

# Socio-legal Problems of Environment Criminal-legal Protection, Regarding Illegal Deforestation

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**Abstract:** Environment protection from illegal encroachments and prevention of ecological criminal illegality are among the main tasks of the Law of Ukraine on Criminal Liability. The criminal law must ensure the constitutional right of every person from adverse environmental encroachments and guarantee the constitutional protection of natural resources as the basis of human life and activity. Forest is an environment component that has a huge resource potential and performs a variety of environmental, economic, cultural and recreational functions. Recently, a criminal offense in the field of illegal deforestation has become very common in our country (Article 246 of the Criminal Code of Ukraine). The article analyzes the most common factors and conditions for the growing number of criminal offenses related to illegal deforestation. Ukraine is on the path to devastation. The article analyzes the state of forest plantations change over the past 10 years and trends towards further destruction of the country's forest fund. The article is based not only on the register of court decisions, but also on a questionnaire conducted among forestry workers and police officers involved in the pre-trial investigation of criminal offenses related to illegal deforestation. The legislative materials regarding the regulation of ecological protection in the field of illegal deforestation are analyzed. The most common criminal offenses concealment schemes are considered, the main criminological factors influencing the spread of criminal offenses related to forest protection are identified. Measures to be taken to stop the spread of these socially dangerous acts against the environment are proposed.

**Keywords:** Ecology, Environment, Criminal offenses, Illegal deforestation, Criminal liability.

## 1. INTRODUCTION

The ecological situation in Ukraine is extremely unfavorable. Environmental problems have become significant throughout the country, against the background of the scientific and technological progress development, which often causes the deterioration of the environment in large cities. In particular, the Carpathians have been considered a prosperous region in the recent past. However, negative changes in the state of the environment have become relevant for this area. Forest destruction through illegal deforestation, transportation, fire safety violations and intensive consumption of forest and forest products that exceed the reproductive potential of nature, causes serious damage to state forestry, loss of valuable

tree species, death of wild animals and birds, contributes to the greenhouse effect soil moisture and swamp formation and, along with this, destruction of territories (Polishchuk et al., 2019). In addition to the listed problems, which have been going on for last 10 months in Ukraine, a special danger in the last four months is the state of war, during which forests and forest areas are being destroyed, and no one can prevent this, since military actions destroy both the lives of people and the lives of trees and, accordingly, the state of the surrounding environment in particular.

The percentage of criminal offenses related to the environment, remains insignificant and amounts to 0.3-0.5%, even with a tendency to increase. The most widespread criminal offense in the field of environment is illegal deforestation or illegal transportation, storage, sale of forest is 96.2%, which among other environmental criminal offenses is 41.8%. The share of criminal offenses against the environment increased

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from 31% to 65%. And on total crime, the share increased from 0.2 to 0.4%, respectively. From 2016 to 2022, 15.949 such criminal offenses were committed in Ukraine, in particular, in 2016 are 1,135 (+4.9), in 2017 are 1.357 (+44.4), in 2018 are 2.313 (+155.5), in 2019 the amount is 2276 (-1.6), in 2020 – 2088 (-8.3), in 2021 it is 1961 (-6.1), in 2022 – 2397 (+47.2). The volume of illegal cutting increased from 93.1 to 118.7 thousand cubic meters. Over the last year, the increase is also connected with the fact that the necessary amount of wood goes to support the Armed Forces of Ukraine, who use wood for heating the trenches, etc.

Over the last ten years, deforestation has increased by 75%, and the share of illegal deforestation has increased from 31% to 65% in criminal offenses against the environment. As for statistical data on the amount of information entered into the Unified Register of Pre-trial Investigations, it increased from 637 to 2852 (+ 382.5%) under Art. 246 of the Criminal Codex of Ukraine (Horobets et al., 2021). Analyzing these statistics, we can conclude that there is an ineffectiveness of forest protection, and outdated forms and methods of counteracting these criminal offenses, necessitates the intensification of research in this area.

The forest fund of Ukraine (which is counted as natural and artificial forestland) totals 10.4 million hectares (of which 9.6 million hectares are covered). Forests make up 15.9% of the territory of Ukraine. According to the state projects of the forest management strategy of Ukraine until 2035, there is an increase in the forest fund by 18% (Ministry of Environmental Protection and Natural Resources of Ukraine (2020), but it is clear that all strategies are taking a back seat due to the ongoing state of war, which, by destroying nature, threatens both the strategic plans of Ukraine, as well as its integrity and independence. It is clear that the state administration puts forest problems as secondary, but it can still lead to inevitable consequences. Thus, today Ukraine takes 9th place in terms of forest areas and 6th place in terms of wood reserves in Europe. However, this information is not uniform, as forest areas in Ukraine are unevenly distributed. In Zaporizhzhia Oblast, the forest is only 3.7%, while in Zakarpattia Oblast 51.4%. The war did not reach Zakarpattia Oblast, but 74% of Zaporizhzhia region is now under the occupation of Russia.

In 2017-2019, both the number of cases and volume of illegal logging increased by 2.3 times (+232.2%) and were equal to the beginning of 2000. Such criminal offenses have become the most common in the structure of criminal offenses against the environment, and are committed mainly in state-owned forests and linear protective plantings, in the autumn and winter period (58%). In particular, the total area of forest lands that are in permanent use by forestry state enterprises, institutions and organizations of the State Forestry Agency is 7609.0 thousand hectares, of which the area of forest plots is 7295.7 thousand hectares. Including 6.700 hectares covered with forest vegetation, 1 thousand hectares (91.8%), with a total stock of wood 1512.4 million cubic meters. In 2019, state-owned enterprises of the State Forestry Agency harvested 18.6 million cubic meters of wood, in 2020 it is 19.3 million cubic meters. The annual volume of liquid wood preparation in the specified period is 16 million cubic meters, while the volume of wood prepara-

tion from main-use cutting is almost 40%. The total residual value of fixed assets of permanent forest users of the State Forestry Agency is UAH 2.844.991.6 thousand, of which the residual value of fixed assets of state enterprises is UAH 2.770.862.0 thousand, or 97.4%. Thus, high growth rates of preparation indicate a significant increase in the volume of illegal logging or illegal transportation, storage, and wood selling in Ukraine (Ministry of Energy and Environmental Protection, 2020).

The aim of the article is to comprehensively solve an empirical study of the criminal law effectiveness, which determines illegal deforestation or illegal transportation, storage, sale of forests, the formation on this basis of scientifically sound recommendations for improving the law on criminal liability and its application. To achieve this goal, the following tasks are set: to investigate the legislative regulations on fighting illegal deforestation; to analyze the data of interviewed specialists on attitudes to illegal deforestation or illegal transportation, storage, sale of forests and on the basis of law enforcement and generalized case law to develop appropriate recommendations to improve the approach of illegal deforestation counteracting; to propose ways to restore forest areas after the state of war end.

The object of the study is social relations connected with criminal illegality in the field of ecology, and the regularities of assessing social danger in its interrelationship with the object and subject of illegal encroachment, as well as a set of theoretical, methodological, scientific and practical aspects of assessing the harm caused by environmental criminal offenses, as well as damage that was and is being caused by military actions on the territory of Ukraine.

The subject of the study are the norms of the Ukraine current criminal legislation, which provide for environmental criminal offenses liability; normative legal acts regulating the assessment of the caused damage; theoretical and practical developments devoted to the problems of determining the object, the subject of environmental criminal offenses, the concepts of harm; judicial, investigative practice in cases of environmental criminal offenses, as well as statistical indicators of illegal deforestation or illegal transportation, storage, sale of forests and the results of questionnaire among workers, and guilty verdicts of the court, studying how to formulate graphic images that would comprehensively reveal the content of socio-demographic qualities of persons who commit the specified criminal offenses.

## 2. MATERIALS AND METHODS

The empirical basis of the study is the indicators of statistical reporting in government and departmental structures for 2012-2021; 210 materials of criminal cases in criminal offenses concerning illegal deforestation of different regions of Ukraine during 2012-2021 that were analyzed; the questionnaire results of 76 operatives, 124 investigators, 56 prosecutors in Volyn, Zhytomyr, Lviv, Mykolaiv, Odesa, Kharkiv, Kherson, Chernihiv and Chernivtsi regions, which directly accompanied criminal offenses of illegal deforestation; 80 forestry workers; reports of the Ukraine Prosecutor General Office, the Ukraine Ministry of Internal Affairs, the National Police of Ukraine, the State Judicial Administration of Ukraine, the Ukraine State Agency of Forest Resources;

analyzed court verdicts in recent years under Art. 246 of the Criminal Code of Ukraine to determine the state of the socio-demographic component of criminals who commit the specified criminal offenses.

Different methodologies were used to set research tasks and aims. The dialectical method was used, as the research was conducted on the general scientific and special level, what allowed to study and characterize the criminalization of articles prosecuting illegal deforestation or illegal transportation, storage, sale of forests in which social factors in inseparable connection with other indicators of crime were taken into account, first of all its legal, economic and environmental nature; the method of statistical analysis allowed to process materials of criminal cases on qualitative and quantitative indicators with the subsequent generalization of the received results of research; method of comparative analysis that helped in the study of criminal law prohibition of foreign countries on liability for violations of forest protection deforestation; method of sociological analysis made it possible to use questionnaires, interviews and observations in the analysis of different categories of respondents, structural in determining the place in the application of Art. 246 of the Criminal Codex of Ukraine.

We use different terms, researching this issue, for example, logging a forest means cutting a forest, which may comply with the norms adopted by law or by-laws (although they may be disputed regarding the state of ecology), these actions are carried out with appropriate documentation and using official powers. Illegal logging is understood as clearly socially dangerous actions that are committed in violation of the laws, regarding actions related to forest areas, and according to the laws, there is responsibility for committing such actions.

### 3. RESULTS AND DISCUSSION

#### 3.1. Forest protection and criminal law analysis

Referring to the current legislation to establish the essential features, which are listed in Part 1 of Article 1 of the Land Codex of Ukraine, which states that the forest is a typical natural complexes (ecosystem), which combines shrubs and trees with relevant grasses, soils, microorganisms, fauna and other natural components, their interconnectedness is noted as they can interact with each other and affect the environment accordingly. Ukrainian wealth is a forest, which is a national wealth that is designed to satisfy society's needs for forest resources. The forest fund of Ukraine consists of all forests that are territorially located in Ukraine and it does not matter on which land and to which categories of purpose they are situated, in addition, it does not matter the ownership because they are all protected by the state (Myronets et al., 2022).

Criminal wrongdoing and criminal offense are fairly relative concepts and reflect social realities (Evans et al., 2008a). Criminal liability for environmental wrongdoing is resulted to the fact of how perfectly the norm that determines the liability for environmental encroachment defined. Correspondingly, criminal law on environmental wrongdoing should be logical and systematic. Now, let's move on to the systematic analysis of criminal law. The systematic character

of norms on criminal liability in criminal offenses against the environment is a set of norms that establish on the grounds that specifically belong to environmental encroachments, which are blanket dispositions, namely refer to other regulations (Tatsia et al., 2013). The sense of criminal laws systematic character is that they are in the Special Part of the Criminal Codex of Ukraine and are located in a certain sequence. They are contained in 21 articles (from 236 of the Criminal Codex of Ukraine to 254 of the Criminal Codex of Ukraine) in Section VIII of the Special Part of the Criminal Codex of Ukraine "Criminal offenses against the environment" (Criminal Codex of Ukraine, 2001). In particular, the Law of Ukraine on Criminal Liability provides for another set of norms that do not directly but indirectly affect the protection of the environment from illegal encroachments (Dzhuzhi et al., 2018).

It should be noted that the forest is already a factor of environment stabilization in connection with the growing levels of anthropogenic load on forest resources. In particular, the state of Ukraine's forest cover is already 43.2% lower than that of Western Europe (Official Information of the State Agency of Forest Resources of Ukraine, 2022). In addition, a large number of Ukraine's forest fund consists of young and medieval plantations and protected forests with limited forest use mode. In addition to illegal deforestation, there are other problems such as fires, industrial activities, various pests and negative phenomena.

The Constitution of Ukraine proclaims the legal basis for the protection of forests in Ukraine, which establishes the responsibilities of the state to ensure the environment and the guarantor for persons living in Ukraine on the legal provision of life and health of citizens in the environment. Part 1 of Article 13 of the Basic Law of Ukraine proclaims the fundamental rights to land, subsoil, etc., belonging to objects belonging to the Ukrainian nation. Thus, Article 16 of the Basic Law states the need to ensure environmental safety and environmental protection at a decent level throughout Ukraine, in addition, the genofund of Ukraine and its preservation, which should be mandatory for Ukraine, also mentioned, and in accordance with Articles 50 of the Basic Law of Ukraine, each person is provided with legal support for safe living and environmental stability in the environment and the right to compensation for violations of this right, as well as a guaranteed right to information about the state of the environment. (Article 66) (Constitution of Ukraine, 1996).

#### 3.2. General Characteristics of Ukraine Forest Fund State

In 2021, the amount of forest areas belonging to the forest fund of Ukraine is 10.4 million hectares with a total area. Forest is 15.9% in Ukraine. However, even with such indicators in terms of the number of forests in Ukraine, it ranks ninth in Europe and sixth in terms of timber reserves, which is quite a good place given the territory, which is not the largest. Extremely different forest and plant conditions are on the territory of our country, and, accordingly, forests are distributed unevenly throughout the country. In Ukraine, forests are located in different natural areas of steppe, forest-steppe and polissya, in the Carpathians, which have sharp

### The type of trees that suffer from felling

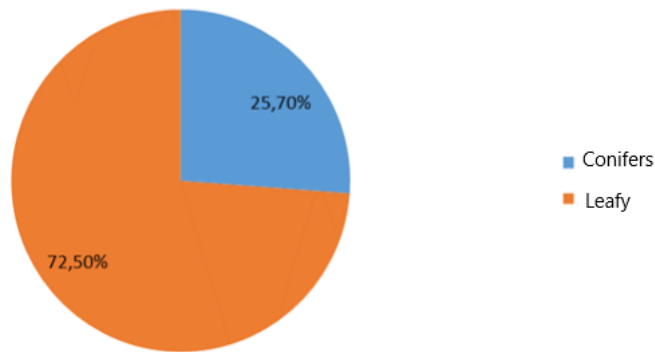


Fig. (1). The type of trees that suffers the most from deforestation in %.

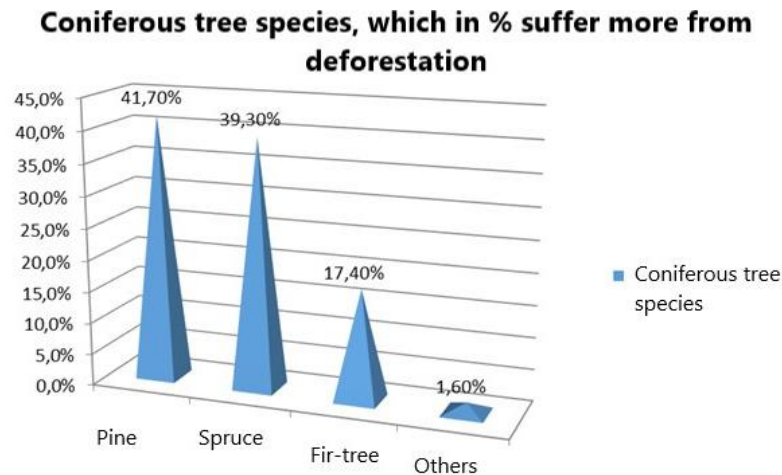


Fig. (2). Coniferous tree species, which in % suffer more from deforestation.

differences in forest plant conditions. The share of forests in Ukraine ranges from 3.7% in the Zaporizhia region to 51.4% in the Transcarpathian region. In Ukraine, forests are represented by more than 30 species of wood species, most of which are birch, beech, alder, hornbeam, oak, pine, spruce, fir, ash. The number of conifers is 43% of the total area, in particular, 35% - pine, 43% - hardwood plantations, namely 37% - beech and oak (Public report of the State Agency of Forest Resources of Ukraine for 2020, 2020).

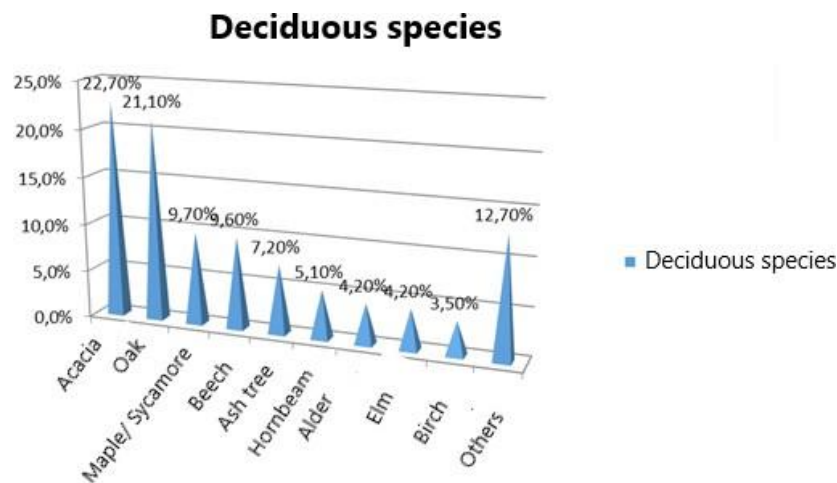
Despite the mentioned indicators, there is a shortage of wood in Ukraine. Regarding the statistics on the forests number, the sharp aging of trees is determined, which is directly related to the reduction of forest plantations throughout the country. This condition is also affected by snowfalls, fires and winds that destroy trees (Furdichko, 2014). Comparing with European indicators, Ukraine has the lowest forest area per citizen – only 0.2 hectares (In Ukraine, the field of protective forest strips is being destroyed at a shocking pace - the results of monitoring the State Geocadastr, 2021).

Previously, there was such a term as a shelter forest belt, which protected the forest, now, it is only 446,1 thousand hectares on data 01.01.2014 (National report on the state of the environment in Ukraine in 2014, 2014). This situation is evidenced by specialists working in the State Service of

Ukraine for Geodesy, Cartography and Cadastre (There is no state forest policy in Ukraine, 2014).

Zhytomyr, Rivne, Kyiv and Volyn regions are the victims in terms of quantitative indicators. It was established that in 2019-2021, according to the analytical data and indicators of forest loss, forests decreased sharply and this was also affected by the export of “business” forest. According to the data of the Forest Register, the share of coniferous plantations in lands covered with forest vegetation is 55.6% in Zhytomyr Oblast, 66.0% in Rivne Oblast and 66.0% in Kyiv region. At the same time, there are losses from illegal logging, which are estimated at almost UAH 2.8 billion for 2017-2021 years.

Monitoring by specialists of the State Service of Ukraine for Geodesy, Cartography and Cadastre in Ukraine had revealed that shelter forest belt had disappeared in fields of more than 10,000 hectares in twelve regions of Ukraine due to illegal deforestation. These forest belts are designed to protect against drought and soil erosion that caused loss of agricultural land (In Ukraine, the field of forest protection strips is being destroyed at a shocking pace – the results of the monitoring of the State Geocadastr, 2016). But as a result of the certain territory occupation, the specified number of hectares is different. Fig. (2) shows coniferous species of trees that suffer more from deforestation in %.



**Fig. (3).** Deciduous species of trees that suffer more from deforestation in %.

Every year the price of natural gas increases, and the forest suffers from it, due to the fact that the people make preparations for the winter, which are mostly made of illegally destroyed wood. So in 20 years there will be no forests left in Ukraine. There will be only bushes that will resemble a forest. But if the intensity of deforestation increases, forests can be destroyed faster. This state of forests will cause not only a serious environmental problem, but also an acute socio-economic crisis in forested regions (Kutovyy, 2016). Currently, all theroadblocks and other premises heating takes place at the expense of wood, which also adversely affects the environmental condition. Increase in the number of “black loggers”, complicating this situation, as noted above, the rise in wood prices in a geometric progression affects this factor. Today we need a sharp legal regulation to combat them, otherwise our environment will suffer even more and faster. Fig. (3) shows deciduous tree species, which in % suffer more from deforestation.

Terrible information was announced in 2019 at meeting of the Cabinet of Ministers of Ukraine about the forest exploitation state in the Transcarpathian region, where the results of monitoring more than a third part of deforestation is considered illegal. As a result of this monitoring, an area of over 2,112 hectares was established on 871 plots that actually lost their forest because of illegal logging (Dudorov & Pismensky, 2017). Many people have to work to restore the forest, which in the future will create the conditions for the existence of future generations. In our opinion, it is possible to restore lost forests only with the help of volunteer manpower using.

In Article 1of “Law of Ukraine On Environmental Protection” that is, in our opinion, the main legal framework for environmental protection, which regulates relations in the field of natural resources, and their reproduction and use, which should ensure environmental safety elimination of any adverse effects of economic activity or any other activity and prevention of its impact on the environment, preservation of the protection of the genetic fund of wildlife and natural resources, landscape complexes, etc. (Resolution of the Cabinet of Ministers of Ukraine No. 733..., 2007). Thus, the legislator essentially recognizes that it does not matter artificially or naturally, the breeding and release of natural re-

sources of birds, fish, animals, birds, purified water, planted forests are all the subject of these relations.

In particular, all nature elements, regardless of their creation by human labor or naturally, but they must perform nature (environmental) functions, as a result of which the concept of “property” or “goods” is lost, and accordingly acquire other environmental significance relations in the field of environment (Osiejewicz, 2017). As an intermediate conclusion, it should be noted that any cultivated forests acquire the characteristics of the object and become the subject of both environmental relations and criminal law relations.

In Article 12 of “Law of Ukraine On Environmental Protection” from 25.06.91 we have information that citizens need to be responsible for nature conservation, and accordingly to protect, while using its wealth to be guided by rationality, which is specified in the legislation on environmental protection and reimburse damage caused in case of pollution or otherwise negative impact on the environment (Resolution of the Cabinet of Ministers of Ukraine No. 733..., 2007). According to Article 70 of this Law when committing these offenses, with the aim to protect the environment “Codex of Ukraine on Administrative Offenses” and Criminal Code of Ukraine, which determine the composition of offenses against the environment issued.

It is important to note the importance of forests for nature and the environment of Ukraine. Moreover, it is the nation wealth. Responsibility for violating its integrity comes under Article 246 of the Criminal Codex of Ukraine “Illegal cutting of forests”. However, the very existence of criminal liability does not perform a preventive function, as according to statistical indicators of integrated protection of forest natural resources does not occur.

Perhaps this is facilitated by the unclear legislative reflection of the basic concepts in the law of Ukraine on criminal liability. Thus, the Criminal Codex does not disclose the concept of “forest”, which does not allow to distinguish “forest” in a separate category of criminal law protection, but the law on criminal liability defines that there is “another specially protected forest”, bypassing the general definition of forest as a separate category or part of an ecological system or an independent subject of criminal law. Therefore, other spe-

cially protected forests - natural forests, which in accordance with the resolution of the Cabinet of Ministers "On approval of the Procedure for division of forests into categories and allocation of specially protected areas" belong to the first or third categories (2007) (Resolution of the Cabinet of Ministers of Ukraine No 733..., 2007).

The system that is a feature of this ecosystem are trees, but it is important to outline that not all trees belong to natural resources, but only those that meet the following properties: first, they must reach maturity, namely a certain age of the stand, and secondly, must occupy a certain area of forest land. Each individual tree is not a forest, but the forest consists of trees as part of it. Accordingly, shrubs or other plantings without a combination with trees, which in turn create forest. The land and the trees on which they are located belong to the whole. And after deforestation, they change their legal status and move to the category of wood (timber) and are further referred as goods (Reinprecht, 2016).

This is how we have identified the essential features that define "forest" as a separate concept. These features are designed to characterize its criminal legal significance in the qualification of a criminal offense, and they can be classified according to the following criteria: qualitative (environmental) and quantitative (legal). The first category, which are ecological criteria, includes a set of densely fused trees, shrubs and other plantations that are in unity with the natural state, namely with shrubs and other vegetation both in nature and artificial origin. The second category, legal criteria include those established by law and intended for the formation of forest and non-forest fund, which grow on a large area of land and they are: trees, shrubs and other vegetation.

The definition of certain criteria makes it possible to distinguish the forest from other tree and shrub plantations. When processing statistics and judgments, it was found that citizens in most cases are acquainted with administrative liability for forest violations, but not always they do know about the existence of criminal liability for this category of criminal offenses.

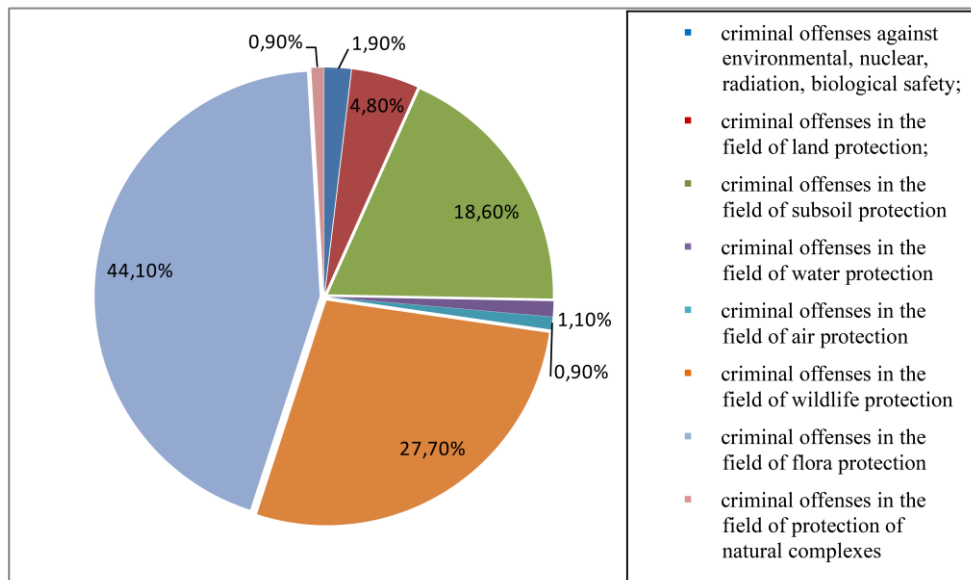
### 3.3. Forest Classifications in Accordance with the Law

The legal basis for the illegal deforestation qualification or illegal transportation, storage, sale of forest consists in:

- Constitution of Ukraine (1996) – Main Law, which contains rules of direct action that can be directly applied in the implementation of criminal law relations;
- Criminal Codex of Ukraine (2001) – the main legal basis for the qualification of illegal deforestation or illegal transportation, storage, sale of forest (Article 246 of the Criminal Codex of Ukraine);
- Forest Code of Ukraine (1994) – the main normative legal act regulating forest legal relations in Ukraine;
- Land Code of Ukraine (2001), with further changes (regarding the regulation of relations related to the circulation of forest lands);
- Law of Ukraine from the 10th of February, 2000, No 1436-III "On the ban on continuous felling in

mountain fir-beech forests of the Carpathian region" (Law of Ukraine No 1436-III..., 2019);

- Law of Ukraine from the 10<sup>th</sup> of February, 2000, No 1436-III "About the moratorium on removal of green plantings on separate objects of improvement of green economy of Kyiv" (Law of Ukraine No 1436-III..., 2019);
- Decree of the President of Ukraine from the 4<sup>th</sup> of November, 2008, No 995 "About some measures for forest conservation and rational use of forest resources" (Decree of the President of Ukraine № 995/2008..., 2008);
- Decree of the President of Ukraine from the 9<sup>th</sup> of July, 2019, No 511 "On some measures for the preservation and reproduction of forests and green spaces" (Decree of the President of Ukraine No 511/2019..., 2019);
- Resolution of the Cabinet of Ministers of Ukraine from the 23<sup>rd</sup> of July, 2008, No 665 "On approval of fees for calculating the amount of damage caused to forests" (Resolution of the Cabinet of Ministers of Ukraine No 665..., 2008);
- Resolution of the Cabinet of Ministers of Ukraine from the 24<sup>th</sup> of July, 2013, No 541 "About the statement of fees for calculation of the size of the damage caused by violation of the legislation on nature reserve fund" (Resolution of the Cabinet of Ministers of Ukraine No 541..., 2013);
- Resolution of the Cabinet of Ministers of Ukraine from the 27<sup>th</sup> of October, 1995, No 555 "About the statement of Sanitary rules in the forests of Ukraine" (as amended by the resolution of the Cabinet of Ministers of October 26, 2016 № 756) (Resolution of the Cabinet of Ministers of Ukraine No 555..., 1995);
- Resolution of the Cabinet of Ministers of Ukraine from the 23<sup>rd</sup> of April, 1996, No 449 "About the statement of the Order of harvesting of secondary forest materials and implementation of by-forest uses in the forests of Ukraine" (Resolution of the Cabinet of Ministers of Ukraine No 449..., 1996);
- Resolution of the Cabinet of Ministers of Ukraine from the 1<sup>st</sup> of March, 2007, No 303 "About the statement of Rules of reproduction of woods" (Resolution of the Cabinet of Ministers of Ukraine No 303..., 2007);
- Resolution of the Cabinet of Ministers of Ukraine from the 12<sup>th</sup> of May, 2007, No 724 "On approval of rules for improving the quality of forests" (Resolution of the Cabinet of Ministers of Ukraine No 724..., 2007);
- Resolution of the Cabinet of Ministers of Ukraine from the 16<sup>th</sup> of May, 2007, No 733 "On approval of the Procedure for division of forests into categories and allocation of specially protected areas" (Resolution of the Cabinet of Ministers of Ukraine No 733..., 2007);



**Fig. (4).** The structure of environmental criminal unlawfulness.

- Resolution of the Cabinet of Ministers of Ukraine from the 23<sup>rd</sup> of May, 2007, No 761 “On settlement of issues related to special use of forest resources” (Resolution of the Cabinet of Ministers of Ukraine No 761..., 2007);
- Resolution of the Cabinet of Ministers of Ukraine from the 22<sup>nd</sup> of October, 2008, No 929 “On approval of the Rules of felling of the main use in the mountain forests of the Carpathians” (Resolution of the Cabinet of Ministers of Ukraine No 929..., 2008);
- Resolution of the Cabinet of Ministers of Ukraine from the 16<sup>th</sup> of September, 2009, No 976 “About the statement of the Situation of the state forest protection” (Resolution of the Cabinet of Ministers of Ukraine No 976..., 2009);
- Order of the Ministry of Environmental Protection of Ukraine from the 5<sup>th</sup> of February, 2007, No 38 “Instruction on the Procedure for Approval and Approval of Settlement Loggers” (Order of the Ministry of Environmental Protection of Ukraine No 38..., 2007);
- Order of the State Forestry of Ukraine from the 23<sup>rd</sup> of December, 2009, No 364 “Rules of felling of the main use” (Order of the State Forestry of Ukraine No 364..., 2009).

There are different classifications of forests according to the law, namely in Article 39 of the Forest Code, it was mentioned that forests are divided into categories and sub-categories depending on the functions and level of protection. Forests are divided into the following: 1) forests that are under protection (perform the protection functions of water, soil and others); 2) forests that have a recreational and health-improving function (perform a health-improving, hygienic, sanitary and recreational function); 3) forests, which are intended for historical and cultural heritage, are of scientific interest or environmental significance (perform the

function of aesthetic science, especially environmental); 4) forests that are intended for exploitation (Forest Code of Ukraine, 1994).

Article 1 of the Forest Code of Ukraine defines a forest area as one that belongs to the areas of the forest fund that can be allocated for forestry, in addition, according to the Forest Code of Ukraine, they can be removed from the property of the land user or owner (Forest Code of Ukraine, 1994).

According to the Article 7 of the Forest Code of Ukraine, the subjects who have the right to own forests are territorial communities and citizens of Ukraine or legal persons and, first of all, the State (Forest Code of Ukraine, 1994). According to Article 56 of the Land Code of Ukraine, that enshrines that state, communal and private persons (enterprises) may have the right to own forestry land (Land Code of Ukraine, 2001).

There is a certain procedure of using forest, which can be used to harvest wood as timber, and it is necessary to have the right to own this forest, namely land. The Law on Criminal Liability provides the punishment for illegal deforestation or illegal transportation, storage, sale of forests in Article 246 of the Criminal Code of Ukraine. The subject of this illegal act includes trees and shrubs that are at the root, namely, which are not separated from the stump and growing. They are located in the forest, on the object of the nature reserve fund, on the territory of the reserve or in protected forests. The criminal offense is classified as a serious criminal offense, which carries a penalty of five to seven years in prison (Forest Code of Ukraine, 1994).

According to statistics indicators, the most common criminal offense against the environment is recognized by Article 246 of the Criminal Codex of Ukraine “Illegal cutting of forests”. The criminal illegality of this act is urgent and timely (Fig. 4).

The public danger of this criminal offense can be resulted with the destruction of the most important treasure in Ukraine, namely the forest, which is currently in a vul-

nerable state. In 2021, the forest is 15.9% of the total area of Ukraine, which is part of the forest plant fund. Ukraine is a forest of scarce countries compared to European countries, so there are 0,2 hectares of forest per Ukrainian (Larjavaara & Muller-Landau, 2010). As already mentioned, the danger is not only in the state of the environment because of intensive deforestation. But also the condition of shelter forest belts. At the same time, the tendency is only getting worse, so in 2015 there were 446,1 thousand hectares, while in 2021 it decreased by more than 100 thousand hectares. (Sandberg, 2016).

WWF (World Wildlife Fund) Coordinator in Ukraine; Carpathian Wetlands Initiative (National Focal Point); member of the National Ramsar Committee; member of the scientific and technical council of Gorgany Nature Reserve; head of the Danube-Carpathian NGO program; member of the Scientific Committee for Science for Carpathians; member of INTECOL (International Ecological Society), IAVS (International Association of Vegetation Science), Ukrainian Botanical Society, Scientific Society. T. Shevchenko, Whitley Award Winner 2007 for Nature Conservation (London), B.H. Prots in their reports, inform that the number of forests cut down in Ukraine has increased by 75% over the past 25 years. In addition, illegal deforestation has increased by more than 40%. The scientist considers corruption to be the main problem of mentioned above. The schemes that exist in the corruption component are very large, but one of the most common is the formal reduction (in the documentation) of the amount of wood that makes up the forest. How else does it work? For example, a commission comes to check the condition of the forest and the amount of forest per hectare. They knowingly underestimate the number, for example, in the documentation put 500 cubic meters, where they are actually 800-900. And then at sale 300- 400 cubic meters of wood remain not considered, the profit from the unaccounted forest goes on a pocket, instead of in the income of the state, besides ecology suffers. In such a scheme, according to the documents, everything looks real and legal, and there are many such schemes. Therefore, the expert believes that separate commissions should be established, which should carefully check the volume of actual forest (Evans et al., 2008b).

### 3.4. Statistics Indicators of Criminal Offenses Against the Environment

Even a child knows that the greatest importance for the environment is the forest fund. There are also contractual relations with other regions on timber industry and it is impossible to stop them because it will lead to the payment of penalties for the country, so reduction by cessation of timber industry is impossible, accordingly the only way to fight against illegal deforestation and uncontrolled destruction when the best trees are cutting down. These contrabandists are only interested in their own profit.

Regarding the statistics indicators, in 2021 the number of criminal offenses related to the obtainment of nature resources was about 3 thousand per year, 50% of which were related to illegal deforestation namely 1564 criminal offenses. Statistics of the State Judicial Administration of Ukraine indicated the number of convicted in 2021, which amounted to 1,878 people for criminal offenses against the environ-

ment, 679 people were guilty in illegal deforestation (Article 246 of the Criminal Code of Ukraine) (Department of Analytical Work and Organization of Management of the Ministry of Internal Affairs of Ukraine, 2021).

The analysis shows that the share of illegal logging remains consistently the most common. Even these data do not even allow to imagine the state of the environment after these figures of environmental destruction. So the level of latency is 72.7% (Larjavaara & Muller-Landau, 2010).

During the questionnaire, which was attended by 80 forestry workers who work directly with the forest and have some experience in this issue to emphasize the experience, the duration of work with the forest was checked, so 69% of respondents had experience of 10 years, 21% had experience of 5 up to 10 years and only 4% were specialists in this field up to 5 years. 100% of respondents in the survey admitted that the measures taken by the state to make some positive changes in the improvement of forests is ineffective and inconsistent nowadays. So when asked about today's realities regarding the state of forests: 18% of respondents said it was catastrophic, 63% as unfavorable and only 5% as favorable. When asked about the improvement of illegal deforestation over the past 5 years, 49% said that it has increased, 16% decreased, 28% has not changed.

Deforestation without a special permit, namely a logger or forest ticket - 85% is the most common way of illegal deforestation (Zaichko, 2019). When asked about the response of employees in case of detection of this socially dangerous act, in 31% of cases the facts of deforestation were small and the issues were resolved on the spot, in 68% with the involvement of police officers. At the same time, 34% negatively assessed the interaction with the police and 55% answered positively. In conclusion, it can be argued that counteraction to this socially dangerous act is not done effectively enough. And the impact on such actions is not only in terms of the executive branch, but also the legislative. Insufficient work of police officers is considered primarily due to lack of staff, and with the latest tendency in insufficient wages it will increase; 41% believe that this is the main problem of workers' shortage. 71% of respondents believe that imperfect legislation is an obstacle in the fight against this socially dangerous factor and only 10% of asked believe that the problem is the unwillingness to work with the police.

In the process of conducting the analysis of respondents, we would like to emphasize that in general, forestry workers provide positive feedback about the work of the police. At the same time, 89% believe that it is possible to prevent the commission of these criminal offenses by cooperating with the police. However, it is necessary to improve, develop further both the Law of Ukraine on Criminal Liability and the Forest Code. We would like to outline, that in order of effective illegal deforestation counteraction or illegal transportation, storage, sale of forests and other offenses, special units are needed that would acquire special capabilities in this area of counteracting environmental criminal offenses. It is vital to develop special training courses for police officers, especially, working in regions with a high risk of committing these criminal offenses. In addition to mentioned above, it should be noted that the analyzed results of the police officers questionnaire only confirmed the data received from forestry



workers. Employees of the National Police of Ukraine were interviewed about the state of criminal offenses in the field of environment.

Analysis of the employees questionnaire results of pre-trial investigation units of the National Police of Ukraine, confirmed the mentioned above. 256 police officers were interviewed, of whom 76% said they had experience in investigating criminal offenses related to illegal logging or illegal transportation, storage, sale of timber, 67% said they had difficulty qualifying criminal offenses against the environment, 23 % had no experience in investigating this category of criminal offenses.

During the research, the aspects that may affect the problems of qualification of criminal offenses against the environment were identified. Thus, the respondents singled out what negatively affects on their practical activities:

- 35% of respondents noted that there is a problem of practice shortage in investigating the category of criminal offenses against the environment;
- 74% of respondents noted that the the problem is in the existence of a large number of general documents governing forest protection. Accordingly, the formality of dispositions that have to be analyzed in the qualification of criminal offenses and the formation of the case during the pre-trial investigation make this process more difficult;
- 28% of asked told about unclear formation of the law on criminal liability for criminal offenses against the environment;
- 80% of respondents noted that it is necessary to improve Article 246 of the Criminal Codex of Ukraine “Illegal cutting of forests”.

During the questionnaire of police officers, the question about the purpose of illegal deforestation was asked, the following results due to answers were obtained: 98% of the goal is the further resale of timber; 2% use for own construction; 1% is used for heating. We can not ignore the fact of the law crime repeated commission or by prior conspiracy, and even more, by an organized group or criminal organization. In such cases, the criminal offenses are qualified or particularly qualified. The declared socially dangerous circumstances increase the degree of public danger in the commission of criminal offenses against the environment (Litvak et al., 2015).

In addition, it is very interesting that 1.5% of the total number of convicts commit recidivism when convicted under Art. 246 of the Criminal Code of Ukraine “Illegal cutting of forests”. What is more, criminological components such as age, disability, and life experience were also analyzed. (Dzhuzha et al., 2020).

Let’s analyze such criminological component as the age component: 30.5% are committed the crime at the age of 18-28; 31.5% are committed at the age of 29-39; 26.9% are committed between the age of 40 and 54. According to the analysis of personal data, it turns out that 62% of violators are within 18-39 years. In conclusion, the largest number of people who commit illegal deforestation are people of working age. Here it can be argued that it is quite difficult to

commit this criminal offense by physical force. Other characteristics of criminogenic behavior of criminals include factors and conditions of criminal offenses. The analyzed data show that a larger number of criminal offenders live in rural areas – 76.8%. Persons who do not have a permanent job or no job at all are 55%.

Statistical data on the educational level of convicted who have committed criminal offenses under Article 246 of the Criminal Codex gives grounds to claim that it is low enough, as follows:

- 63.9% of people have basic secondary education;
- 22.2% have vocational education;
- 8.2% received higher education;
- 5.7% have only primary education.

Thus, significant indicators of basic secondary and vocational education indicate that the majority of criminals belong to the low-skilled workforce (Evans et al., 2008b).

At the same time, it is worth noting that insufficient measures were taken to combat with the problem described. 67 employees (84%) answered positively to the question of whether you have been witness to illegal logging of forest plantations in your practice. Again, 80 respondents (100%) considered that illegal logging is done more often for the purpose of further wood selling. In addition, 69 interviewees explained that according to the method of committing, in their opinion, illegal logging is more often done without a special permit, which is evidenced by a relevant document (logging or wood cutting ticket) in the percentage ratio, this is 86%. In particular, 39 respondents (49%) noted that over the past five years, the number of illegal logging has increased, 13 (16%) noted a decrease in illegal logging, and 28 (35%) said that the number of illegal cutting remained at the previous level. To the question of what measures were taken in relation to the committed offense, 55 respondents (68%) informed and handed over materials to the National Police, 25 (31%) resolved these issues were decided for themselves, explaining that this fact largely depends on the size of the committed illegal logging. Interaction with police officers was assessed positively by 44 respondents, i.e. 55%, and 27 (34%) negatively.

The deterioration of police officers and forestry workers is primarily attributed to changes in legislation, this is what 57 (71%) respondents think, 33 (41%) associate it with a lack of personnel for work in this area, 8 respondents (10%) believe that it is connected with unwillingness to work on the part of police officers. It is worth noting that during the year in 2021, the appropriation of natural resources amounted to approximately 3.000 criminal offenses against property. About 50% of them are illegal logging these are 1.530 criminal offenses. According to the State Justice Service of Ukraine, 621 people were found guilty and sentenced for illegal logging (Article 246 of the Criminal Code of Ukraine) out of 1.798 people convicted of environmental criminal offenses in 2021 (Dzhuzhi et al., 2018).

Quantitative statistical data shows that illegal logging is one of the largest. 72.7% refer to this article from the entire section of criminal offenses against the environment (Olinychuk, 2017). According to the studied verdicts of the

### Seasons of illegal logging

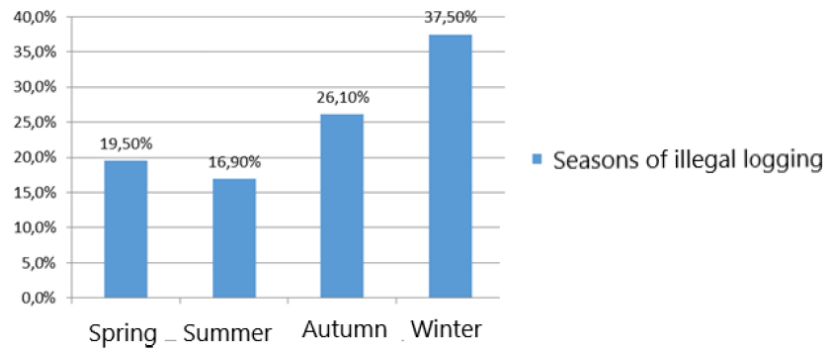


Fig. (5). Seasons of illegal logging.

### The month of illegal logging

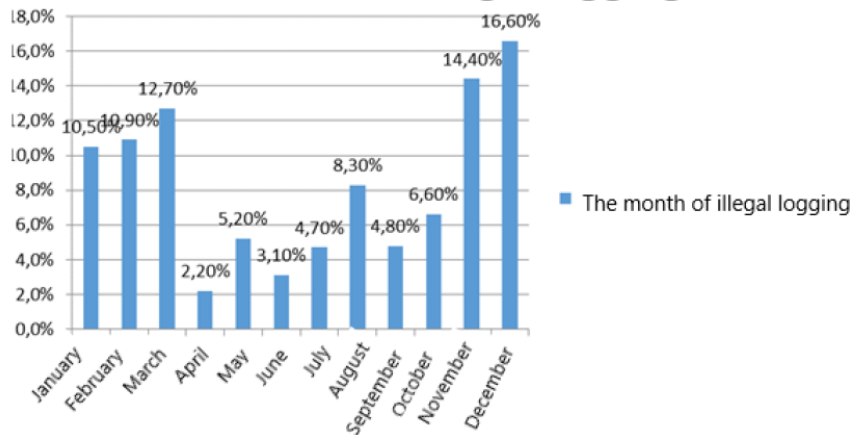


Fig. (6). The month of illegal logging.

### The time of the commission of the criminal offense

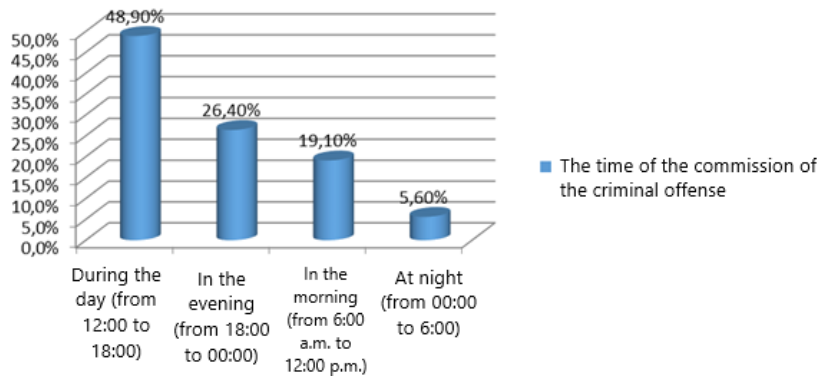


Fig. (7). The time of the commission of the criminal offense.

court decisions, the data can be traced in the following diagrams. It turns out that most criminal offenses are committed in winter, according to the data we received and which can be analyzed in more detail in the following charts (Fig. 5).

In the course of a detailed analysis of the time of year when illegal logging committing, it can be concluded that most of the crimes were committed in November (14.4%), December (16.6%), March (12.7%) (Fig. 6).

According to the results of the court decisions analysis, the most surprising thing at first glance is that almost 50% of crimes were committed between 12 and 18 hours (in the afternoon) (Fig. 7). On the other hand, this shows that law-enforcement authorities do not pay enough attention to the protection of forest areas.

At the same time, the persons who commit these criminal offenses, mix the stolen wood on their own land property,

### Ways of concealing criminal offenses related to illegal logging

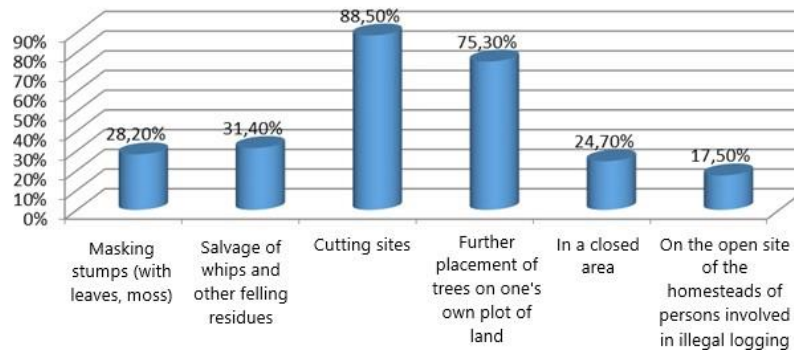


Fig. (8). Ways of concealing criminal offenses related to illegal logging.

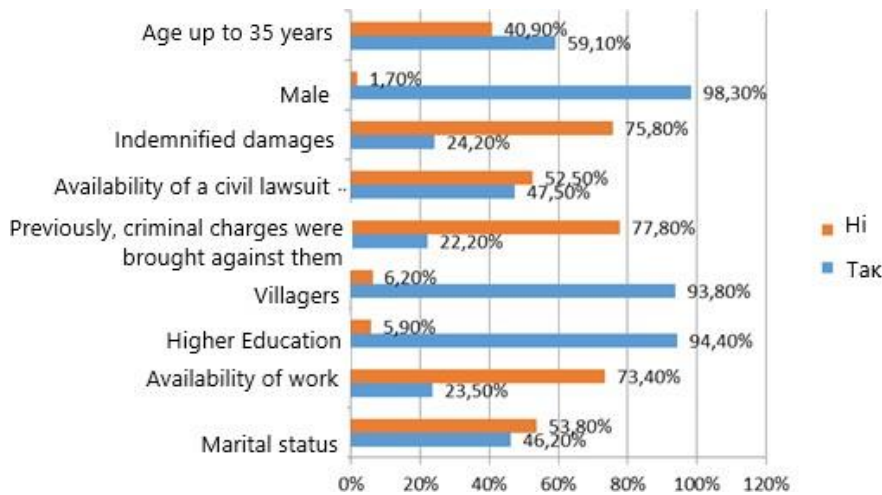


Fig. (9). Socio-demographic characteristics of persons who commit illegal logging.

which also shows that the police do not check the data regarding where there is enough wood for heating in the countryside. In our opinion, the state should issue acts regarding legally obtained wood (Fig. 8).

When analyzing court verdicts and research on the socio-demographic features of persons who commit illegal logging, namely those held liable under Art. 246 of the Criminal Code of Ukraine. We received the following information, from which it appears that the majority of crimes are committed by men under the age of 35, who do not have a higher education, are not employed, live in rural areas, have not previously been held criminally liable and cannot compensate for damages, regarding their marital status and the presence of a civil lawsuit. More detailed information about socio-demographic characteristics of persons who commit illegal logging we can see in Fig. (9).

Summarizing all the above-mentioned, it can be argued that socio-economic instability, high unemployment, low living standards in general, declining living standards in rural areas, as well as a sharp rise in prices for heating and electricity, lead to criminal offenses related to illegal logging forest. People are heated by illegally felled trees. If you count one family in rural areas, this is not such a large number, but

with the growth of heating material prices and families growth, the level of public danger of this act increases.

All analyses are complicated by the fact that the state of war endangers all programs for the Ukraine ecosystem renewal. So now, financing is the biggest problem.

#### 4. CONCLUSION

The following problems were identified and some suggestions were made, when analyzing the issues related to illegal logging:

The complexity of the article legislative construction, namely the understanding of the blanket disposition, which refers to a sufficiently large number of normative legal acts (which have a complex and contradictory understanding, which complicates the investigation) is the biggest problem in the pre-trial investigation. The interpretation of scientific doctrines and special knowledge in the field of forest legislation cannot be fully disclosed, which creates difficulties for police officers in qualifying criminal offenses;

The Law of Ukraine on criminal liability does not disclose the concepts of “criminal offenses against the environment” and “illegal logging or illegal transportation, storage, sale of

forest”, but these concepts are important for the investigation of criminal offenses and directly for qualification. The forest is the basis of an every country ecology, therefore, ensuring its protection should be one of the main tasks of the country as a legal state. Anytype of the forest logging must be controlled and eliminate the possibility of illegal and arbitrary deforestation, which causes not only material, but also environmental damage to the state. It is necessary to start with changes that will be supplemented by new provisions that will improve existing concepts and overcome significant obstacles in the qualification of illegal logging and in the imposition of punishment, in order to initiate changes in combating the investigated socially dangerous act;

The criminal determinants of illegal logging or illegal transportation, storage, and sale of forest can be found in the following general features: 54% is corruption; 29% is due to the presence of rising unemployment or a difficult financial situation; 19% is the profit from the specified actions; 15% is state of the economy in the country; 14% is an improper control and insufficient legislative regulation of criminal offenses prevention; 11% is antisocialcriminal person; 7% is unsatisfactory work of police and lack of proper control over their work; 5% is criminal offenses increase in this area in Ukraine; 4% is destabilization of state policy; 68% is due to the lack of an effective law enforcement system in the field of regulatory environmental legislation, as well as legal norms establishing responsibility for encroachment in the forest sector; 54% is the criminogenic potential of clan-corporate, oligarchic models of Ukraine’s economy; 4% is due to the organized crime level increases;

As a result of the conducted research, criminological characteristics of persons engaged in illegal logging or illegal transportation, storage, sale of wood were formulated: thus, 99% are male; 75% of them are between 30 and 49 years old; in 99% of cases they are citizens of Ukraine; 69% of whom did not study or work at all when committing a criminal offense;

It is proposed to develop programs for subsidies for the purchase of energy carriers for persons who cannot pay market prices for gas and electric heating, due to the fact that the commission of criminal offenses for the purpose of heating the population in winter is very common;

The counteraction to the specified socially dangerous act is not sufficiently effective. What is more, the impact on this is not only from the point of view of the executive power, but from the legislative as well;

The Law of Ukraine on Criminal Liability contains the following types of punishment, which are not related to isolation from society, but are sufficiently effective, such as public and correctional work, which should be related to forestry or forest regeneration activities. For officers is the punishment in the form of deprivation of the right to hold certain positions or engage in certain activities, because it is quite obvious that such an entity should be removed from a position or activity.

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