Public danger and mechanisms for preventing damage to land

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Abstract. Deterioration of the quality of the environment, including its natural component - land, is becoming stable in modern conditions. Within the framework of this study, the need to form preventive mechanisms for damage to land is substantiated based on the content of its social danger. However, for full-fledged mechanisms that are really capable of realizing soil protection, the assessment of public danger should be carried out based on the actual data of the harm caused, while relying on indicators of environmental pollution of soils, necessarily taking into account the sphere of human activity that they are produced by. Thus, the results of the study showed that the greatest anthropogenic impact on the soil is exerted by industrial facilities, the harmful effect of which has no opposition from the imperative mechanisms of prevention. The elimination of this gap and the development of appropriate mechanisms for protecting the land, its properties and qualities in connection with the functioning of the industry can bring the system of prevention of such acts to a new, higher level.

1. Introduction

Studies of the impact of human activities associated with technological progress on the environment indicate that serious damage has been caused to nature, which ultimately negatively affects and will continue to negatively affect the life and even survival of humanity. “Ecological environment is an important guarantee for the survival and development of human beings. It has a very important role and impact on human development. The process of human development has brought about serious damage to the ecological environment” [1].

The destructive impact on the environment is largely due to the functioning of industry, since it plays a leading role among the sectors of the national economy, determines the profile of regions and their place in the territorial-sectoral division of labor. This factor cannot be ignored in the formation of environmental policy, since it has a significant impact on the economic well-being of the population. The result is a problem of contradictions “…between economic development and environmental protection” [2], since industrial facilities “…have the most negative impact on the environment and the livelihoods of the population” [3]. Soil as a component of the natural environment that makes up the maintenance of an object of environmental safety is subject to serious negative changes, for example, “Oil slick at soil surface does not allow the affected soil to absorb water and retain moisture, thereby affecting moisture content of the soil, its permeability and field capacity. Oil displaces the air from the soil pores, which negatively affects the air regime” [4]. Such changes are associated with the activities of industrial oil production and oil refining facilities, etc.

The greatest danger to the condition of the soil is posed by industrial facilities that extract minerals, which is due to the peculiarity of production [3].
Soil contamination can occur as a result of accidents at industrial facilities that “arise due to the deterioration and accident rate of equipment, ... the accident rate does not change for several years and months...” [5].

In addition, the danger to the soil as a protected object comes not only from functioning enterprises, but also from objects that have ceased their activities, but continue to exert a strong anthropogenic impact on it [3].

A separate niche among other objects that intensively deteriorate the quality of land is occupied by construction sites that pollute it with various, including oil-containing substances. The longer the period of pollution, the deeper they penetrate into the soil, simplifying the processes of its degradation [6].

Thus, industry in all its possible forms is the main source of damage to an environmentally important protected object - directly, land (soil).

“Soil is an independent natural body meant to be protected. The problem of protection of soil from contamination is complex and multidimensional. The main way to protect soils from contamination by petroleum products is to prevent their release into the soil” [4].

It seems that all the above cases of soil pollution are equally dangerous, but the organization of their competent and effective prevention requires a more differentiated approach to assessing the consequences in the form of damage. Pollution parameters, properties and ecological characteristics of soil, corresponding in their totality to indicators of the ecological consequences of land (soil) pollution [4], are associated with the activities of large industrial facilities and are its side effects. It seems that it is the given set of indicators of environmental consequences that should be taken into account when determining the harmfulness and social danger of acts, in the implementation of specific activities (works) that infringe on relations in the field of protection and rational use of land, since they allow to correctly assess the nature of damage and the possibility of its elimination.

Thus, the listed activities pose a serious public hazard to the quality of soil as a natural component. Considering that the soil does not belong to a self-healing resource, a person, through these actions, causes irreparable harm and violates the ecological well-being of the environment of his existence. Only a competent and effective legal framework, backed up by guarantees of imperative protective mechanisms (norms), is capable of ensuring rational use of natural resources.

2. Materials and methods
The main purpose of the work is to determine the nature and degree of public danger of the range of acts that harm land resources and, based on the results obtained, the formation of a mechanism for their prevention. The analysis of the norms of the existing environmental legislation made it possible to identify the existing gaps in ensuring the protection of relations in the field of land use.

General scientific methods, formal and logical, such as the method of analysis and synthesis, as well as induction and deduction, applicable at the empirical and theoretical levels, made it possible to fill these gaps and offer the legislator alternative solutions in the field of land protection.

3. Results
The need to improve legislation in the field of environmental protection and nature management is emphasized as a priority area for ensuring environmental safety in On the Environmental Safety Strategy of the Russian Federation until 2025 [8], where increased land and soil degradation is viewed as a threat to environmental safety.

The development of legislation on nature protection is designed to “stimulate rational use of natural resources and compliance with environmental standards, the development of environmentally friendly production and environmentally safe behavior of citizens” [7].

“One of the important conditions for increasing the effectiveness of the fight against crimes that infringe on environmental safety is the constant improvement of the legal framework for environmental protection” [7].
In On the Environmental Safety Strategy of the Russian Federation until 2025 [8], problems in the field of environmental management associated with criminality are noted, for example, with the presence of a shadow market in this area, which actualizes the solution of the problem from the standpoint of strengthening legal (protective) security.

The current protective legislation forms a number of mechanisms in the field of environmental safety and “within its framework, requirements are imposed on various human activities, restrictions and prohibitions are established” [7]. And this is no coincidence, since “contamination of soils, ground and water bodies occurs from human activities…” [4].

Careless negligence makes significant negative adjustments to the overall picture of environmental pollution. Ignoring their responsibilities in the implementation of work and types of professional (labor) activities that can lead to a series of negative consequences for the environment, forces the legislator to form mechanisms of personal responsibility and take under state control such egregious facts of negligence towards the requirements established in the field of environmental management. Most of the environmental crimes identified by the legislator are related to the violation of rules in a specific field of activity.

It seems that the formation of protective mechanisms should not be chaotic, but should be subordinated to the main principle of adequate reflection of the nature and degree of public danger of committed acts. “The only source for the formation of a crime is a socially dangerous act. First, there is a social act characterized by a danger to the individual, society, state power, peace and security of mankind” [9]. From the stated judgment, two very important points follow from the standpoint of constructing norms on the protection of land: this is an analysis of human social activities that pose a danger to the protected object and the identification of the specific essence (content) of its social danger, which determines the differentiation of these mechanisms.

The danger of social actions that violate one of the benefits of man - land and soil, consists in the environmental consequences of soil pollution, indicators of which are the parameters of pollution and soil properties, as well as its ecological characteristics [4].

It seems that the indicated characteristics of socially dangerous consequences represent the qualitative specificity of social danger, which constitutes the basis for the formation of a protective mechanism. This approach contributes to the development of uniform criteria for determining the severity of consequences within the framework of legislative preventive structures.

This position is akin to the opinion of Slovak scientists who propose a soil monitoring system as the main tool for soil protection, sustainable land use and the creation of legislation [10].

We propose to understand the social activity of a person posing a danger to the protected object literally: what kind of actions caused the indicated consequences, i.e. in which specific area were violations of regulatory and regulatory requirements that resulted in the specified damage to the soil.

This situation should prompt the legislator to comprehend the specific qualities and properties of the social danger of the committed act as a fundamental basis for the formation of a specific protective mechanism.

Thus, having analyzed the provisions of On the Environmental Safety Strategy of the Russian Federation until 2025 [8], the development of scientists in the field of preventing environmental offenses, based on the scientific understanding of the content of public danger and relying on research data on the impact of industry on the state of soils, we present the results:

- The public danger of acts encroaching on the protection of the land (soils) is determined by the environmental consequences of pollution, the indicators of which are the pollution of parameters, soil properties and its ecological characteristics, in which you manifest its specific content and which allows differentiating imperative responsibility;
- When forming mechanisms aimed at maintaining order in the field of land protection, it is necessary to take into account the presence of two obligatory factors: the specifics of the social danger of the committed act and the type of human activity that caused them;
• The formation of mechanisms for preventing soil pollution should be carried out on the basis of a meaningful analysis of the actual socially harmful human activity in various areas of its implementation, and especially in industry, which is the main anthropogenic factor.

4. Discussion
Of course, the current legislation contains modern mechanisms for the prevention of environmental offenses. It is no accident that it is customary to distinguish between “mechanisms of legal regulation of the use of natural resources and their protection” [7]. It is impossible to achieve full implementation of the former without proper legal, really working support of protection mechanisms. “The mechanism responsible for the safe operation of these facilities must include warranty elements that ensure the safe operation of the relevant facilities. Such protective guaranteeing mechanisms exist and are presented at the state level in the form of imperatives and are of a pronounced preventive nature” [11].

Indeed, protective legislation contains a number of guaranteeing mechanisms for environmental safety. However, their assessment from the position of the above stated criteria, namely, taking into account the specifics of determining the public danger of acts and an increased risk factor emanating from industrial facilities, reveals their insolvency and insufficiency as guarantee elements in the general system of preventing violations in the field of land protection.

Thus, land as an independent object of criminal law protection is secured only within the framework of one composition, which provides for liability for activities related to violation of the rules for handling fertilizers, plant growth stimulants, pesticides and other hazardous chemical or biological substances. The public danger of the above act is obvious and fully reflects the specificity of the public danger of the consequences within the framework of the formed prevention mechanism.

However, attention is drawn to something else: the fact that the industry, in its large-scale activities, recognized as the source of the greatest danger of soil pollution (as established above) is ignored by the legislator. It turns out that the fight against harm caused by the main anthropogenic sources of possible pollution, which are industrial facilities, does not provide for independent imperative mechanisms for preventing soil contamination, although in terms of their harmfulness they surpass other types of activities.

The above results of research activities clearly demonstrate the destructiveness of side effects for one of the most important human resources - soil. Therefore, the social danger of the above acts, determined by the specifics of socially dangerous consequences, in its harmfulness is not inferior to those enshrined by the legislator in connection with another type of work (activity), should find its expression in the number of existing protective mechanisms, in their totality, realizing a preventive effect.

The current situation requires legislative permission in terms of soil protection during the operation of industrial facilities in the form of an independent norm, where land is the direct (main) object of criminal encroachment, which will contribute to an adequate assessment of the degree of public danger, committed acts and an increase in preventive impact in this direction.

5. Conclusion
Soil is an independent object requiring protection within the framework of environmental safety.

The best prevention of soil protection from pollution is to prevent the ingress of harmful substances into it. For this, it is necessary to timely update the legal framework governing land use and land management, as the development of innovative technologies used in this area.

Since the soil as an object of legal protection is constantly and continuously exposed to negative impacts in a number of technical areas of human activity and is the subject of regulation of legislation, the mechanisms formed for the protection of settled relations should be attributed to methods of special prevention of its pollution.

The imperative methods of land protection in order to improve the prevention of criminal activity require significant improvement. So, given the public danger of the consequences caused by the operation of industrial facilities, determined by the indicators of the environmental consequences of
soil pollution, namely: the pollution of its parameters, properties and environmental characteristics,
given that this type of human activity takes the leading, the main place in terms of the negative impact
on the given characteristics soil, it is necessary to form independent mechanisms providing for liability
for violation of environmental safety rules in connection with the operation of industrial agricultural,
scientific and other facilities, if this entailed a significant deterioration in the indicators of the
environmental consequences of soil pollution.

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