

RATIONAL USE OF LAND RESOURCES AND THEIR ECOLOGICAL PROTECTION**Kalandarova Sabrina Assurovna**

Student of the Faculty of Law, Termez State University

assurkalandarov92@gmail.com**Kurbanova Mokhinur Bakhtiyorovna**

Lecturer at the Faculty of Law, Termez State University

Abstract: This article highlights the economic and ecological importance of rational use of land resources. It provides information on the current state of land resources, ways of their conservation and effective management, as well as environmental protection measures. The article also provides proposals and recommendations aimed at maintaining ecological balance, preventing land degradation and ensuring sustainable development. It is emphasized that the proper use of land resources is an important factor not only in the development of agriculture, but also in environmental protection.

Keywords: Earth resources, environmental protection, sustainable development, ecological balance, degradation, rational use of resources, natural resources.

Land resources are one of the most important natural resources that play an important role in the economic, social and ecological development of society. Land is a resource that is widely used to meet the vital needs of humanity, develop agricultural and industrial sectors, establish settlements, and form an infrastructure system. Today, as a result of the increasing demand for land, the acceleration of urbanization processes, and the expansion of production volumes, the issue of rational use of land resources is becoming more urgent. Improper use of land, increased erosion, salinization, and degradation processes lead to a disruption of the ecological balance, a decrease in natural resources, and environmental pollution. This creates the need to develop long-term sustainable development strategies and their effective implementation. Therefore, the protection of land resources, their rational use, ensuring ecological safety, and preserving natural resources for future generations are considered one of the important directions of state policy. This article discusses the ecological and economic significance of land resource use, existing problems and effective measures to eliminate them. It also analyzes the theoretical and practical foundations of ecological protection of land resources. Despite the limited availability of land resources, the demand for them is increasing. Population growth, urban expansion and agricultural expansion are increasing pressure on land. The Land Code of the Republic of Uzbekistan dated April 30, 1998, No. O'PX-598, is the main regulatory legal document on land ownership, use and protection. According to Article 3 of the Code, land is "public property" and its use is carried out on behalf of the state. Articles 4 and 6 of the Code establish the following principles, recognizing land as a national asset that is subject to ecological protection; it is mandatory to ensure environmental sustainability in the use of land resources; The restoration of land fertility, prevention of degradation and erosion

are the obligations of land users. The code also establishes the legal framework for land monitoring and land cadastre, assessment and control of land conditions.

Land resources are one of the most important factors of human life and economic development. As a result of population growth, urban expansion, intensive development of agriculture and industrialization processes, the need for the use of land resources is increasing year by year. At the same time, improper use, violation of technological and environmental requirements lead to land degradation, reduced fertility, soil salinization and increased erosion processes. According to the UN, more than 2 billion hectares of land are degraded worldwide, which is a serious threat to food security and environmental sustainability.¹One of the main causes of land degradation is intensive pressure on land in agriculture. In many regions, over-irrigation, improper drainage systems, and excessive use of mineral fertilizers and pesticides are worsening the physical and chemical condition of the soil. According to a World Bank report, 40 percent of irrigated land in Central Asian countries is affected by salinity, which sharply reduces soil fertility.²Urbanization processes are also exerting great pressure on land resources. As a result of the expansion of urban and industrial zones, there is a reduction in agricultural land, disruption of the water cycle, and changes in the microclimate. Such situations lead to the destruction of ecological systems and threaten ecological stability. The principles of Sustainable Land Management (SLM) are of great importance in solving these global problems. According to this approach, ecological, economic, and social interests should be balanced in the use of land resources. FAO recommendations emphasize the need for the widespread introduction of conservation agriculture, agroforestry systems, water-efficient management technologies, and land monitoring systems in this regard.³At the international level, the UNCCD's Land Degradation Neutrality (LDN) initiative plays a special role in this regard. The LDN concept envisages reducing land degradation to zero, rational use of existing land and restoration of degraded lands. The protection of land resources is also identified as one of the important priorities in the 2030 Sustainable Development Goals.⁴Uzbekistan is no exception to these processes. The main legal framework for land resource management in the country is the Land Code and the Law on Environmental Protection. In recent years, projects aimed at restoring land and water resources have been implemented in cooperation with international financial institutions. For example, the Resilient Landscapes Restoration project, financed by the World Bank, aims to introduce sustainable farming systems and use water resources efficiently on degraded lands.⁵Also, through the introduction of modern GIS and cadastral monitoring systems, work has been carried out to continuously monitor the state of land resources and take measures to eliminate illegal use. This is an important factor in ensuring long-term environmental sustainability. Rational use of land resources and their environmental protection are the foundation not only of environmental, but also of socio-economic sustainability. Through science-based management mechanisms, the combination of international experience and national legislation, it is possible to reduce land degradation, increase land productivity, and create an environmentally safe environment for future generations. According to the UN

¹ [Land Degradation Neutrality principles UNCCD](#)

² [unccd.int/sites/default/files/documents/2019-06/LDN CF report web-english.pdf](https://unccd.int/sites/default/files/documents/2019-06/LDN_CF_report_web-english.pdf)

³ [Global Land Outlook 2022 | FAO](#)

⁴ [UNCCD Data Dashboard | Sustainable Development Goal \(SDG\) Indicator 15.3.1](#)

⁵ [Project Information Document - RESILAND CA+: Uzbekistan Resilient Landscapes Restoration Project - P174135](#)

Convention to Combat Desertification, 1.66 billion hectares of land are currently degraded worldwide. This is about 20 percent of the land area, and an average of 100 million hectares of healthy land are being lost per year.⁶According to FAO (Food and Agriculture Organization of the United Nations), more than 60 percent of degraded land is agricultural and pasture land. This poses a serious threat to global food security. In 2015–2019, 16 percent of the total land area on Earth was degraded.⁷Central Asia, and Uzbekistan in particular, is one of the regions most affected by land degradation. In 2015, the percentage of degraded land in Uzbekistan was approximately 30 percent, while in recent years this figure has been around 26 percent.⁸More than 3 million hectares of land in the Aral Sea region have been degraded due to desertification and drought, leading to a weakening of the ecological system, a decline in economic activity, and social problems.⁹Another important indicator is pastures. The total pasture area of Uzbekistan is 23.4 million hectares, but 34 percent of this area is severely degraded.¹⁰Due to degradation, up to 1.28 million tons of agricultural products are potentially lost in Uzbekistan every year. This is equivalent to about 3.4 percent of national production. Economic losses due to pasture degradation amount to 93 million US dollars. These statistical indicators clearly demonstrate the need for rational use of land resources and strengthening measures for environmental protection. The concept of “Land Degradation Neutrality” put forward by the UNCCD is aimed at reducing land degradation to zero, improving and restoring the condition of existing lands, and Uzbekistan has actively joined this initiative.

Also, a large environmental project called “Regreening Africa” has been implemented in Kenya since 2017. This project is funded by the European Union, and its main goal is to restore degraded lands, improve the well-being of local populations, and strengthen adaptation to climate change. As part of the project, more than 150,000 hectares of land have been restored in Homa Bay, Migori, Nakuru, and other counties. Land cover improvement, the introduction of agroforestry systems, and water resource management methods are yielding successful results.¹¹The Kenyan government is pursuing a policy of neutralizing land degradation through the Land Degradation Neutrality (LDN) program. The program widely uses methods such as agroecological approaches, minimum tillage, water-saving technologies, and forest expansion. According to the results of the study, ecological sustainability indicators in watersheds have increased significantly.¹²In eastern Spain, specifically in the Murcia region, *Quercus ilex* tree plantations have been established to ecologically restore farmland. The project is helping to reduce soil erosion, improve water retention and increase biodiversity in arid and semi-arid climates. Studies have shown that this approach strengthens land stability and supports

⁶ [Land Degradation Neutrality | UNCCD](#)

⁷ [15.3.1 Proportion of land that is degraded over total land area | SDG Indicators Data Portal | Food and Agriculture Organization of the United Nations](#)

⁸ [Delegates of the Parties to the UN Convention discuss how to combat desertification and land degradation — UzDaily.uz](#)

⁹ [Land Degradation Neutrality | UNCCD](#)

¹⁰ [World Bank Document](#)

¹¹ [UNCCD Library | Details | Restoring degraded land in Kenya with Regreening Africa](#)

¹² [A Climate-Smart Approach to the Implementation of Land Degradation Neutrality within a Water Catchment Area in Kenya](#)

agricultural production.¹³ Australia is a semi-arid and arid country, so soil health is a priority. Through the Soils for Life program, farmers and scientists are working together to implement best practices to conserve soil, increase carbon stocks, reduce erosion and manage land sustainably. Field studies in New South Wales and Victoria have shown that minimal tillage, residual biomass conservation and grass cultivation have increased water conservation and sustained yields. These results demonstrate that these approaches are both environmentally sound and economically viable.¹⁴ Experiences from Kenya, Spain, and Australia show that ecological approaches, agroforestry systems, water-saving technologies, and local community participation are essential for rational land resource management. These experiences serve as effective models that can be applied in Uzbekistan. Foreign practices are especially important in saving water resources, protecting soil from degradation, and ensuring ecological sustainability in desert and semi-desert regions.

Conclusion. Land resources are one of the most important natural resources of the country, which plays a decisive role in the sustainable development of not only agriculture, but also the entire economic system. In the conditions of Uzbekistan, land degradation due to climate change, desertification processes and improper use is becoming one of the most serious environmental and economic problems. Therefore, in recent years, the state has been strengthening the legislative framework, strengthening environmental control and implementing environmental programs based on international experience. Analysis shows that the experiences of countries such as Kenya, Spain and Australia can be significant for Uzbekistan. In particular, water-saving technologies, agroforestry systems and sustainable land management methods can give effective results when adapted to the conditions of our country.

References:

1. Land Code of the Republic of Uzbekistan.1998.07.01
2. Land law textbook. Authors' team. TDYU.2019
3. [Land Degradation Neutrality principles UNCCD](#)
4. unccd.int/sites/default/files/documents/2019-06/LDN_CF_report_web-english.pdf
5. [Global Land Outlook 2022 | FAO](#)
6. [UNCCD Data Dashboard | Sustainable Development Goal \(SDG\) Indicator 15.3.1](#)
7. [Project Information Document - RESILAND CA+: Uzbekistan Resilient Landscapes Restoration Project - P174135](#)
8. [Land Degradation Neutrality | UNCCD](#)

¹³ [The success of Quercus ilex plantations in agricultural fields in eastern Spain New Forests](#)

¹⁴ [Case Study: Soils For Life Peer Learning Networks | Sustainable Table](#)

9. [15.3.1 Proportion of land that is degraded over total land area | SDG Indicators Data Portal | Food and Agriculture Organization of the United Nations](#)
10. [Delegates of the Parties to the UN Convention discuss how to combat desertification and land degradation — UzDaily.uz](#)
11. [Land Degradation Neutrality | UNCCD](#)
12. [World Bank Document](#)
13. [UNCCD Library | Details | Restoring degraded land in Kenya with Regreening Africa](#)
14. [A Climate-Smart Approach to the Implementation of Land Degradation Neutrality within a Water Catchment Area in Kenya](#)
15. [The success of Quercus ilex plantations in agricultural fields in eastern Spain New Forests](#)
16. [Case Study: Soils For Life Peer Learning Networks | Sustainable Table](#)