

Case study of socio-legal conditionality of establishing a ban on criminal acts concerning land resources

Andrii Shulha^{1,2}, Vitalii Pavlykivskiy^{2,3*}, Oleksandr Khramtsov⁴, Larisa Borysova⁵

¹Kharkiv National University of Internal Affairs, L. Landau Avenue, 27, Kharkiv, 61080, Ukraine

²Kharkov University, pr. Gagarina, 187, 61080, Kharkiv, Ukraine

³Kharkiv Petro Vasylenko National Technical University of Agriculture, st. Alchevskikh, 44, 61002, Kharkiv, Ukraine

⁴V.N. Karazin Kharkiv National University, Svobody Sq., 4, 61022, Kharkiv, Ukraine

⁵National University of Civil Defence of Ukraine, 61023, Chernyshevska str., 94, Kharkiv, Ukraine

*corresponding e-mail address: pvictor@i.ua

Received: 13 March 2020 / Accepted: 11 May 2020

Abstract. The problem of protecting land resources is currently relevant to the entire world community. On the basis of mathematical analysis of the dynamics indicators, it has been established that the number of criminal cases increased by 218 units (6.2%) during the last year compared with the previous year, while the number of closed criminal proceedings increased by 172 units (7.8%). The rate of growth shows an increasing trend both for the initiation (registration) of criminal proceedings in the land relations field, and for the termination of criminal proceedings due to the lack of corpus delicti. The forecast for the next three years showed that the load on the judicial system will increase every year, and the effectiveness of solving the problem of protecting land resources will remain extremely unsatisfactory. Therefore, it is necessary to improve legislation. The social conditionality factors of the criminal law prohibition are proposed, which together provide a sufficient basis for the necessity of recognizing socially dangerous offenses against land resources as criminally punishable. The criminal legislation analysis of foreign countries shows that only in Ukraine the regulatory framework provides the most complete protection of land resources. This positive experience can be used to create an optimal mechanism of criminal law protection of land resources at the international level.

Key words: land resources; protection; socio-legal conditionality; criminal legal aspects.

1. Introduction

The classic approach to solving environmental problems is:

1) In the new materials development and environmentally friendly technologies, in order to reduce waste by:

- ensuring the durability of the material and product to extend the life (Sokolov et al., 2018; Chan & Tong, 2007; Bakker et al., 2014; Vambol et al., 2017);

- ensuring intensive degradation (decomposition) of the product materials after a given service life (Wright, 2001; Yousif & Haddad, 2013);

- 2) In the methods and technologies development for waste sorting, processing and disposal (Lemmens et al., 2017; Ning et al., 2017; Vambol et al., 2016; Vambol et al., 2018);
- 3) In the methods development for treating wastewater, polluted air, contaminated soils, and restoring natural objects to a safe and stable state, etc (Khan et al., 2019; Biliaiev et al., 2017; Vambol et al., 2019; Liu, 2018; Ziarati et al., 2020).

All these areas are certainly related to environmental engineering and are a traditional approach to solving environmental problems. However, environmental engineering is not the only tool for effectively solving environmental problems. Unconventional approach for ensuring environmental safety includes:

- A sociological approach, such as influence of public opinion on social behaviour in society (through the mass media, education on contemporary environmental issues, informing the public and reminding them of the need to protect nature);
- A social approach, such as reducing tension in society due to social inequality, eliminating or reducing thirst for profit in any, including illegal way, etc. (through the mass media, education about the role of every planet inhabitant in ensuring a healthy environment);
- A legal approach, as the prevention of criminal acts (misuse, spoilage, pollution) against natural resources (through the adoption of laws on the natural resources protection and the establishment of a ban on criminal attacks on natural resources).

In this study, we focus on the relationship between crime (as a socially negative phenomenon) and environmental factor (as one of the factors that determine the crime level). The environmental factor of crime means that criminal manifestations are possible in the environmental relations field, in particular, in the field of natural resources protection, rational use and reproduction (for example, the deterioration of the environment components quality, their destruction or damage, illegal seizure and the like).

The presence of the environmental factor of crime is based on the constitutional order that everyone has the right to a safe environment for life and health and to compensation for harm caused by offense of this right. The right to a safe and healthy environment is ensured by a set of interrelated political, economic, technical, organizational, legal and other measures. Climate change is a serious problem for existing institutions and lifestyles. The issues of protecting both natures in general and land resources in particular include human rights, international justice, the generations' ethics, individual responsibility, climate economics and the geoengineering ethics (Gardiner et al., 2010). The environment, as the basis of the ecological factor, is a combination of natural and natural-anthropogenic conditions and processes that surround a person, and is the sphere of his life and activity (Gardiner et al., 2010). It consists of individual natural systems, landscapes and a

combination of natural resources. One of the main such resources are land resources. They represent the basis for the existence of all other environmental objects.

The subject of crimes against the environment, and, in particular, against land resources, has a number of specific features and therefore the establishment of such a crime is a rather difficult task not only in practical but also in theoretical terms. The basis for the implementation of the criminal law policy in this area is the socio-legal conditionality of the criminal law prohibition of action, which consists in criminalizing the latter (that is, action). The conditionality of such a ban is based on a system of several factors. Thus, the aim of the study is to study the features of socio-legal conditionality to establish a ban on criminal attacks on land resources.

2. Methodology

The statistics of offenses against land resources was compiled on the basis of the data of the National Police on the implementation of offenses committed in the field of land relations in the period 2011-2019. The analysis was carried out based on the legislation of Ukraine. The court decisions on such articles of the Criminal Code of Ukraine as:

Article 197-1 - Unauthorized occupation of the land and unauthorized construction;

Article 239 - Pollution or deterioration of land;

Article 239-1 - Illegal seizure of soil cover (surface layer) of land;

Article 239-2 - Illegal seizure of lands of water fund in especially large amounts;

Article 254 - The mismanagement of land,

were studied in detail.

At the same time, the legislation of Ukraine was compared with the legislation of other countries.

The study of the dynamics' development of offenses against land resources and the forecasting their numbers for the next three years was carried out using methods of mathematical statistics. Indicators of dynamics series' analysis were determined to describe the changes intensity in offenses and in violators' number. To compare the series levels, the following indicators were calculated: absolute increase; absolute growth rate (it characterizes the absolute increase measured in relative values (%) and shows how many percent the compared level has changed with the level taken as the basis of comparison); rate of growth (growth coefficient) which characterizes the ratio of two levels of the series and can be expressed as a coefficient or as a percentage; absolute value of 1% of growth, determines what absolute quantity is concealed behind relative showing – one growth percent.

The methods of analysis and synthesis were used to study the signs of both the crimes against land resources themselves, and the signs of their composition, as well as the formulation of recommendations for improving legislation in this area.

3. Results and discussion

3. 1. Statistics analysis

It has been established that in the period 2011-2019 in Ukraine, 42,757 criminal offenses in the land resources field of Ukraine were recorded (Fig. 1). Of these, 21,636 (87.4%) of the criminal proceedings were closed for various reasons.

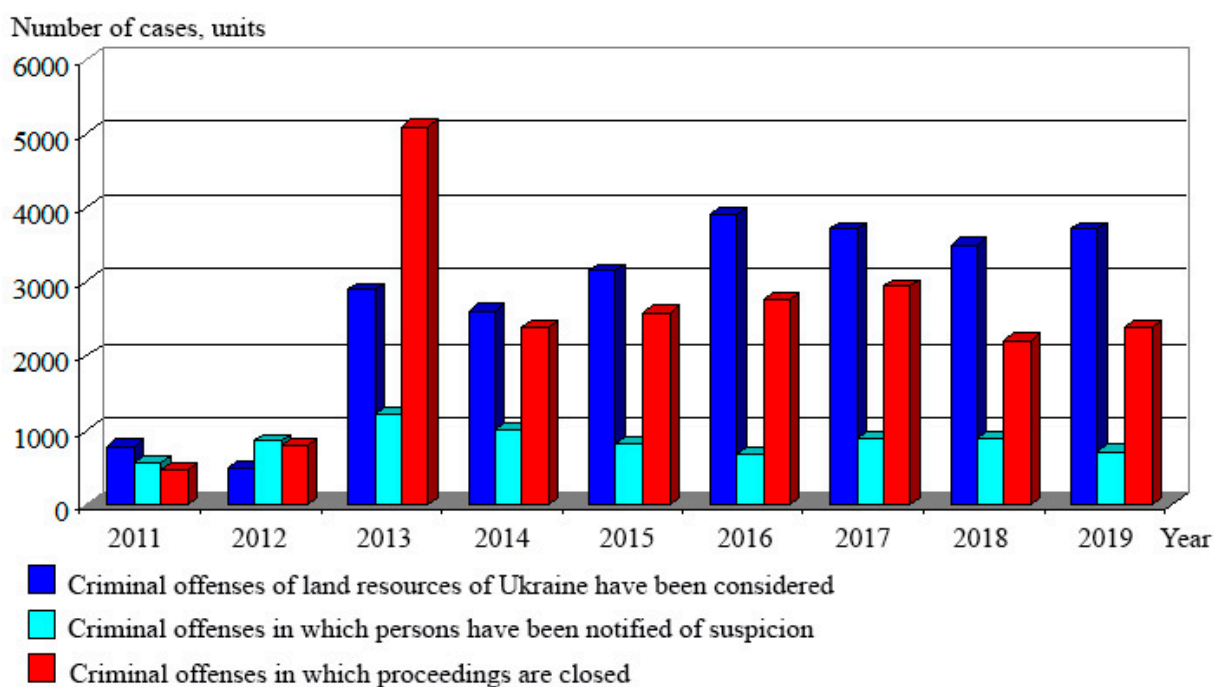


Figure 1. Statistical data on offenses committed in the land relations field

Figure 1 shows a steady increase in the indictments number and a simultaneous increase in the criminal proceedings number that were closed. To make a forecast for the next three years, basic indicators of dynamics (each level of the series is compared with the same basic level) and chain indicators of dynamics (each subsequent level of the series is compared with the previous one) were determined.

3. 1. 1. The dynamics indicators definition

The most important statistical indicators of dynamics are:

- Absolute increase:

$$\Delta y_{ci} = y_i - y_{i-1}, \quad (1)$$

$$\Delta y_{bi} = y_i - y_1, \quad (2)$$

where Δy_{ci} – chain increase; Δy_{bi} – basic increase.

- Absolute growth rate

$$T_{Incr_{ci}} = \Delta y_{ci} / y_{i-1}, \quad (3)$$

$$T_{Incr_{bi}} = \Delta y_{bi} / y_1, \quad (4)$$

where $T_{Incr_{ci}}$ – chain rate of increase; $T_{Incr_{bi}}$ – basic rate of increase.

- Rate of growth (growth coefficient)

$$T_{Gro_{ci}} = y_{ci} / y_{i-1}, \quad (5)$$

$$T_{Gro_{bi}} = y_{bi} / y_1, \quad (6)$$

where $T_{Gro_{ci}}$ – chain rate of growth; $T_{Gro_{bi}}$ – basic rate of growth.

Absolute value of 1% of growth is calculated as per the following formula:

$$A1\% = y_{i-1} / 100\%, \quad (7)$$

The calculation results are given in Table 1.

Table 1. Statistical indicators of the offenses dynamics in the land relations field

Period	Criminal cases	Indicators of the dynamics						
		Absolute increase		Rate of growth (growth coefficient)		Absolute growth rate		Absolute value of 1% of growth
<i>Criminal offenses against land resources of Ukraine</i>								
2011	778	-	-	100	100	-	-	-
2012	498	-280	-280	64.0	64.0	-36.0	-36.0	7.8

2013	2893	2395	2115	580.9	371.9	480.9	271.9	4.9
2014	2607	-286	1829	90.1	335.1	-9.9	235.1	28.9
2015	3148	541	2370	120.8	404.6	20.8	304.6	26.1
2016	3905	757	3127	124.1	501.9	24.1	401.9	31.9
2017	3714	-191	2936	95.1	477.4	-4.9	377.4	39.1
2018	3498	-216	2720	94.2	449.6	-5.8	349.6	37.1
2019	3716	218	2938	106.2	477.6	6.2	377.6	35.0
<i>Criminal offenses in which proceedings are closed</i>								
2011	477	-	-	100	100	-	-	-
2012	791	314	314	165.8	165.8	65.8	65.8	4.77
2013	5099	4308	4622	644.6	1069.0	544.6	969.0	7.9
2014	2393	-2706	1916	46.9	501.7	-53.1	401.7	51.0
2015	2593	200	2116	108.4	543.6	8.4	443.6	23.9
2016	2756	163	2279	106.3	577.8	6.3	477.8	25.9
2017	2931	175	2454	106.4	614.5	6.4	514.5	27.6
2018	2212	-719	1735	75.5	463.7	-24.5	363.7	29.3
2019	2384	172	1907	107.8	499.8	7.8	399.8	22.1
<i>Number of persons who received a notice of suspicion</i>								
2011	562	-	-	100	100	-	-	-
2012	852	290	290	151.6	151.6	51.6	51.6	5.6
2013	1215	363	653	142.6	216.2	42.6	116.2	8.5
2014	1007	-208	445	82.9	179.2	-17.1	79.2	12.2
2015	823	-184	261	81.7	146.4	-18.3	46.4	10.1
2016	671	-152	109	81.5	119.4	-18.5	19.4	8.2

2017	890	219	328	132.6	158.4	32.6	58.4	6.7
2018	894	4	332	100.5	159.1	0.5	59.1	8.9
2019	713	-181	151	79.8	126.9	-20.3	26.9	8.9

Regarding the analysis of the total number of criminal proceedings that were opened due to offenses in the land resources field, Table 1 shows that for the entire study period (2011-2019) the number of criminal proceedings increased by 2938 units (377.6%), while at the same time by 1907 units (399.8%) increased the number of criminal proceedings that were closed due to lack of *corpus delicti*. The number of criminal proceedings that were closed is 64.9% of the total number of recorded criminal proceedings in the land resources field.

In the last study year, compared with the previous one, the number of criminal proceedings increased by 218 units (6.2%) during the last year compared with the previous year, while the number of closed criminal proceedings increased by 172 units (7.8%).

The maximum increase in the total number of criminal proceedings and proceedings that were closed is observed in 2013 and amounts to 2,395 units and 4,308 units, respectively. The rate of growth shows an increasing trend both for the initiation (registration) of criminal proceedings in this area, and for the termination of criminal proceedings due to the lack of *corpus delicti*. This trend indicates acceleration in the increase in the number of those and other criminal proceedings.

The analysis of the participants number dynamics the in the crime also deserves serious attention. Dynamics indicators (Table 1) indicate that over the entire study period there has been an increase in the number of participants in the crime by 151 people (26.9%). Similar to the previous indicators, the maximum surge in the increase in the number is observed in 2013 (363 people), and the rate of increase shows an increasing trend and indicates an acceleration in the increase in the number of participants in the crime.

3. 1. 2. Determination of the average characteristics of the series

The average growth rate and average increase rate were determined respectively by the formulas:

$$\bar{T}_{Gro} = \sqrt[n-1]{\frac{y_n}{y_1}}, \quad (7)$$

$$\bar{T}_{Incr} = \bar{T}_{Gro} - 1 \quad (8)$$

The average absolute increase was determined by the formula:

$$\bar{d}_y = \frac{y_n - y_1}{n - 1}. \quad (9)$$

According to the calculations results, was received that on average the quantity of:

- Criminal proceedings increased by 21.6% each year;
- Criminal proceedings that were closed, increased by 22.3% each year;
- Participants in crimes increased by 3% every year.

The forecast for the next three years was made using the absolute increase indicator, and is presented in Table 2.

Table 2. Forecast of the criminal offenses dynamics for the next 3 years

Year	The total number of criminal proceedings, units	The number of criminal proceedings that are closed, units (% of total)	The number of participants in the crime, people
2020	4083	2622 (64.2%)	732
2021	4451	2861 (64.3%)	751
2022	4818	3099 (64.3%)	770

Therefore, based on this forecast, we can conclude that the load on the judicial system will increase every year, and the effectiveness of solving the problem of protecting land resources will remain extremely unsatisfactory, since for the entire study period and for the forecast period, there is an almost constant percentage of criminal proceedings that closed due to lack of *corpus delicti*. At the same time, a constant increase in the participants in crimes is forecasted.

This gives reason to suppose that the law does not always contain a corresponding indication of specific manifestations of criminal behaviour aimed at worsening the land resources state in crimes (for example, in case of contamination or damage to land, an obligatory sign of socially dangerous consequences is their real possibility of occurrence). Consequently, the current situation contributes to an increase in the number of crimes in the land relations field, as well as their latency or the use of milder forms of responsibility for offenses in this area, in particular civil, disciplinary, administrative (a slight fine, dismissal, etc.).

At the same time, the reality of causing harm to land resources, and, accordingly, to a person can be caused by a number of factors of an objective and subjective nature, which must be established during the investigation and trial.

3. 2. Factors of socio-legal conditionality of the criminal law norm - ban

The artificial complication of the theoretical understanding of the essence of the of socio-legal conditionality of the criminal law norm a “ban”, as well as the criminalization process and their components does not contribute to the correct substantiation of the establishment of criminal liability for a specific socially dangerous act. It is important to consider that that "land resources" are a component of nature, an object of ownership and farming. Therefore, the as factors of the social conditionality of the criminal ban, as well as the criminalization of the relevant acts, must be recognized:

- 1) Socio-criminological factor;
- 2) Prescriptive (that is a factor in criminal law) factor;
- 3) Environmental factor;
- 4) Comparative factor;
- 5) International legal factor.

3. 2. 1. Socio-criminological factor

The current law on criminal liability protects the values recognized by the majority of society. Therefore, the use of criminal law methods is fully legitimate for counteracting encroachments on land resources. The main condition for the social conditionality of criminal law is a public danger of the act which is criminalized (Dzyuba, 2014; Pashchenko, 2017). Namely the social conditionality of actions is determined by their public danger. The public feature of a criminal act (that is, his threat to existing relationships and the existing rule of law) is that objectively exists and can be recognized by finding out the harmful, negative importance for the development and strengthening of social relations, social goods, values, spheres of human life and protection of the rights and interests of citizens, society and the state.

Depending on the nature and degree of public danger of criminal offenses against the land resources of Ukraine, they are divided into insignificant and significant socially dangerous crimes (Khom'yachenko, 2000). When committing insignificant negative acts, that is socially harmful land offenses, administrative and legal liability occurs, and the commission of socially dangerous land offenses entails criminal liability. So, the same land offenses, depending on the time, society development stage and other factors, can pose a greater or lesser social danger or even lose it. Therefore, taking into account public danger, specific land offenses the legislator classifies as administrative offenses or crimes. In the future, individual land offenses can be attributed to criminal offenses, which are not directly offenses.

To clarify the public danger level of criminal attacks on the land resources of Ukraine, it was advisable to study statistics on such articles of the Criminal Code of Ukraine as:

Article 197-1 - Unauthorized occupation of the land and unauthorized construction;

Article 239 - Pollution or deterioration of land;

Article 239-1 - Illegal seizure of soil cover (surface layer) of land;

Article 239-2 - Illegal seizure of lands of water fund in especially large amounts;

Article 254 - The mismanagement of land.

For example, according to the State Agricultural Inspectorate, in 2015, 1,482 inspections of compliance with land legislation were conducted. Based on the results of these inspections, 775 offenses were identified and 648 instructions were issued to eliminate the offenses identified. 447 protocols were issued up for citizens and officials who were found guilty of committing administrative offenses in the land sphere. At the same time, 392 decisions were imposed on the imposition of administrative penalties (DISHU, 2015).

A detailed study of 374 cases on offense of land legislation requirements that have signs of a crime stipulated by the Special Part of the current Criminal Code of Ukraine, as well as the Unified Register of court decisions of recent years, it was found that law-enforcement agencies identify facts of land crimes. However, the courts do not fully use the capabilities of the current legislation, what putting group of crimes against nature components in last place in the hierarchy of the crime system.

So, in 2013, 7 convictions were registered with a fine, and in 2014, 13 convictions for crimes against land resources were already issued, as well as with a fine. In most cases, individuals pleaded guilty to the crimes committed and entered into an agreement with the prosecution. It should also be noted that the most severe penalties were imposed for the illegal seizure of land resources (Article 239-1 of the Criminal Code of Ukraine). An interesting fact is that in 2015, only 4 convictions were passed for land crimes. Again, the punishment in these cases was imposed in the form of a minor fine (YDRSR, 2017).

3. 2.2. Prescriptive factor

This factor allows us to ascertain the conformity of the criminal law norm in the system of norms united by the subject of legal regulation. In addition, the analysis of this factor helps to identify possible gaps in the law and requires the development of appropriate recommendations for filling them (Borisov & Gizimchuk, 2001). From this perspective, the importance of studying the prescriptive factor is emphasized by the fact that the Criminal Code of Ukraine is part of the national legislative system. In addition, this factor has its own special tasks, the quality of

implementation of which depends on the observance of a uniform approach for all industries in the relevant legal norms development.

This factor reflects the conditionality of the criminal law protection of land resources, determines their legal status, provides protection against unlawful encroachments by securing the relevant legal requirements, as well as the legitimate rights and interests of landowners and land users by analyzing the correlation and compliance with the norms of the Constitution of Ukraine and other regulatory legal acts in the specified field. First of all, it is necessary to consider the norms of the Constitution of Ukraine, then the laws in the field of land relations and, last but not least, by-laws (decrees of the President of Ukraine, resolutions of the Cabinet of Ministers of Ukraine, departmental regulations, etc.).

So, in the Constitution of Ukraine:

- Article 14 notes that “the Earth is the main national wealth, which is under the special protection of the state”;
- Article 16 provides: “Ensuring environmental safety and maintaining ecological balance in Ukraine, overcoming the consequences of the Chernobyl disaster - a planetary catastrophe, preserving the gene pool of the Ukrainian people is the responsibility of the state”;
- Article 50 establishes the right of everyone to a safe environment for life and health and to compensation for harm caused by the violation of this right (KU, 2011).

All constitutional prescriptions are direct action norms, determine their corresponding implementation, including through the provision of criminal legal protection of both the environment in general and land resources in particular. In constitutional requirements development, the legislator adopts relevant regulatory acts - laws that detail, establish appropriate procedures for the implementation of these requirements, as well as establish the types and grounds of legal liability in case of violation of legislatively established rules of conduct. In this study, we are talking about liability for offenses of land legislation.

A special and at the same time decisive role in the protection, rational use and reproduction of land resources is has by the Land Code of Ukraine (ZK Ukrainy, 2001):

- Article 4 enshrines the regulation of relevant public relations for the rational use and protection of land.

The legal foundations for the protection, rational use, conservation and reproduction of land resources and their components, including the fertile layer (soil cover) of lands, are also enshrined in other regulatory acts (for example, the Law “On state control over the use and protection of land”, 19.06.2003; Law "On Land Protection", 19.06.2003; Law "On Environmental Protection", 25.06.1991; Law "On Pesticides and Agrochemicals", 02.03.1995; etc.). Certain issues of liability

for dangerous encroachments on the land resources of Ukraine and their components are regulated by the relevant by-laws, such as “On determining the amount of damages caused as a result of non-implementation of works on the rehabilitation of disturbed lands”: Decree of the Cabinet of Ministers of Ukraine, 17.12.2008; “On Approval of the Methodology for Determining the Amount of Damage Caused by the Unauthorized Occupation of Land Plots, Use of Land Plots Not for the Purpose, Removal of the Ground Cover (Fertilizing Soil) without Special Permit”: Decree of the Cabinet of Ministers of Ukraine, 25.07.2007; “On Approval of the Procedure for Collection, Use, Dissemination of Land Desertification and Degradation”: Decree of the Cabinet of Ministers of Ukraine, 19.07.2006; “Regarding the need to provide an agrochemical passport of a land plot for obtaining a permit for removal and transfer of soil cover”: letter from the State Committee of Ukraine for Land Resources, 29.04.2009; etc.

3. 2. 3. Environmental factor

Its essence lies in the presence of criminal law protection object features. So, land resources represent a single natural object, is a structural element to the entire system of the natural environment. The main characteristic is the characteristic of land resources as a component of the environment, since it is one of the main elements of the environment. Land resources are closely connected with other components of nature, such as atmospheric air, water bodies, flora and fauna, etc. Therefore, the present and future, both of an individual person and of all mankind, depend on the qualitative and quantitative state of land resources.

Land resources are a prefabricated category, which includes:

- Land as the surface of the earth's crust, on which livelihoods are located (housing, infrastructure, communications, production facilities, etc.), which is an object of land ownership and economic activity, farmland;
- Soil (soil cover and ground mass).

According to naturalists, land for humans is the most important among all the nature resources, and directly the soil is a treasure and a source of wealth. Moreover, according to modern estimates, only 30% of soils are used in world agriculture, since almost 70% of their share is the soil of arid or cold zones and land on steep slopes, which are unsuitable for use.

Due to unlawful active human activity, a tendency has appeared tendency to a significant deterioration in land quality, as well as to reduce the area of fertile soils. Scientists claim that in the whole world more than 1 billion hectares are subject to desertification on almost all continents (Zaverukha et al., 2006). Over the past century, erosion and deflation spoiled on Earth about 2 billion hectares or 27% of agricultural land (Kalesnik, 1970). Ten thousand years of accumulation

of experience in soil use have reduced productive lands by almost half, and their current annual losses are estimated from 3 to 7 million ha (Korsak & Plakhot, 2002). Accordingly, the negative impact on the part of man on this environmental object is automatically reflected in all objects, including man, his life and health. Therefore, the task of criminal law is to ensure the protection of land resources by means of criminal law in case of establishing the fact of socially dangerous attacks on them.

3. 2. 4. Comparative factor

Its essence lies in elucidating the existing norms of existing national legislation regulating the scope of legal protection of land resources from criminal encroachments. The Land Code of Ukraine provides for an independent section on liability for violation of land legislation - Section VIII (ZK Ukrainy, 2001). In Part 1 of Article 211 of the Land Code of Ukraine, a list of encroachments on land resources is provided for the commission of which there is a certain type of legal liability. However, this list is not exhaustive. So, Part 2 of article 211 of the Land Code of Ukraine provides that the law may establish liability for other violations of land legislation. Thus, the legislator has room for manoeuvre. In the event that the necessary grounds and conditions are identified, a specific type of legal liability and other encroachments on land resources can be established, as happened with the abduction of soil cover (Article 239-1 of the Criminal Code of Ukraine), the seizure of lands of a water fund in large amounts (Article 239-2 of the Criminal Code of Ukraine), mismanagement of land (Article 254 of the Criminal Code of Ukraine).

Regarding the issue of limiting homogeneous administrative offenses and crimes against land resources, the following should be noted. The main criterion for restricting criminal acts from other offenses is the public danger of the act (its degree and nature). It is by this criterion that legislative delimitation of offense and criminal offense occurs.

3. 2. 5. International legal factor

Its essence lies in comparing the criminal law of Ukraine with the experience of foreign countries regarding the commission of crimes against land resources with the practice of sentencing for similar crimes.

The most similar are the approaches to criminalizing criminal liability encroachment on land resources, which are provided for by the criminal law of post-Soviet countries (Belarus, Moldova, Georgia, the Russian Federation, Azerbaijan, Armenia, Tajikistan, Turkmenistan, Uzbekistan, etc.). In the criminal legislation of these countries, land resources are protected both as an object of the

environment and as an object of property rights. But at the same time, the criminal law protection of land resources is most fully implemented in the criminal law of Ukraine (UK Ukrainy, 2017).

Distinctive is the procedure for the criminal legal protection of land resources in the legislation of the Baltic republics. In particular, in the criminal legislation of Lithuania and the Republic of Latvia, land resources are protected as an object of nature and as an object of property right. Such land protection is similar to that adopted in Ukraine. In the same time, the Estonian Penal Law contains two rules providing for liability for violation of the right of ownership of land (Article 154.1), as well as for violation of land use requirements or the procedure for maintaining the land cadastre, which are located in Chapter 7, “Economic Crimes” (PK ÉR, 2017).

The most common crime against land under the criminal law of post-Soviet countries is the poisoning, pollution or damage to land (articles 290 of the Criminal Code of the Republic of Azerbaijan, 254 of the Criminal Code of the Republic of Belarus, 297 of the Criminal Code of the Republic of Georgia, 285 of the Criminal Code of the Republic of Kazakhstan, 273 of the Criminal Code of the Kyrgyz Republic, 102 of the Criminal Code of the Republic of Latvia, 227 of the Criminal Code of the Republic of Moldova, 254 of the Criminal Code of the Russian Federation, 228 of the Criminal Code of the Republic of Tajikistan, 317 of the Criminal Code of the Republic of Turkmenistan, 196 of the Criminal Code of the Republic of Uzbekistan, 239 of the Criminal Code of Ukraine). This indicates that in the above states, land resources and their components are protected, first of all, as an object of nature.

As a rule, in the countries of the so-called “far abroad”, the legislation protects the entire complex of the environment, and not separately land resources (UK OAE, 2015). For land pollution, the law establishes the death penalty. Ukrainian criminal legislation provides criminal protection of the whole environment as a whole, and its individual elements in particular. A special role is given to the protection of land resources as the main national wealth. The criminal law of Ukraine ensures the protection of land resources as an environmental object, as an object of land ownership and economic activity.

4. Conclusions

1. The problem of protecting land resources today is relevant for the entire world community. This can be explained the fact that land resources have of special function as environmental object and people's attitude to their use as something eternal, inexhaustible. Therefore, there is a global need to create an effective mechanism of not only technical, but also legal protection of land resources from socially dangerous and unlawful actions on the part of man.

2. A preliminary analysis of statistics for 2011-2019 showed that the number of crimes against land resources and the number of participants in crimes is constantly increasing. At the same time, the number of criminal proceedings that are closed due to the lack of *corpus delicti* is constantly growing. It has been established that over the entire study period 42,757 criminal offenses in the field of land resources of Ukraine were registered, of which 21,636 (87.4%) of criminal proceedings were closed.
3. On the basis of mathematical analysis of the dynamics indicators, it has been established that over the last year studied, compared with the previous one, the number of criminal cases increased by 218 units (6.2%) during the last year compared with the previous year, while the number of closed criminal proceedings increased by 172 units (7.8%). The rate of growth shows an increasing trend both for the initiation (registration) of criminal proceedings in the field of land relations, and for the termination of criminal proceedings due to the lack of *corpus delicti*.
4. The forecast for the next three years was made using the absolute increase indicator. It has been established that the load on the judicial system will increase every year, and the effectiveness of solving the problem of protecting land resources will remain extremely unsatisfactory. At the same time, a constant increase in the participants in crimes is forecasted. This gives reason to suppose that the law does not always contain a corresponding indication of specific manifestations of criminal behaviour aimed at worsening the land resources state in crimes.
5. In aggregate, all of the above factors of the social conditionality of the criminal law prohibition provide a sufficient basis for the necessity of recognizing a socially dangerous infringement of land resources as criminally punishable with further consolidation of criminal law prohibitions in the law on criminal liability.
6. The synthesis method that was used in this study allowed concluding that environmental friendliness is a key feature of such a relatively independent type of crime in the land relations field. Moreover, in these crimes, it characterizes not only their external (objective) side, but also their internal (subjective) side, because environmental friendliness is an element of their motivation. At the same time, environmental friendliness is also inherent in such crimes as encroachment on human life and health, as well as property relations and relations in the field of economic activity (in particular, unauthorized occupation of land and mismanagement of land).
7. As the analysis of the criminal legislation of foreign countries shows, only in Ukraine the regulatory framework provides the most complete protection of land resources. This positive experience can be used to create the optimal mechanism of criminal law protection of land resources at the international level. For example, concretization of criminal liability depending on

what role land plays in public life (social, humanitarian or economic). At the same time, the ecological role of land resources in the life of any society and state remains fundamental.

8. In this study, for the first time, the critical state of the protection of land resources by criminal law measures was analyzed. The expediency of applying precisely the measures of criminal law influence on the perpetrators of the deterioration in the quality condition of this object of nature has been proved. Evidence of the need for criminalization of offenses in the field of land protection is a sufficient level of public danger of these attacks.

Acknowledgements

The authors are very thankful and acknowledge to Kharkiv National University of Internal Affairs and Kharkov University, for the opportunity to conduct important scientific study, and also grateful to the editors and reviewers for the opportunity to publish this study.

References

- Bakker C., Wang F., Huisman J. & Den Hollander M., 2014, Products that go round: exploring product life extension through design. *Journal of Cleaner Production* 69: 10-16.
- Biliaiev M.M., Rusakova T.I., Kolesnik V.Y. & Pavlichenko A.V., 2017, Determination of areas of atmospheric air pollution by sulfur oxide emissions from mining and metallurgical and energy generating enterprises. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu* 3: 100-106.
- Borisov V.I. & Gizimchuk S.V., 2001, *Ugolovnaya otvetstvennost' za narusheniye pravil, norm i standartov, obespechivayushchikh bezopasnost' dorozhnogo dvizheniya: monografiya*. Konsum, Khar'kov, 160 pp.
- Chan J.W. & Tong T.K., 2007, Multi-criteria material selections and end-of-life product strategy: Grey relational analysis approach. *Materials & Design* 28(5): 1539-1546.
- DISHU, 2015, Zvit pro rezul'taty roboty Derzhavnoyi inspektsiyi sil'skoho hospodarstva Ukrayiny za 11 misyatsiv 2015 roku. <http://www.disgu.gov.ua/index.pfp> [Accessed: 05.08.2017].
- Dzyuba YU.P., 2014, Suspil'na nebezpechnist' zlochyniv ta sotsial'na obumovlenist' kryminal'no-pravovoyi zaborony. *Forum prava* 4: 130-134. http://nbuv.gov.ua/UJRN/FP_index.htm_2014_4_25.
- Gardiner S.M., Caney S., Jamieson D. & Shue H., 2010, *Climate Ethics: Essential Reading*. Oxford University Press, New York, 368 pp.
- Kalesnik S.V., 1970, *Obshchiye geograficheskiye zakonomernosti Zemli: ucheb. posob. Mysl'*, Moskva, 283 pp.
- Khan N.A., Ahmed S., Vambol S., Vambol V. & Farooqi I.H., 2019, Field hospital wastewater treatment scenario. *Ecological Questions* 30(3): 57-69.
- Khom'yachenko S., 2000, Ponyattya i vydy zemel'nykh pravoporushen'. *Predprynymatel'stvo, Khozyaystvo y Pravo* 8: 65-66.
- Korsak K.V. & Plakhotnik O.V., 2002, *Osnovy ekolohiyi: navch. posib./Mizhrehion. akad. upr. personalom. 3-ye vyd., pererob. i dopov.* MAUP, Kyiv, 296 pp.
- KU, 2011, *Konstytutsiya Ukrayiny. Naukovo-praktychnyy komentar 2-he vyd., pererobl. i dopov./redkol. V.YA. Tatsiy, O.V. Petryshyn, YU.H. Barabash (eds), Pravo, Kharkiv, 1128 pp.*

- Lemmens B., Elslander H., Vanderreydt I., Peys K., Diels L., Oosterlinck M. & Joos M., 2017, Assessment of plasma gasification of high caloric waste streams. *Waste Management* 27(11): 1562-1569.
- Liu L., Li W., Song W. & Guo M., 2018, Remediation techniques for heavy metal-contaminated soils: principles and applicability. *Science of the Total Environment* 633: 206-219.
- Ning C., Lin C.S.K., Hui D.C.W. & McKay G., 2017, Waste printed circuit board (PCB) recycling techniques, [in:] *Chemistry and Chemical Technologies in Waste Valorization* Springer, Cham, p. 21-56. https://link.springer.com/chapter/10.1007/978-3-319-90653-9_2
- Pashchenko O.O., 2017, Kryminalizatsiya ta sotsial'na obumovlenist'. *Visnyk asotsiatsiyi kryminal'noho prava Ukrainy*, 1(8): 41-76. <http://vakp.nlu.edu.ua/article/view/166598/165928>
- PK ÉR, 2017, Penytentsyarnyy kodeks Éstonskoy Respubliky. <https://v1.juristaitab.ee/ru/zakonodatelstvo/penitentsyarnyy-kodeks> [Accessed: 05.02.2017].
- Sokolov D., Sobyna V., Vambol S. & Vambol V., 2018, Substantiation of the choice of the cutter material and method of its hardening, working under the action of friction and cyclic loading. *Archives of Materials Science and Engineering* 94(2): 49-54.
- UK OAE, 2015, Ugolovnyy kodeks Ob'yedinennykh Arabskikh Emiratov. Ugolovno-protsessual'nyy kodeks Ob'yedinennykh Arabskikh Emiratov, A. Korobeyev, N. Matsnev (eds). *Yuridicheskiy Tsent*, Moskva, 400 pp.
- UK Ukrainy, 2017, Ugolovnyy kodeks Ukrainy. <http://zakon2.rada.gov.ua/laws/show/2341-14> [Accessed: 21.08.2017].
- Vambol, S., Bogdanov, I., Vambol, V., Suchikova, Y., Lopatina, H. & Tsybuliak, N. 2017 Research into effect of electrochemical etching conditions on the morphology of porous gallium arsenide. *Eastern-European Journal of Enterprise Technologies* 6/5(90): 22-31.
- Vambol S., Shakhov Y., Vambol V. & Petukhov I., 2016, A mathematical description of the separation of gas mixtures generated by the thermal utilization of waste. *Eastern-European Journal of Enterprise Technologies* 1(2): 35-41.
- Vambol S., Vambol V., Sobyna V., Koloskov V. & Poberezhna L., 2018, Investigation of the energy efficiency of waste utilization technology, with considering the use of low-temperature separation of the resulting gas mixtures. *Energetika* 64(4): 186-195.
- Vambol S., Vambol V., Abees Hmood Al-Khalidy K., 2019, Experimental study of the effectiveness of water-air suspension to prevent an explosion. *Journal of Physics: Conference Series* 1294(7): 072009(1)-072009(11). <https://iopscience.iop.org/article/10.1088/1742-6596/1294/7/072009/meta>
- Wright D., 2001, Failure of plastics and rubber products: causes, effects and case studies involving degradation. *Rapra Technology Ltd, Shawbury, Shrewsbury, Shropshire, U.K.*, 412 pp.
- Yousif E. & Haddad R., 2013, Photodegradation and photostabilization of polymers, especially polystyrene: review. *Springer Plus* 2(1): 1-32. <https://doi.org/10.1186/2193-1801-2-398>
- YDRSR, 2017, Yedynny derzhavnyy reyestr sudovykh rishen'. <http://www.reyestr.court.gov.ua> [Accessed: 21.08.2017].
- Zaverukha N.M., Serebryakov V.V. & Skyba Yu.A., 2006, *Osnovy ekolohiyi: navch. posib. Karavela*, Kyyiv, 365 pp.
- Ziarati P., Vambol V. & Vambol S., 2020 Use of inductively coupled plasma optical emission spectrometry detection in determination of arsenic bioaccumulation in *Trifolium pratense* L. from contaminated soil. *Ecological Questions* 31(1): 1-11. <http://dx.doi.org/10.12775/EQ.2020.003>
- ZK Ukrainy, 2001, Zemel'nyy kodeks Ukrainy: Zakon Ukrainy vid 25.10.2001 r. No. 2768-III. <http://zakon3.rada.gov.ua/laws/show/2768-14> [Accessed: 02.11.2018].

