

# Sustainable development and biological wealth

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**Abstract.** This article explores the important relationship between biodiversity and socio-economic dynamics. Through scientific and theoretical analysis, the author explores the multifaceted impact of biodiversity on various aspects of society and economy. By exploring 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. In addition, the paper provides valuable insights into potential strategies for enhancing biodiversity conservation while promoting socio-economic development. This comprehensive review contributes greatly to the ongoing debate about the importance of biodiversity conservation for the well-being of present and future generations.

## 1 Introduction

As a means of ensuring the mechanisms of the right to protect biological resources and their rational use, conducting research on this topic is of urgent importance. Particular importance is attached to the issues of environmental protection and rational use of natural resources, full provision of ecological stability, full monitoring of flora and fauna, finding scientific solutions to problems related to national legislation and law enforcement practice.

In Uzbekistan, special attention is paid to ensuring the protection of biological resources and their rational use, strengthening their legal foundations, introducing effective mechanisms of the institution, increasing the level of awareness and ecological culture of the population in relation to biological diversity, and actively involving them in solving environmental problems. is being implemented.

Today, during the intensive use of natural resources by mankind, almost 40% of the natural reserves on earth have been used (of the identified reserves) in the last 200 thousand years. As a result of this, nature is creating various emergency situations for mankind, such as global warming, desertification, pollution of the atmosphere, seas and oceans, forest fires, excessive snowfall, earthquakes, floods [1]. As the global environmental crisis worsens, biodiversity loss has become the most pressing issue of our time.

When it comes to the socio-economic and ecological legal role of biological resources, the use of biological resources as a social issue, the provision of biological diversity, the issues of ecology and environmental protection are at all stages of education, including "compulsory teaching of ecology in educational institutions is required".

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In the development of Uzbekistan, biological resources are traditionally considered important in terms of socio-economic factor. Along with other natural objects, the rational use of biological resources and its protection are studied as separate fundamental studies at the Academy of Sciences. It should be noted that the main task of the initial expeditions was aimed at identifying and evaluating biological resources.

Protection of biological resource objects and their rational use, study and research of these objects rose to a new level in the institutes of the Academy of Sciences of the Republic of Uzbekistan. Also, in the Academy of Sciences of Uzbekistan, separate special institutes were established for objects of flora and fauna. The organization of institutes in such special fields is becoming important in the use of biological resources for scientific purposes. In recent years, the legal status and functions of the Academy of Sciences have been defined in the laws related to biological resources, including their use for scientific purposes.

## **2 Materials and methods**

Scientific materials and methods are an important component of this paper, particularly in the field of biodiversity. The quality of scientific materials and methods is usually important in biodiversity research.

The use of biological diversity for scientific purposes, scientific materials and methods, ensuring the validity and rigor of research results are also important tasks.

During the research, socio-economic significance of biological diversity and its scientific-theoretical analysis, historical and comparative-legal methods were used.

A separate (complex) research work on the theoretical and legal aspects of regulation has not been conducted (Uzbekistan). The problems related to this research have been partially studied by the scientists of our country on a general basis. This is partially explained in the scientific research works of scientists such as I. J. Jalilov, Yu. O. Joraev, U. T. Ayubov, M. K. Nazhimov, F. S. Namazov, N. K. Skripnikov, M. M. Nurmatov.

The above cases show that, although there are certain scientific developments within the scope of the research topic, today, in the conditions of the development of Uzbekistan, it is important to conduct a scientific-theoretical, methodological study of the ecological-legal relations related to the information bases regarding the rational use of biological resources and its protection in the context of the development of Uzbekistan.

Biodiversity has become one of the main global problems of ecology. Current genetic and species diversity is being destroyed, and habitat loss has undoubtedly become a more complex issue with expansion. For example, human settlements, pollution, water and atmospheric changes have increased the vulnerability of species and ecosystems. Biodiversity is the variety and variability of life on Earth.

According to the Convention on Biological Diversity, biological diversity refers to all living organisms that live and grow in land, sea and other ecosystems, and this concept includes diversity within one species, interspecies and ecosystems.

Population growth, increasing demand for biological resources, inconsistency between demand and need, rational use of biological resources in the conditions of sustainable development, it is necessary to achieve progress by introducing innovative technologies of scientific achievements and forming a legal framework.

The creation of protected natural areas is important in preserving biological diversity. In the present period, preservation of biological diversity has become effective only by establishing protected natural areas. For the first time in Uzbekistan, it was officially established that it is possible to create private hospitals and nursing homes. This does not mean complete privatization of protected natural areas. Land areas and other natural objects are given to legal entities and individuals only for use. It allows attracting funds from non-governmental legal entities and individuals, including various national and foreign

conservation organizations to ensure the preservation, restoration and reproduction of natural objects and protected natural areas.

He managed to establish two private nurseries in the Republic of Uzbekistan: the nurseries of "Emirates Birds Breeding" LLC for breeding yorga-tuvalok in Bukhara region (Peshku district); Nursery of "Emirates Center for Conservation of Houbara" LLC for breeding yorga-tuvalok in Navoi region (Karmana). In order to create a breeding herd of yorga tuvalok birds, the work of breeding the yorga tuvalok bird in captivity and releasing them into the wild has been started in the center under genetic control. For example, in 2019, 2,000, in general, from 2012 to this time, about 10,000 blankets were released into the wild by the center. The Quilt Care Center basically organizes work based on a five-step process for caring for quilts. The first is maintenance and breeding of birds of modern age (genetic study). The second is an incubation workshop. The third is a polapon bird care workshop (up to ten days of care). The fourth is the wildlife section (twenty days of training for wild life). The fifth is that the birds are prepared for the wild before the launch. It allows us to draw the following conclusions regarding the theoretical and legal aspects of the preservation, restoration and reproduction of bioresources based on a special protection regime, the regulation and development of protected natural areas in the Republic of Uzbekistan: is understood as an integrated ecological system designed to stand. No matter how important scientific, technical, organizational recommendations are in the regulation of protected natural areas, it cannot be implemented without perfect legal norms. Laws should specify the general and special authorized state bodies in the field of protected natural areas.

For the first time, the historical development of the system of legal documents for the protection and use of biological resources can be divided into three stages. Covering the ancient period of the first stage, according to the Zoroastrian book "Avesta", a person is obliged to preserve water, earth, fire, and all the good things in the world pure and whole throughout his life. The second stage was devoted to the development of legislation regulating the use of wildlife (forest, flora) and its legal protection during the former Union period. gi (1968) decrees, "On the use and protection of the animal world" (1981) Law defined the specific aspects of the animal world protection during this period. The third stage is legislation regulating the protection and use of biological resources in the independent Republic of Uzbekistan

S.Yu. Mirolyubova stated that the composition of biological resources includes non-cultured and cultured biological resources [2]. In addition to this opinion, it should be noted that cultivated biological resources are considered as types of living organisms. Here we are talking about renewed and improved varieties of plants, bred animals and microorganisms, objects obtained artificially by humans as a result of selection. Various living organisms that are part of cultural biological resources, the evolution of their development are objects that have the potential to meet the needs of people, as well as to be useful and valuable to humanity.

Since modern biotechnologies are used to obtain cultured biological resources, cultured biological resource is a complex concept that includes resources and biotechnologies of one or another type of resources and technologies for their use. We are referring to new and improved plant varieties, animal breeds, and strains of microorganisms obtained by humans through artificial selection, i.e., cultural biological resources include species of living organisms. The evolution of their development is to meet the needs of people, as well as actual or potential useful, valuable value for humanity.

Literature [3] according to their content, biological resources can be divided into cultivated and uncultivated biological resources.

Cultured biological resources include:

- 1) seeds of agricultural plants, forest plants and grain seeds;
- 2) animal breeding products (material) and strains of microorganisms;

- 3) any material containing hereditary genetic information contained in the genetic code of cultured living organisms.

Cultured biological resources provide the basis of the country's food security, pharmaceuticals and agriculture. It is self-evident that the development of fundamental researches in the field of genetics and breeding and the implementation of these researches will have a positive effect on the development of the agricultural sector.

The main task of cultivated biological resources is to ensure food security of the country. Cultural biological resources are the basis of food, pharmaceuticals and agriculture.

Cultured biological resources can be classified as one of the types of biological resources:

- by origin, derived from natural components of flora and fauna;
- as a resource in agriculture as types of farm use (seed production, animal husbandry);
- according to the criterion of use as a source of production (agriculture, forestry, pharmaceutical industry, biotechnology products market);
- cultivated biological resources can be classified as tangible assets (tangible form, for example, seeds) and intangible assets (intellectual rights, for example, for breeding achievements).

Cultural biological resources include natural and economic properties.

Strengthening of the constitutional principle of use of natural resources and their protection as the basis of life and activity is the main condition for legal regulation of rational use of cultural resources in food and agriculture, as well as their protection in national legislation. Since the circulation of cultural biological resources in agriculture is interconnected with trade and environmental problems, legal regulation of relations related to cultural biological resources is carried out in various areas of legislation, including civil, agricultural law and administrative law. A special feature of cultural biological resources is that they can be a secondary object of property rights, on the one hand in a direct material form (for example, seeds of agricultural and forest plants, genetic material), on the other hand in the form of intellectual rights to breeding achievements (for example, various plants or breeding products).

Legislation regulating this field has been adopted in most of the CIS countries. For example, in the Russian Federation, on June 5, 1996, the Law "On state regulation of activities in the field of genetic engineering"[4] accepted. That is, one of the types of results of intellectual activity in the field of biological resources mastered in it is a selection achievement and an invention in the field of biotechnology, which regulates relations regarding the recognition of patent rights. Also, as a result of the implementation of gene engineering activities, it is widely used in relations in the field of nature management, environmental protection, and ensuring environmental safety.

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.

The unique soil and climate conditions of Uzbekistan, the fact that sunny days in our country are 320 days a year on average, 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.

### 3 Results and discussion

The following theoretical and scientific-practical results were reached in the protection of biological diversity and improvement of its use.

The essence of socio-economic and ecological legal legislation, which ensures the sustainable preservation of biological resources, is manifested in the application of socio-economic methods to individuals and legal entities that affect the state of biological resources and encourages them to fulfill the legal requirements for the protection of biological resources.

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.

Biodiversity is a source of innovation and economic value. Biodiversity provides raw materials for many industries, including pharmaceuticals, agriculture and biotechnology. Many of the medicines we use today are derived from natural compounds found in various ecosystems. In addition, biodiversity-based industries can contribute to economic growth, job creation and poverty reduction, especially in resource-rich developing countries.

Since the development of biotechnologies and the use of their variable genetic materials cause problems related to the environment and human health, biological safety, the formation of national legislation in the territory of the European Union is influenced by international documents.

Cartagena on Biological Safety of the Convention on Biological Diversity Establishing Requirements for Risk Assessment and Management for Export, Import and Any Domestic Use, Including Processing of a Living Organism Used as Food or Feed or Modified with a New Combination of Genetic Material as a Result of Use protocol is important. In this regard, preservation of biological diversity and its sustainable use in our country is one of the priorities of policy in the environmental field. Therefore, economic sectors related to natural ecosystems and their use, such as livestock, irrigated agriculture, forestry, fisheries, recreation, tourism, etc., are directly related to biodiversity. The Cartagena Protocol on Biosafety is an international agreement on the procedure for the safe movement, processing and use of modern biotechnology products across state borders. [5]. "To date, 171 of the 198 UN member states and the European Union as an international organization have joined this Protocol" [6-8].

The adoption of the protocol is an important step for the international regulation of the use of genetically modified organisms (GMOs) and their processing products, taking into account the tasks of environmental protection. At the same time, it allows to minimize the potential risk to the environment and human health. Based on this, it should be emphasized that the use of modern biotechnology products will help to eliminate the possible danger and expand the export nomenclature of local products.

The development of biotechnology has significantly changed traditional breeding, during which the genotype of plant and animal breeds is indirectly changed under artificial conditions. Biotechnologies allow you to interfere with the genetic apparatus and purposefully modify living organisms, selecting the best among artificially created genotypes. In addition, biotechnology has revealed and demonstrated the special importance of genetic resources, which are indeed public treasures. Therefore, the state must ensure the preservation of national genetic resources, including cultural biological resources.

Taking into account scientific achievements in the field of biotechnology, the rapid development of the global bioindustry market using cultural biological resources, as well as the development trend of international and national legislation, it is necessary to develop and adopt a national cultural biological resources state program that ensures collection, processing, storage and use.

Biological resources determine the place and role in the life of the peoples living in the respective area. Strengthening of the constitutional principle of use and protection of natural resources as the basis of life and activity, legal regulation of rational use of cultural biological resources in food and agriculture, and their protection in national legislation is the main condition. Since the circulation of cultural biological resources in agriculture is interconnected with trade and environmental problems, the legal regulation of relations related to cultural biological resources is carried out in various areas of legislation, including civil, ecological, agrarian and administrative spheres.

In addition, it is important to develop and improve regulatory legal documents regulating relations in the field of biological resources in the following areas:

- improvement of Uzbekistan's international activities in the field of legislation on genetic resources and biotechnology issues;
- legal regulation of the protection of human and citizen's rights and freedoms in the use of genetic resources and biotechnology in the food industry and agriculture;
- preparation of standards in the field of biological resources and biotechnology;
- legal regulation of biological safety, including genetic safety.

In the cultivation of medicinal plants, it is important to organize the rational use of irrigated lands in the cultivation and protection of rare and medicinal plants, as it is scientifically stated by scientists. In our opinion, a separate regulation on the establishment of specialized farms for the cultivation of medicinal plants should be adopted. In this regulation, tasks related to the cultivation of medicinal plants should be defined.

## 4 Conclusion

Biodiversity is a source of innovation and economic value. Biodiversity provides raw materials for many industries such as pharmaceuticals, agriculture and biotechnology. Many of the medicines we use today are derived from natural compounds found in various ecosystems. In addition, biodiversity-based industries can contribute to economic growth, job creation and poverty reduction, especially in resource-rich developing countries.

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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