Ecological Rights as the Objects of Judicial Protection (Considering Practice of the European Court of Human Rights)

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Abstract: The article presents a scientific analysis of the theoretical and legal opinions and regulations of domestic legislation concerning ecological rights and their kinds.

A particular attention is paid to the analysis of ecological rights, which are declared in the Constitution of Ukraine. The research substantiates that the right to an environment that is safe for life and health, which is recognized in the Article 50 of the Constitution of Ukraine, is a principal and inherent right of people.

It is confirmed that human ecological rights are of great social importance, and their appropriate defense should contribute to ceasing social tension in the society, which can be caused by different negative factors, particularly in the periods of pandemic and other mass spreading of infectious diseases. The authors of the article make suggestions that judicial form is definitely a leading form of the ecological right protection. Judicial protection of ecological rights can be implemented under the civil, economic or administrative procedure.

According to the Article 55 of the Constitution of Ukraine, ecological rights can be the objects of defense at the European Court of Human Rights in case when, after exhausting all domestic legal remedies, a person has not got the adequate judicial protection.

It is determined that ecological rights are not separately highlighted in the Convention for the Protection of Human Rights and Fundamental Freedoms, whereas in its numerous decisions the European Court of Human Rights has noted violation of the ecological rights in combination with violation of other human rights, declared by the Constitution, e.g. the right to life.

It is concluded that the European Court of Human Rights recognizes and highly appreciates ecological rights of people, and therefore, considering the precedent value of the Court judgement, it is necessary for Ukrainian courts to be more active in implementing the practice of the European Court of Human Rights while handling trials on defense of human ecological rights.

Keywords: Ecological rights, Safe environment, Judicial protection, Convention for the Protection of Human Rights and Fundamental Freedoms, ECHR, precedent practice.

INTRODUCTION

The Constitution of Ukraine guarantees a list of essential rights, including one of the most important rights, i.e. the right to an environment that is safe for life and health. The right is approved in the Article 50 of the Main Law of Ukraine. The right to an environment that is safe for life and

health is a fundamental, inherent human right and has an absolute character. The right is a basis for the whole system of ecological rights.

In addition, the Article states that everyone is guaranteed the right of free access to information about the environmental situation, the quality of food and consumer goods, and also the right to disseminate such information. No one shall make such information secret.

Another important ecological right, approved in the Article 50 of the Constitution of Ukraine, is the right to compensation for damages inflicted through the violation of this right.

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Judicial protection is an effective form of protection of the important ecological rights.

The above-presented constitutional regulations completely recognize the principal fundamentals of the ecological right to an environment that is safe for life and health and specify it. Moreover, the current environmental conditions and increasing pollution of its main components cause irreversible violation of a set of ecological rights of the citizens of Ukraine and force the need to protect them.

Therefore, the urgent task is to conduct scientific analysis of ecological rights as the objects of judicial protection in Ukraine, to identify peculiarities of those rights protection in the European Court of Human Rights, and to shape proposals on improvement of the efficiency of legal proceeding and resolution of disputes concerning ecological legal relations in Ukraine.

LITERATURE REVIEW

The problem of improvement of the efficiency of ecological right protection was considered in the scientific works of M. Brynchuk, A. Hetman, M. Shulha, N. Kobetska and others. Nevertheless, the problem is still far from being solved.

RESULTS AND DISCUSSION

The issue of ecological rights of people and citizens is central in Ukrainian and international ecological law. The main intention of human ecological rights and freedoms is to disclose the essence of his/her ecological and legal status. Moreover, ecological rights create a basis for development of the principle, which defines the focus of the state's activities (Article 2, 16 of the Constitution of Ukraine). Ecological rights belong to subjective rights and they have emerged on the ground of currently existing ecological system. The initial and final moment of ecological rights is to secure a clear environment for people to live in the ecologically balanced natural surroundings. It should be noted that ecological rights make a principally new group of human rights, which differs from the previously existing ones first because of their focus on satisfaction of ecological, but not material, spiritual, esthetic needs and interests.

At the national level, formation of the system of ecological rights has passed a long way, which started after scientific approval of the right to a safe environment in the scientific works of environmental lawyers and legal approval of ecological rights in the national legislation of Ukraine. It first happened in Ukraine in relation with approval of the Law of Ukraine "On environmental protection" in 1991, which provided for the citizens' right to an environment that was safe for life and health, and other ecological rights (Article 9).

Nowadays, there are different scientific opinions concerning the essence and nature of ecological rights.

Some scientists consider the ecological rights are declared and legislatively approved human rights, which secure satisfaction of human need while interacting with the nature.

Other scientists say that ecological rights are a kind of subjective rights and should be taken as an aggregate measure of possible behavior in the field of ecological safety, affiliation with natural objects and complexes, use of them, reproduction and protection, and in some cases, protection of human being and natural environment from a harmful impact to prevent, eliminate and satisfy ecological and other interests.

Ecological rights, similar to other subjective rights of people, cover a set of opportunities (competences). First, it is the opportunity of human activities, which involves satisfaction of their needs, implementation of their authorities in the field of ecology. Primarily, it deals with the opportunity to use the environment that is suitable for living as a source and place of life maintenance. It also includes actions, intended to protect, to recover, to save the adequate environmental conditions in compliance with the set ecological standards (e.g. participation in public ecological control, discussion of legislative acts). However, it doesn't mean transforming the right into a duty. Ecological rights define the degree of a person's possible behavior and his/her decision whether to exercise them or not. Moreover, ecological rights include the opportunity to require from the state and other people to behave in the proper way, to perform the authorized duties, to protect and recover favorable environmental conditions, and other actions, which can guarantee the approved rights for citizens (e.g. free access to required information, performance of measures in the field of ecological education, etc.), as well as to comply with the set ecological requirements. Finally, all the actions are focused to secure appropriate conditions for living, satisfaction of ecological balance, adequate conditions of natural environment.

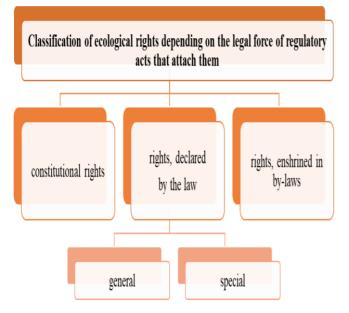
Human ecological rights are related with satisfaction of the rights to population's health that is exercised by engaging favorable and curative properties of land. The value of recovery and treatment on the recreational lands is determined by staying in the natural conditions and under the positive effects of different natural curative factors. Therefore, visiting ecologically clean places, recreational area, and taking health-improving procedures by means of natural and curative resources of land is a guarantee of good health (Batyhina, Derevianko, Kadala, 2020).

Consolidating different scientific opinions, it is reasonable to note that human ecological rights is a complex of legal opportunities and means, which are legally recognized and make a separate group of rights, focused on satisfaction of the citizens' demands concerning use of natural resources, environmental protection and ecological safety.

In the science on ecological right of Ukraine, ecological rights are classified by different categories. The best known criterion of ecological rights classification is the dependence on the legislative power of regulatory acts, which approve the ecological rights and duties of people. According to the criterion, one distinguishes constitutional (they are considered to be natural, inalienable, essential rights); the rights that are declared in the laws of Ukraine (they should be also classified into general, i.e. those, approved by the Law of Ukraine "On environmental protection", and special - secured by other special laws in the field of use and protection of natural environment and ecological safety); the rights, enshrined in by-laws (specification of such group is rather conventional considering the Article 92 of the Constitution of Ukraine, which declares that human and citizens' rights and freedoms, the guarantees of these rights and freedoms, the main duties of the citizen are determined exclusively by

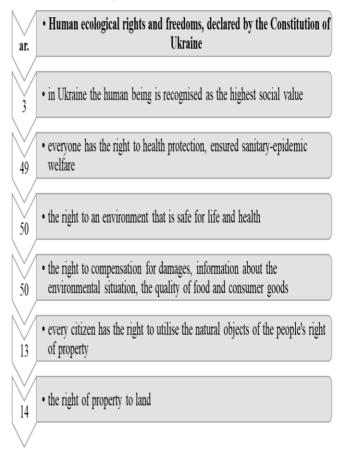
Ecological Rights as the Objects of Judicial Protection

the laws of Ukraine. However, considering the legal force of by-laws, they specify ecological rights and duties, approved by the laws of Ukraine, describe mechanisms of their exercising and implementation).

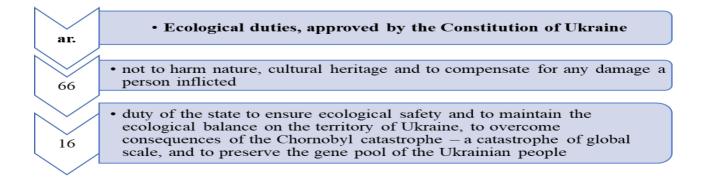


In the system of human ecological rights and freedoms, the leading position is taken by constitutional norms, which have a higher legal force as compared to other norms (Article 8). They primarily recognize that a person is the highest social value (Article 3) in Ukraine, everyone has the right to health protection, ensured sanitary-epidemic welfare (Article 49), the right to an environment that is safe for life and health (Article 50), compensation for damages, information about the environmental situation, the quality of food and consumer goods (Article 50); every citizen has the right to utilise the natural objects of the people's right of property (Article 13), including the right of property to land (Article 14). On the issue of the rights of property to land, scientists propose to improve the methodic approach to assessment of land plots with consideration of the factor of land location referring to the markets (transport rent) (Danko, Koshkalda, Kniaz, Khaminich, Sliusareva, 2019). Compliance of the land organization documents with the regulations of normative and technical documents, state standards, norms and rules in the field of land organization is confirmed by the signature and personal stamp of a certified land surveyor, who is responsible for quality of land-surveying works (Hreshchuk, 2018).

The mentioned ecological rights involve the corresponding ecological duties, approved in the Constitution of Ukraine. It is primarily the duty that everyone is obliged not to make harm to nature, cultural heritage and to compensate for any damage he or she inflicted (Article 66 of the Constitution of Ukraine), and also the duty of the state to ensure ecological safety and to maintain the ecological balance on the territory of Ukraine, to overcome consequences of the Chornobyl catastrophe — a catastrophe of global scale, and to preserve the gene pool of the Ukrainian people (Article 16 of the Constitution of Ukraine).



In case of any barrier while implementing ecological rights, it is always possible to refer to the authorized bodies for defense. In the systems of bodies, which are authorized to handle cases concerning protection of ecological rights, the principal position is definitely taken by courts.



The international document, which approves the duties of countries concerning justice in ecological cases, is the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (the Aarhus Convention), which was ratified in Ukraine by the Law of July 6, 1999 №832-XIV. Fundamentals of the Convention act as directly applicable regulations, whereas the national legislation on the procedures and mechanisms of judicial protection of violated ecological rights and interests can specify them. Therefore, everyone has the right and guarantee of access to the procedures of judicial and administrative appeal of decisions, actions or inaction, made with violation of the right of free access to the information, the right of the public to participation in the process of decision-making and access to the justice on the environmental matters. Ukraine ratified the Convention and committed to provide for the public access to the procedures of appeal to actions and inaction of the state bodies and private persons, who had violated requirements of the national ecological legislation.

The Article 9 of the Convention provides for the conditions for active participation of the judicial branch of power in solving ecological problems in the society.

The right to appeal for the judicial protection of ecological rights to a court to handle an ecological dispute is regulated by the Articles 55 and 124 of the Constitution of Ukraine.

While developing regulations of the part 2 of the Article 124 of the Constitution concerning dissemination of judicial protection and making their official interpretation by the Constitutional Court, in the paragraph 2 of the resolution of the Plenary Session of May 30, 1997 No 7 "On strengthening of judicial protection of the rights and freedoms of a person and citizen", the Supreme Court of Ukraine explained for courts they are not authorized to abjudicate physical and juridical entities to consider their appeals and requests.

An absolutely new body i.e. the High Anti-Corruption Court of Ukraine, has been established in the Ukrainian judicial practice (Derevianko, Pashkov, Turkot, Zahrisheva, Bisiuk, 2020). It deals with the cases of corruption, including those in the field of protection of ecological rights.

Judicial protection of ecological rights is normally fulfilled under the economic, civil and administrative procedure. In particular, in the case №826/3031/18, the Main Office of the State Service of Ukraine on Food Safety and Consumer Protection in Kyiv together with the residents of the housing complex (as the third party - PO "Residents of Comfort Town") appealed to the court against the PJSC. Claims under the lawsuit were substantiated by the fact that the PJSC had not taken measures to avoid and liquidate air pollution while performing its economic activities and had made nothing to prevent diseases, poisoning and environmental pollution. Residents of the housing complex and representatives of the Main Office of the State Service of Ukraine on Food Safety and Consumer Protection claimed that "above-limits of the admissible concentration of harmful substances in the air and levels of equivalent noise were dangerous and could cause negative effects for health of the residents of Darnytsia and Dnieper districts, including residents of the housing

complex, that was an obvious reason to stop producing fibre building boards, to pause performing works in order to bring the object to compliance with the requirements of sanitary legislation".

The decision of the District Administrative Court in Kyiv of August 22, 2018 granted the claim and it was not altered by the resolution of the Sixth Administrative Court of Appeal of December 19, 2018.

Production of fibre building boards and works of the PJSC were stopped until total liquidation of the violations of the sanitary legislation requirements. The Court of Cassation agreed to the decisions of previous institutions.

Defending its rights, the Public organization "Residents of Comfort Town" referred to the examination control of the State Service of Ukraine on Food Safety and Consumer Protection, which identified the cause and effect relations between the PJSC's production activities and air pollution. The examination had been conducted in compliance with the requirements of the current legislation and even after the instructions for the enterprise to reduce air pollution, the PJSC continued its ecologically harmful economic activities.

Deciding on the case, the Supreme Court referred to the regulation in the part 2 of the Article 12 of the Law of Ukraine "On air protection", which provided for that economic or other activities, related with violation of the conditions and requirements to pollutant emission into the air and degrees of effect on its physical and biological factors, approved by the permissions, could be restricted, temporary prohibited (stopped) or suspended according to the law.

Therefore, in case of violating the constitutional right to a safe environment, one should remember that economic entities that make harmful effect of the environment in the process of their activities, particularly because of emission of harmful substances into the air, are obliged to take measures to comply with the requirements, approved by the standards and norms of ecological safety in the field of air protection, permissions of pollutant emission, etc. The legislation requires from such economic entities to take measures to reduce the volume of emitted pollutants and cease the effect of physical factors.

The function of ecological right protection can be also performed by the courts administering justice in civil cases, because according to the Article 19 of the Civil Procedure Code of Ukraine, courts try on civil cases, which appear in the civil, land, labour, family, residential and other legal relations, but for the cases, which are taken up under other procedure. Ecological dispute can belong to the civil procedure in case at least one of the dispute parties is a physical person. To secure access to the justice and to guarantee defense of residents' rights, the Article 55 of the Constitution of Ukraine provides for everyone has the right to appeal for the protection of his or her rights and freedoms to the relevant international judicial institutions or to the relevant bodies of international organisations of which Ukraine is a member or participant. It is also true for the appeals to the European Court of Human Rights that is an international judicial body and is authorized to handle appeals of human claims on violation of the regulations of the Convention for the Protection

of Human Rights and Fundamental Freedoms (hereafter – Convention, ECHR) concerning public and political rights.

National courts also follow the priority of protection of the fundamentals rights and freedoms of their citizens (Chornous, Denysenko, Hrudnytskyi, Turkot, Sikorskyi, 2019).

At the international level, ecological rights of citizens/public organizations of ecological focus traditionally include the following rights (not a full list): - the right to an environment that is safe for life and health; - the right to free access to ecological information; - the right to participate in making ecologically important decisions; - the right to access to the justice on environmental matters. Those rights have been many times defended by the European Court of Human Rights (hereafter – ECHR) by interpreting the following fundamental rights and freedoms, declared by the Convention:

- Article 2 (the right to life);
- Article 6 (the right to a fair trial)
- Article 8 (the right to respect to the private and family life);
- Article 10 (freedom of expression)

• Article 1 Protocol No.1 (the right to peacefully own property).



"Ecological" cases, handled by the ECHR, can be divided into such categories:

- Cases on the impact on environment, life, health or property of ecologically harmful objects.
- Cases concerning access and distribution of information about environmental conditions.
- Cases on the public participation in making ecologically important decisions and access to the court.
- Cases on restriction of the individual right of peaceful possessing of property to protect environment as common welfare.

As an example, some cases of the ECHR are described in the work. Thus, in the case of Oneryildiz v. Turkey (Oneryildiz v. Turkey, 2002), the claimant and his family lived in the mean street, surrounded with dumpsite. Methane explosion destroyed his house and killed his eight relatives. The guilty party was not punished. In the case, the Court noted violation of the Article 2 of the ECHR (the right to life), Article 1 of the Protocol 1 (the right to peacefully possess property), because the state was responsible to take the necessary and proper measures to protect population, as well as it duty was to provide for protection of the claimant's property (also

house), to conduct an independent and effective investigation of the death facts, and to punish the guilty party.

In the ECHR practice there have been some cases versus Ukraine on ecological matters. Particularly, in the case of Dubetska and other versus Ukraine (2011), the claimants had some decades lived in the sanitary-protected zone (SPZ) of the mining enterprise and its waste heap. Pollution of land, water and air several times exceeded the norms. The decision of a national court was to resettle people from the SPZ and no other measures were taken. The Court judgement noted violation of the Article 8 of the ECHR, i.e. the harm to environment and pollution was a significant violation of the claimant's right, the pollution made harm to health. The balance between the rights of the claimant and the society was not kept.

Popov, Koshkalda, Kniaz, Trehub (Popov, Koshkalda, Kniaz, Trehub, 2019) note that owners of neighboring land plots do not always agree to change the boundaries, and the problem should be solved in the court (Popov, Koshkalda, Kniaz, Trehub, 2019).

In the other case of the ECHR called Hrimkovska versus Ukraine (2011), the Court noted that the authorities redirected the motorway across an unsuitable way in the residential quarter. Therefore, it caused harm to health of the claimant and her family members (vibration, noise, exhausts). Administrative and judicial remedies were not successful. The road was closed in 2002 according to the instruction of the sanitary-epidemiological service (SES). The Court judgement noted violation of the Article 8 of the ECHR, i.e. serious violation of the claimant's rights. A fair balance was not set between the social interests and the claimant's rights. In the trail process, it was concluded that redirection of the road had been made with on assessing the impact on environment and with no considering opinion of the claimant and other representatives of the interested public.

It is worth noting that all decisions of the ECHR (those, concerning Ukraine, as well as those, concerning other countries) are the sources of law in Ukraine (Article 17 of the Law of Ukraine "On the Fulfillment of Decisions and Application of Practice of the European Court of Human Rights".

However, the decisions concerning Ukraine are of particular interest because in those judgements, the European Court of Human Rights makes analysis of the Ukrainian legislation and practice of its application and points on its drawbacks. Therefore, it is much simpler to apply the decisions of the ECHR, approved in the cases versus Ukraine, in the similar cases in Ukraine. Moreover, as it was mentioned above, according to the Article 17 of the Law of Ukraine "On the Fulfillment of Decisions and Application of Practice of the European Court of Human Rights", courts refer to the Convention and the Court practice as a source of law while handling different cases. Thus, decisions of the ECHR should be considered as a judicial precedent for Ukrainian courts, including the cases of ecological rights protection.

CONCLUSIONS

Ecological rights are legal opportunities, enshrined in the laws and focused on satisfaction of citizens' demands in the field of natural resources use, environmental protection and ecological safety.

Human ecological rights are of great importance, and protection of them should contribute to cease the social tension in the society, which can be caused by various negative factors of natural and anthropogenic character, particularly in the period of pandemic and other mass spreading of infectious diseases. Therefore, the appropriate protection of ecological rights is of urgent need for the state. Judicial form is a leading form of the ecological right protection. Such defense is normally secured under the civil, economic and administrative procedure.

If a person is not satisfied with the judicial protection of his or her right, according to the Article 55 of the Constitution of Ukraine, after exhausting all domestic legal remedies, the person has the right to appeal for the protection of his or her rights and freedoms to the relevant international judicial institutions or to the relevant bodies of international organisations of which Ukraine is a member or participant. One of such organizations is the European Court of Human Rights that is an international judicial body, which is authorized to handle the claims on some country's violation of the rights, approved in the European Convention on Human Rights and Fundamental Freedoms.

Although ecological rights are not specified in the Convention, the ECHR has many time noted violations of those rights in combination with other human rights, approved in the Convention, e.g. the right to life, the right to respect to the private and family life, the right to peacefully possess property.

The authors of the research consider that the facts prove the high value of human ecological rights, protected by the European Court of Human Rights, which provides all possible legal defense of them.

Considering the fact that the precedent practice of the European Court of Human Rights is an important source of law for domestic justice, there are great expectations that Ukrainian courts will be more active in application of the ECHR decisions while handling cases on protection of human ecological rights.

CONFLICT OF INTEREST

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

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- Batyhina O., Derevianko B., Kadala V. (2020). Recreational lands as a component of health care: some aspects of legal regulation. Wiadomosci Lekarskie (Warsaw, Poland: 1960), Volume LXXIII, Issue 12 Part 2, December 2020. P. 2860-2864., P. 2860
- Chornous Y., Denysenko S., Hrudnytskyi V., Turkot O., Sikorskyi O. (2019). Legal Regulation of Cryptocurrency Turnover in Ukraine and the EU. Journal of Legal, Ethical and Regulatory Issues. Volume 22, Special Issue 2, 2019. URL: https://www.abacademies.org/articles/legal-regulation-of-

cryptocurrency-turnover-in-ukraine-and-the-eu-8439.html/

- Civil Procedure Code of Ukraine of March 18, 2004. News of the Verkhovna Rada of Ukraine. 2004. № 40-41, 42. Article 492.
- Constitution of Ukraine: official text. Kyiv: KM, 2013. 96 p.
- Convention on Human Rights and Fundamentals Freedoms of November 4, 1950 and supplementary protocols, ratified by the Law of Ukraine of July 7, 1997 № 475 - 97. Official bulletin of Ukraine. 2006. № 32 Article 2371
- Danko Y., Koshkalda I., Kniaz O., Khaminich S., Sliusareva L. (2019) Rental income in the methods of agricultural land valuation 34th IBIMA Conference: 13-14 November 2019, Madrid, Spain URL: https://ibima.org/accepted-paper/rental-income-in-the-methods-ofagricultural-land-valuation/
- Derevianko B., Pashkov V., Turkot O., Zahrisheva N., Bisiuk O. (2020). Addressing the issue of corporate raiding in Ukraine Problems and Perspectives in Management. Volume 18, Issue 1, 2020. URL: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3551076.
- Dubetska and others versus Ukraine case: Decisions of the European Court of Human Rights of February 10, 2011. Official Bulletin of Ukraine, 2012, 01, No2, Article 65.
- Hreshchuk H.I. Ecological and economic peculiarities of land organization regulation in the context of sustainable development. Ahrosvit. 2018. № 21. P. 46-49. DOI: 10.32702/2306-6792.2018.21.46, P. 47
- Hrymkovska versus Ukraine case: Decision of the European Court of Human Rights of July 21, 2011. Official Bulletin of Ukraine. 2012. 05. №35. Article 1320.
- On air protection: Law of Ukraine of October 16, 1992 № 2707-XII. URL: https://zakon.rada.gov.ua/laws/show/2707-12#Text
- On environmental protection: Law of Ukraine of June 25, 1991 № 1264-XII. URL: http://zakon2.rada.gov.ua/laws/show/1556-18.
- On ratification of the Convection on access to information, participation in the process of decision making and access to the justice on environmental matters: Law of Ukraine of July 06, 1999 №832-XIV. News of the Verkhovna Rada of Ukraine. 1999. №34 (27.08.99). Article 296.
- On strengthening the judicial protection of human rights and freedoms: Resolution of the Plenary session of May 30, 1997 № 7. Bulletin of Legislation and Judicial Practice of Ukraine. 1998. №1. P. 242.
- On the Fulfillment of Decisions and Application of Practice of the European Court of Human Rights: Law of Ukraine of February 23, 2006. №3477-IV. News of the Verkhovna Rada of Ukraine. 2006. №30 (28.07.2006). Article 260.
- Onervildiz v. Turkey case: Decision of the European Court of Human Rights of June 18, 2002. Practice of the European Court of Human Rights. Comments. 2002. № 3. URL: https://zakon.rada.gov.ua/laws/show/980 181#Text

Popov A., Koshkalda I., Kniaz O., Trehub O. (2019) Koshkalda I. Land fragmentation of agricultural enterprises in the context of administration of land / // Economic Annals-XXI: Volume 176, Issue 3-4, Pages: 80-90 URL:

https://www.researchgate.net/publication/335849656_Land_fragme nta-

 $tion_of_agricultural_enterprises_in_the_context_of_administration$ _of_land

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