For example: human activity is related to production and consumption, on the one hand, it has led to an increase in the need for natural resources, and on the other hand, it has led to the deterioration of the environment; international expert studies on ensuring food safety show that a complex situation related to this problem is emerging in the world and in some of its regions, which causes serious concern and anxiety [5].

Scientific research in the field of genetic engineering serves as the main tool in the preparation of various vaccines that prevent any disease, drugs that quickly cure diseases, and in the emergence of new food products. This requires environmental safety and not to violate the laws of nature. It was announced in the media that US scientists cloned a drought-resistant variety of rice by changing the DNA code in the rice kernel[6].

Individuals conducting such research cannot always guarantee that the experiments and practices carried out in order to achieve a certain new result can produce positive results as well as negative consequences.

Especially, it is difficult to predict in advance what kind of danger to humans will be caused by gene modification of plants and animals that are not of the same species. In this regard, it is important to organize the rational use of natural resources for scientific purposes and to ensure the legal mechanism of this issue. In the literature, the intellectual and creative activity of a person is carried out in all areas related to living nature, such as medicine, biology, zoology, selection, genetics, physiology, all objects of living beings[7].

In Article 28 of the Ecological Code of the Republic of Kazakhstan, the procedure for carrying out genetic engineering activities is given, and it also defines the environmental and legal requirements that must be observed by persons who carry out these activities. The results of genetic engineering can be very dangerous for human health and the environment. Legislation regulating this field has been adopted in most of the CIS countries. For example, in the Russian Federation, the Law "On state regulation of activities in the field of genetic engineering" was adopted[8].

The unique soil and climate conditions of Uzbekistan, the average number of sunny days in our country are 320 days a year, and the consistent change of all four seasons create favorable opportunities for the cultivation of a wide variety of high-quality fruits and vegetables. Currently, 96 percent of food products are produced in our country, and the rest is exported abroad. Human health, life expectancy and quality of life are closely related to healthy and rational nutrition [9].

Changes and additions should be made to the Law of the Republic of Uzbekistan "On the Quality and Safety of Food Products" taking into account the reforms implemented during the past period, achievements in the field of science and technology, and achievements in the field of legislation of foreign countries. It is also necessary to introduce the norms "In the protection of the state food safety, taking measures to eliminate it by the state sanitary or veterinary authorities". In practice, such rules are considered and implemented as tasks performed by these bodies. It would be correct to establish such a norm in the legislation from a practical point of view. In addition, the laws of the People's Republic of China "On Food Safety" [10], the Laws of the Republic of Belarus "On the Safety of Food Products for Human Life and Health" [11], and the Laws of the Republic of Kazakhstan "On the Quality and Safety of Food Products" the powers of specially authorized bodies are clearly defined.

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Improving the legal basis for ensuring the quality and safety of food products in the use of biological resources, the most important problems that require solving in terms of ensuring food safety, without a doubt, further coordination of efforts in this regard and large-scale international cooperation, future-oriented approaches and conclusions requires joint development. After all, in the field of improving the legal basis for ensuring the quality and safety of food products in the use of biological resources, it is necessary to systematically and continuously study and improve regulatory legal documents with the experience and practice gathered in different countries of the world.

Conclusions of scientific and practical importance in the protection of biological diversity were reached:

A forest is a set of natural objects allocated to the forest fund, registered by the state, consisting of trees, bushes and other plants used for ecological and other purposes.

Genetically modified organisms are genetically modified organisms - a living organism whose genotype has been changed using artificial genetic engineering techniques.

Biodiversity refers to the abundance and diversity of species and living organisms belonging to the same species, plants and ecosystems. Biodiversity means genetic diversity, species diversity, ecosystem complex. Biodiversity is considered at three levels: genetic diversity, species diversity and ecosystem diversity. Genetic diversity reflects the genetic information accumulated in the living matter of a land or a specific area. Species diversity reflects the number and frequency of occurrence of species distributed in a specific area.

Biodiversity plays a critical role in supporting ecosystem services essential to human life and well-being. Loss of biodiversity threatens the stability of ecosystems and thus undermines these vital services.

In conclusion, conservation of biodiversity is not only a moral but also a pragmatic necessity for sustainable development. By protecting biodiversity, we can support the continuity of ecosystem services, economic growth and innovation, and increase the resilience of human societies to global environmental challenges. There is a need to recognize the socio-economic value of biodiversity and prioritize its conservation in policy-making, business practices and day-to-day decision-making processes. Only through joint efforts and collective action can we secure a more prosperous and just future for all.

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