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**LAND AND SOIL PROTECTION: INTERNATIONAL AND
NATIONAL EXPERIENCE OF LEGAL REGULATION**

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Abstract

The condition of lands and soils is a matter of serious concern for both individual states and the international community, since it is directly related to the food problems and environmental security. This is the reason for the need to study national and international approaches to the legal regulation of land and soil protection, taking into account their relationship with food and environmental security. One of the causes for the fertility fall is excessively increasing anthropogenic load on the environment as a whole and soil resources particularly. The volume and quality of agricultural products directly depend on the soil condition and its ability to maintain certain agricultural functions, so the questions about land and soil protection, including through legal regulation, acquire special significance and become the subject of international cooperation. Nowadays, developed countries pay attention to the natural resource conservation and ensure the rights of their citizens to the healthy environment. The Russian Federation is not the exception in that respect. Taking this into account, such negative consequences as desertification, drought and land and soil degradation are attributed to global challenges of environmental security, and the fertility fall of agricultural lands – to risks and threats to food security. Based on the study, it is concluded that there is the need for an integrated approach to land and soil protection, taking into account the relationship of all environmental objects, improving monitoring of lands and soil fertility, forming a data bank of their condition.

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1. Introduction

In 2018 FAO made a report, which stated, that despite the absence of condition estimations of soil contamination at the global level, available information is of serious concern. For example, about 80,000 contaminated soil sites have been identified in Australia, while China has identified 16 percent of all soils and 19 percent of agricultural soils as contaminated (Rodríguez-Eugenio et al., 2018). Moreover, there is a real link between such global problems as soil degradation and food security. While food security conception has been defined and analyzed, the soil conception, directly linked to the first one, is in its initial stage and beginning to be developed and formed. This justifies the relevance and significance of the land and soil protection problem on international as well as national state levels.

2. Problem Statement

The effective assessment of legal relations in the field of land and soil protection, as objects of the environment, both by individual state and by the international community

3. Research Questions

The object of study is legal relations, formed in the field of land and soil protection, taking into account their connection to the problems of food and environmental safety.

The study examines the relationship between the land and soil condition and problems of food and environmental safety in accordance with the legal acts of individual states

The analysis of international legal acts concerning land and soil protection is given

4. Purpose of the Study

The purpose of the study is to find approaches to the legal regulation of land and soil protection, taking into account their relationship with the problems of food and environmental security.

5. Research Methods

The methodological framework of the research is formed by general scientific cognition methods, including the principle of objectivity, consistency and the comparative legal private scientific method.

6. Findings

Each state policy is defined by such notions as healthy environment, rational conservation, food and environmental security. In 1972, the Stockholm Declaration on the Human Environment (Declaration of the United Nations Conference on the Human Environment, 1972) determined that local authorities and national governments should bear the greatest burden of responsibility for the implementation of large scale human environment policies and activities within their jurisdiction.

Land conservation has a special place. This fact is due to such factors that land is a part of the environment that has a soil cover, which allows being used as a mean of production in agriculture and

forestry, and also acts as a spatial basis for the placement of buildings, structures, forest vegetation and water bodies. Taking into account the link between all environmental objects, the key factor to land conservation is integrated approach. Having analyzed the foreign experience, particularly, the opinions of US legal scholars (Robinson, 1982) on the study of land conservation essence and maintaining it should be noted that the direction of work is similar to the most aspects. The idea, that all elements in eco-system are interrelated is a unified factor of different legal systems.

Sharply increased demand for food and, consequently, excessive anthropogenic load, are the cause of active soil degradation. Increased and intensified agricultural production has pushed soil to its limits in many regions of the world, resulting in degradation and eventual loss of agricultural land (Pozza & Field, 2020). Soil is basic resource, which provides food security to every state. Being the main component of the state and element of its national safety, food security must not be under threat, especially nowadays, when positive trends are unstable, affected by external influence and depend on political and economic situation in the world (Zakirov et al., 2021).

Different countries (e.g. Russia) have adopted the Food Security Doctrine (On approval of the Food Security Doctrine of the Russian Federation, 2020), which defines food security, as the condition of social and economic development of a country, when the country's food security is provided and food products are available to every citizen, equal to or more than the consumption rates, necessary for an active and healthy lifestyle. At the same time, the restoration and improvement of the agricultural lands fertility, their protection from water and wind erosion and desertification are recognized as the national interests of the state. For achieving these goals Russia has implemented the programs to support agro-industrial complex in strategic areas of food security improvement, import dependency reduction (Salaev et al., 2021) and land recultivation.

The implementation of food security concept has become an increasingly complex and resource-intensive task due to changes in supply and demand caused by global climate and environmental conditions changes. In order to meet the requirements of food security concept, the Russian population must have access to the right amount of safe and nutritious food at any time to ensure an active and healthy life. The attitude of people and communities towards soil influences our access to food in near future; without the right amount of suitable soils, it will be more difficult to produce food. Volume and quality of agricultural products depend on soil characteristics, its ability to maintain certain agricultural functions. However, in its natural state, soil is not able to meet the need of agricultural production, so human intervention is necessary, for example, by irrigation and fertilization, etc. Agricultural soil use, where possible, should be adapted to the type of soil and its capabilities, based on its supporting function, not the opposite. Although there are different approaches to ensuring food security in terms of soil fertility, it is possible to conserve the soil resource in such a way that it can support a growing population and support future generations. Sustainable land use intensification methods aim to increase crop production on available land while minimizing environmental impact.

Land and soil condition as environmental object plays an important role in ecological security provision. In Russia, the preservation and restoration of the natural environment, the quality of the environment necessary for a favorable human life are defined as the goals of state policy in the field of ensuring environmental safety. Negative consequence such as environmental degradation, including desertification, drought, land and soil degradation are classified as global environmental security

challenges (On the Strategy of Environmental Safety of the Russian Federation for the Period until 2025, 2017). Land and soil degradation prevention; reduction of areas, disturbed as a result of business activities are the state objectives in the sphere of land and soil. Such attention to the land and soil condition is reasonable, because its restoration takes a long time. Land and soil are the part of ecosystem; therefore, their negative condition also affect other natural objects: water, flora and fauna, as well as human health. For example, soil contamination as a result of man-made disasters can lead to water pollution, affect the state of forest and non-forest vegetation, water biological resources. Humanity is the part of nature, and life depends on the continuous functioning of natural systems, which are the source of energy and nutrients (World Charter for Nature, 1982). This justifies the importance of protecting lands and soils as natural objects and natural resources.

Such negative processes as soil contamination, water and wind erosion, desertification are the major focus of interest of separate states, as well as international community. Problems of soil protection and its remediation after the negative impact are the subject of international cooperation. This is evidenced by such documents as the Final Act of the Conference on Security and Cooperation in Europe (Final Act of the Conference on Security and Cooperation in Europe, 1975), in which soils and land use; their reclamation, development; combating soil contamination, water and wind erosion, as well as other types of degradation; maintaining and increasing soil productivity, taking into account the possible negative consequences of the chemical fertilizers and pesticides use were named among the areas of international cooperation in the field of environmental protection.

Taking into account the significance of soil resources the UN General Assembly Resolution (Resolution by the UN General Assembly, 2013) declared December 5 as World Soil Day and 2015 as the International Year of Soils. The Resolution recognized that soils have the key importance for all life, being the factor of agricultural industry and food security.

A new edition of the World Soil Charter (World Soil Charter, 2015) with principles and recommendations was approved at the 39th Session of the UN FAO Conference in the International Year of Soils. Particularly, rational soil management requires of states, other governmental bodies, international organizations, individuals and corporations to base their activities on the principles of sustainable use of soils and soil degradation prevention. Governments are recommended to introduce the national soil information system and support the creation of such system on international scale. It is also recommended to develop a national institutional system for monitoring the implementation of sustainable soil use and general condition of soil resources, to develop and implement regulation to limit the accumulation of contaminants above the established levels in order to protect human health, to ensure the recovery of the contaminated soils where these levels are exceeded and people, plants and animals are in danger.

The European Soil Charter was adopted in 1972. It notes the degradation of land, especially agricultural and forest land, due to pollution, erosion and ineffective management, as well as a lack of attention to environmental factors in the process of land development (Vorontsova, 2014). The Charter proclaimed several principles, in particular, soil is a limited resource that is easily destructible, therefore it must be protected from erosion and pollution. For the rational use and protection of soils, it is necessary to expand scientific research and interdisciplinary cooperation, to compile a list (inventory) of soil

resources. Governments and administrative authorities are encouraged to manage soil resources rationally.

The creation of the World Base of Reference (WBR) was initiated by FAO and UNESCO in the 1980s with the aim of improving land classification. Many countries are creating their own soil registers and databases on, with a description of soil condition and pollution, including the USA, Japan, Canada, etc. (Vorontsova, 2013). Russia has the state fund for state environmental monitoring data, which includes information obtained as a result of land monitoring (On the protection of the environment, 2002). Within the land monitoring Russia also monitors the soil fertility, which is aimed to form complete and reliable information on the condition of agricultural land fertility. The state fund includes the results of analysis and assessment of the qualitative lands condition, taking into account the impact of natural and anthropogenic factors, as well as a forecast of changes in the lands condition. Different governmental bodies monitor lands, e. g. Department of Agriculture monitors the agricultural lands and soil fertility. Ministry of Natural Resources and the Environment is the operator of state ecological monitoring, which includes the information on state of all natural resources of the Russian Federation. Such distribution of powers between government bodies requires their clear interaction to form an objective and reliable system of data on the lands and soils condition, which allows identifying and preventing negative processes of both anthropogenic and natural character.

Despite the fact that soil conditions are being assessed at the national level in individual countries, the 2018 UN FAO Report notes the need for a systematic assessment of the state of soil pollution at the global level, as agricultural intensification, industrial production and urbanization are progressing rapidly, often causing soil pollution and directly affecting food security, reducing crop yields. Soil contamination with hazardous substances (e.g. arsenic, lead), organic chemicals, pharmaceuticals (e.g. antibiotics) poses a serious risk to human health. Of even greater concern are “new contaminants”, in particular plastics used in many industries, e-waste that is usually not recycled (Rodríguez-Eugenio et al., 2018). Information on such contamination, available for use, would make it possible to assess the real state of the soil and plan concerted international actions. The problems of soil monitoring are also addressed in the project developed by the European Union (8th Action Program in the field of environmental protection until 2030, 2021). The project proposes to consolidate several priorities based on the objectives of the European Green Deal. In particular, these objectives are: removing the link between economic growth and environmental degradation; striving for zero pollution, including soil, conservation and restoration of biodiversity and augmentation of natural capital, including soil. To achieve these goals, it is proposed to create a new monitoring structure.

7. Conclusion

This research allowed authors to come to the conclusion that there is the need for an integrated approach to the legal regulation of land and soil protection, taking into account their connection with other natural objects. Land and soil condition is directly connected with food and environmental security, so land restoration, land fertility improvement, its protection from water and wind erosion and other negative processes must be considered as national interests of every state. Sustainable use of lands and soils is impossible without reliable and complete information on their condition, so it is necessary to

regulate the monitoring of land and soil fertility as well as forming the database of their condition thoroughly.

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