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ECOLOGIZATION OF THE ORIGIN OF THE OWNERSHIP RIGHT ON THE OBJECTS OF FAUNA IN THE AQUACULTURE AREA

ANATOLIY GETMAN, VOLODYMYR SHEKHOVTSOV

Abstract. The authors of the article have studied theoretical and practical problems of delimitation of the ownership right to the objects of aquaculture and the fauna objects in the context of determining the grounds for the emergence of property right. The mechanisms of resolving disputes concerning the belonging of the fauna objects that are located in a water object together with the objects of aquaculture have been offered. The authors have developed propositions for making amendments and alterations to the current legislation.

Keywords: use of natural resources, aquiculture, objects of fauna, objects of aquiculture, property right on the objects of fauna.

1. INTRODUCTION

Public relations in regard to the protection and use of natural objects have been regulated by the norms of environmental law. It has been emphasized in the legal literature that the current stage of the development of environmental law is characterized by two opposite, but interconnected tendencies: on the one hand, the termination of the expansive development of certain branches of environmental legislation, ensuring their internal structuring and differentiation, and, on the other, – an adequate response to the change of social and economic factors, the emergence of new objects of legal regulation and factors affecting them, the realization of the objectives of environmental policy of different levels (international, national, public, industrial) and orientation (internal or external). Considering this fact, in the context of the tendency towards sustainability, environmental science can not help but respond to modern challenges, by transforming in accordance with the needs of society and era, involving new and emerging phenomena to the sphere of its influence [1, p. 105].

The modern development of the branches of the economy is characterized by a high degree of dynamism and such a dynamics is not always positive with a tendency to increase. However, the state, society and certain business entities make all necessary efforts to increase the socially useful result that ultimately should be derived from one or another type of activities: an increase in production, a decrease in the price of a unit of production, an increase in profits, creation of new jobs, etc. This is the basis of the economic demands of society that must be satisfied.

But along with economic requirements there are other needs of society and its individuals. Spiritual, aesthetic, cultural, recreational and other needs are inherent to both an individual and a social being. And these needs of one subject quite often go against the economic needs of another one. A similar situation occurs in the field of aquaculture. On the one hand, there is, at a minimum, the need to ensure the needs of the population of Ukraine in the consumption of fish products, as a maximum – to increase the volume of production to create export potential. For this purpose, the procedure for the use of existing reservoirs is regulated, the procedure of conducting this type of business is simplified, the creation of new jobs is encouraged, etc. However, it is at the state level. At the level of a water facility, the issue arises differently: can anyone fish for free or can an entrepreneur charge a fee for this? In practice, the answer to this question depends on the definition of when and how the ownership right to the objects of fauna can occur or transfer in case of the latter being in the reservoirs provided for aquaculture.

Degree of the topic development. The research of the legal nature of the ownership right to natural objects or its certain aspects was the scope of interest of the works of lawyers in the field of environment as: V. I. Andreitsev, H. V. Anisimova, H. I. Baliuk, A. H. Bobkova, Yu. O. Vovk, A. P. Getman, V. I. Hordieiev, I. I. Karakash, V. V. Kostytskyi, S. M. Kravchenko, P. F. Kulynych, N. R. Malysheva, V. L. Muntian, V. V. Nosik, O. O. Pohribnoi, V. K. Popov, S. V. Razmietaiev, B. H. Rozovskyi, A. K. Sokolova, P. V. Tykhyi, O. M. Tkachenko, V. S. Shakhov, Yu. S. Shemshuchenko, V. V. Shekhovtsov, M. V. Shulha and others. But the issue of determining the basis for the origin of the ownership right to the objects of fauna in the sphere of aquaculture remains unresolved.

2. ANALYSIS AND DISCUSSION

The key theoretical aspect in solving the issue of the origin of ownership right to the objects of fauna, including in the field of aquaculture, is the fact what law doctrine is used to study this issue. Scholars in the field of environmental law have already emphasized the negative tendencies of “commoditization” of environmental and natural resource law [2; 3]. The urgent main short-term problem of the state is to ensure economic growth. The regulatory base becomes only an instrument for implementing such a state policy. Scholars within the law sphere, in turn, must develop propositions to the law on the basis of the doctrinal approaches of each branch of law, which is one of the external forms of consolidation of state policy.

Doctrinal approaches to the elaboration and further development of environmental law, through a number of controversial issues in the field of environmental and natural resource law, are increasingly interfered by scholars who study the issues of related branches of law. The feasibility of the existence of environmental law as an independent branch is put in question; and the authors prove the need to include an array of legal regulation of nature-oriented or natural resource legal relations, for example, to administrative [4, c. 348] or commercial law [5 c. 58].

At the same time, it is necessary to pay attention to the fact that by defining the high level of research within the various scientific specialties, while respecting scholars who formed their scientific and methodological basis, it should be noted that the activity of specialists of a particular scientific specialty affects the approaches in regard to solving scientific problems, demonstrating sometimes one-sided approach. Taking this into account, attempts to enter environmental legal relations into the system of administrative or civil or commercial law are prior doomed to failure that has already been emphasized before [6, p. 100].

In our opinion, the issue of determining the ownership right to the objects of fauna, regardless of their scope of use, should be considered from the standpoints of environmental law. Wild animals, in all their biological diversity, irrespective of their place of residence and species characteristics, are an integral part of the natural environment, a link of the food chain, the allocation of which is impossible without causing harm to all other links. Ecologization of material production in the field of aquaculture should be realized through scientifically grounded admissible inclusion of economic activity into natural processes, and not vice versa – granting of “permission” to the elements of the environment to

be present at the realization of the economic activity by a person. Moreover, the economic activity, which includes some natural objects, should be made taking into account the requirements of the Art. 13 of the Constitution of Ukraine, which establishes the ownership right of Ukrainian people to natural resources, as well as the right of everyone to use natural objects of property rights of the people in accordance with the law.

Aquaculture in its legal nature should be considered as one of the types of special natural management, and accordingly, to a certain extent, should take into account the requirements of the current environmental legislation in ensuring the right of general natural management. Moreover, scholars generally distinguish as a principle of the right of natural management – the priority of general natural management, the essence of which is paramount restitution of the needs for overall natural management due to the natural resources [7, p. 97].

Thus, in case of the allocation of natural resources for the implementation of aquaculture – a water object or objects of the fauna, it should be primarily taken into account that they are an integral part of the environment and are subject to the rights of other citizens.

Another problem that causes the need to ecologize aquaculture is the task of creating an environmental network. In previous scientific papers, the authors emphasized on the tasks of creating the indicated network and the problems that arise in this connection [8, p. 286–287]. Most of the reservoirs, including Ukrainian fishery waters, were largely built more than 30 years ago, for a long time were part of the landscape and performed certain functions in the ecosystems of the territories of the location. The practice of forming an ecological network indicates that, for the most part, such reservoirs are used as connecting territories (ecological corridors), which combine key areas among themselves, provide for the migration of animals and the exchange of genetic material. It is especially actual for reservoirs, which exist in the form of a cascade – sequential placement along the watercourse.

Everything above stated causes the need of the ecologization of the activities in the field of aquaculture.

Having analyzed the current legislation, primarily we would like to stress that according to the Art. 1 of the Law of Ukraine “On Aquaculture” [9] aquaculture (fish farming) – is an agricultural activity for artificial breeding, maintenance and cultivation of aquaculture objects in fully or partially controlled conditions for obtaining agricultural products (aquaculture products) and their sale, production of feeds, reproduction of biological resources, conduction of breeding and stock breeding, introductions, resettlement, acclimatization and re-acclimatization of aquatic organisms, replenishment of aquatic biological resources, preservation of their biodiversity, as well as providing recreational services.

It is obvious that we do not aim to research property relations in the entire aquaculture industry. This activity can be carried out using various technologies, intensification stages, species composition of the livestock, etc. All these features impose their imprint on both legal regulation and the very nature of property in this sphere. Thus, according to the Law of Ukraine “On Aquaculture” there is an industrial aquaculture – activity on artificial breeding, maintenance and growing of aquaculture objects with the use of fishing and floating gardens, fishing pools, other technological devices, including the use of closed water supply plants. Essentially, such activities are isolated from the environment, often do not occur on the territory of water facilities, and therefore in practice there is no question of the belonging of the fish and the rules of its use. Besides, in case of industrial type of aquaculture, there is a question: whether there is a natural object – the object of fauna, or there is a peculiar form of keeping live-stock animals.

We should focus attention on the issue of the ownership right to the objects of fauna that are in the water facility in the state of natural will and are not objects of aquaculture in the context of the possibility of exercising the right of their general natural management. In turn, aquaculture objects are aquatic organisms used for the purposes of breeding, maintenance and growing in aquaculture conditions.

From the content of the mentioned Law it is understood that the subjects of aquaculture (legal entities or individuals engaged in fishing activities in the field of aquaculture) have the right “to own

the objects of aquaculture and aquaculture production, as well as to receive income from their implementation". And although the norm is not very well written out, it is clear that business entities engaged in aquaculture acquire the ownership right to its objects.

At the same time, if we correlate all the aforementioned concepts, then for the recognition of each individual fish or other object of fauna as the property object of a business entity, it must correspond to the following features:

- be artificially bred, maintained or grown;
- kept in a fully or partially controlled environment;
- be an agricultural product.

Part 3 of the Art. 38 of the Law of Ukraine "On Environmental Protection" stipulates that citizens, enterprises, institutions and organizations according to the procedure of special use of natural resources are provided with the possession, use or lease of natural resources on the basis of special permits registered in the established procedure for a fee for the implementation of production and other activities, and in cases stipulated by the legislation of Ukraine – on concessional terms [10].

The Art. 17 of the Law of Ukraine "On the Fauna" also stipulates that special usage of the objects of fauna includes all kinds of using fauna (except for the cases of free amateur and sport fishing on water facilities of general use, stipulated by the law), which are carried out from their extraction (plunder, collection, etc.) from the natural environment" [11].

From the systematic analysis of the norms of the Laws of Ukraine "On Aquaculture" and "On the Fauna" it becomes obvious that those species of animals that were in the water facility before the start of aquaculture activities remain in a state of natural will and are not the objects of aquaculture. Since, all the sub-normative acts, researched by us, regulating the procedure for conducting aquaculture, do not contain provisions on the assessment and transfer to the ownership or use of the objects of fauna (fish), already contained in a water facility.

Moreover, a document establishing the right to own and use an existing water facility for aquaculture purposes is a lease contract for a water facility. Analysis of the typical form of this agreement shows that the elements of the environment, the right of use of which is transferred under this agreement, are water and lands [12]. The objects of fauna are beyond the scope of this agreement. In addition, because of the very nature of animals, the Law of Ukraine "On the Fauna" does not at all consider the concept of renting objects of fauna that we consider to be justified.

Thus, in accordance with the requirements of the same Law of Ukraine "On the Fauna", the person who owns the objects of fauna (fish) must documentary verify the legality of their acquisition. Synthesis of all the requirements of the legislation allows to assert that for the emergence of the ownership right for all species of fish and water invertebrates in a water facility provided for aquaculture, the business entity must documentary verify the purchase of all fish contained in the water facility or demonstrate the documents on the implementation of special nature management – industrial fishing. It should be noted that in the course of a multi-year study, we were unable to find any case of the receipt of documents of the special use of objects of fauna by the business entity, which would precede the receipt of the water facility for use. This provides grounds for concluding that the types of objects of fauna that were located in the water facility before its transfer for aquaculture, as well as those that were not the subject for breeding (acquisition), were not the property of the subject of aquaculture.

As we have already stressed [13, p. 52–54], the analysis of the provisions of the Law of Ukraine "On the Fauna" reveals certain problems. Thus, the Art. 6 of the Law states: "The objects of fauna, which are maintained (kept) by enterprises, institutions and organizations of the state or communal form of ownership are the object to the right of respectively state or communal ownership". In fact, the law links the right of state and communal property with the maintenance (storage) of such objects by respectively state or communal enterprises, institutions and organizations. Part 1 of the Art. 7 of the Law states that the objects of fauna withdrawn from the state of natural freedom, bred (received) in a semi-free conditions or in captivity or acquired by another way, not prohibited by law, may be privately owned by legal entities and individuals. This made it possible to conclude that the right of state, communal and private property primarily relates to the removal of the objects of fauna from the

state of natural freedom on the basis of appropriate permissions. Then it is logical to ask: who then acts as the owner of the objects of fauna that are in a state of natural will?

The consolidation of this right exclusively by the Ukrainian people, which does not actually belong to civil society participants, is not endowed with adequate capacity and legal capacity by the Civil Code of Ukraine, seems inappropriate in relation to the existing works within environmental law [14, p. 80; 15, p. 78]. Therefore, it has been offered to consolidate the relevant provision in the Law of Ukraine "On the Fauna", establishing that all objects of fauna, other than those removed from the state of natural freedom, are bred (received) in semi-free conditions or in captivity acquired in the state property other way not prohibited by law by enterprises, institutions and organizations of communal ownership, as well as individuals and legal entities.

The discussion about the membership of "aboriginal" species of fauna in leased water facilities is becoming more acute in society [16]. Adoption of the Law of Ukraine "On Aquaculture" further complicated this area. Formally, aquaculture can be carried out to provide recreational services. Providing services to fishermen to organize and conduct sports and amateur fishing may be such recreational services. However, the service must be paid, and indicated types of fishing are types of general nature management, that is, free of charge.

The Art. 47 of the Water Code of Ukraine, which specifies that the general use of water is carried out by citizens to meet their needs (bathing, boating, amateur and sports fishing, watering animals, taking water from water facilities without the use of buildings or technical devices and from wells) free of charge, without fixing water objects by individuals and without issuing appropriate permits, did not add clarity to the researched issue [17]. The legislator has indicated the possibility of amateur or sports fishing in the general water management and use by fauna members. It is clear that to allow the usage of the objects of fauna, in particular fish, by the right of general nature management can only be given to the objects of state or communal property. The private owner has the right to independently determine the range of people, the time, the volume of use of his property.

In our opinion, in order to determine the ownership right to the objects of fauna that are in the reservoir simultaneously with the objects of aquaculture, it is necessary to take into account the mode of these animals that existed before the transfer of the water facility to use. Based on the analysis of regulatory acts regulating accounting and reporting in the field of aquaculture, the aquaculture subject must fully reflect in the documentation the species, number, age groups, mass and other characteristics of each type of aquaculture object.

Consequently, there are no grounds for claiming that the subject of aquaculture has the ownership right to all fish in the reservoir that was provided to him. Accordingly, he has no right to impose restrictions on the use of local fish species in the implementation of general nature management.

Moreover, the typical form of a lease contract for a water facility is one of the grounds for termination of such an agreement, which stipulates the prohibition of general water management, which, according to the Art. 47 of the Water Code of Ukraine, includes sports and amateur fishing.

Another important issue is the implementation and protection of the ownership right to the objects of fauna – aboriginal species of fish that were in the reservoir before it was handed over for aquaculture in case of their destruction. It is not about such cases of unlawful destruction as illegal catching, poisoning, immorality, etc. The legal development of events is possible, namely, the death of fish during the implementation of measures of fishing melioration – reduction of water level or complete discharge of water from the water facility, and some others.

In accordance with c. 8 of the Art. 17 of the Law of Ukraine "On Fisheries, Industrial Fisheries and Protection of Water Bioresources" the level of water in fish-farming water agencies should be sufficient to ensure the natural reproduction and life of aquatic organisms. The increase or decrease of water level in water facilities is agreed with the central executive agency, which implements the state policy in the field of fisheries [18].

Thus, the legislator has foreseen the need to agree the issue of water discharges from the water facility with the fish protection agencies. However, there were no compensatory mechanisms for the

reimbursement of losses of natural fish stocks. Since, as it was earlier indicated, aboriginal species of fish are not transferred to the property of the subject of aquaculture. Thus, the legislator's logic regarding the lack of compensation for losses of aquatic living resources that occurs as a result of economic activity is not clear.

In our opinion, we should foresee a mechanism for restoration of the state or compensation of losses of biodiversity in case of the destruction of water level in a water facility. It is advisable to establish the owner's obligation to restore the biological diversity of aquatic organisms or to compensate for the costs of such a restoration. In case of the restoration of species diversity in a water facility, such aquatic living resources shall not be the property of a business entity. In case of the compensation for the cost of destroyed water facilities, the funds received should be target-oriented and to be used to implement measures to increase fish stocks in the region, but not necessarily in the water facility, which became the source of the corresponding funds.

In turn, it will allow restoring the aquatic living resources of the region, while not engaging such activities on water objects, where such restoration is inappropriate (aquaculture facilities with periodic water level reductions). Besides, it disciplines the aquaculture subjects in part of responsible attitude for the species diversity in the provided water facility. Since, there are many cases of water level reduction only to facilitate the catching of commercial fish and its more complete catch without purchasing special means of its catching.

3. CONCLUSIONS

1. Relationships regarding the emergence of the ownership right to the objects of aquaculture in case of its implementation with the granting the right to use a water object, should be regulated by law, which is developed and applied primarily from the standpoint of the doctrine of environmental law, taking into account the right of other citizens to use natural objects, in compliance with the nature-oriented regime of reservoirs. One of the main requirements to be adhered to by the subject of aquaculture is to preserve the property right of the Ukrainian people to the objects of fauna that have fallen into the sphere of its activity together with the reservoir.

2. The basis for the origin of the ownership right to aquaculture objects is the conclusion of agreements for purchasing stocking material and / or artificial breeding activities of such objects. However, this is not the reason for the termination of the right of state or communal property and, accordingly, the emergence of private ownership to the objects of fauna that are in the water facility provided for the aquaculture maintenance.

3. We offer to amend the Art. 1 of the Law of Ukraine "On Aquaculture" with the notion of local (aboriginal) aquatic organisms as those that were before the provision and / or were in a water facility after being used for aquaculture purposes, artificial reproduction or if the subject of aquaculture didn't make their invasion. To supplement c. 2 of the Art. 5 of the Law of Ukraine "On Aquaculture" with the provisions on the obligation of the subject of aquaculture not to prevent the implementation of amateur and sport fishing of citizens for local (aboriginal) aquatic organisms.

4. To develop a methodology for calculating the cost of aboriginal aquatic organisms located in a water facility, and to provide a mechanism for the compensation of their restoration in case of destruction in connection with the implementation of measures of fishery reclamation.

Such changes will make it possible to avoid ambiguous interpretation of the requirements of regulatory acts in the field of aquaculture; to distinguish aquaculture objects – agricultural animals and objects of fauna; to ensure the right of general environmental management on water facilities that were provided for aquaculture.

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Гетьман Анатолій, Шеховцов Володимир. Екологізація виникнення права власності на об'єкти тваринного світу в галузі аквакультури. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 9–16.

У статті розглянуто теоретичні та практичні проблеми розмежування права власності на об'єкти аквакультури та об'єкти тваринного світу в контексті визначення підстав для виникнення права власності. Запропоновано механізми вирішення спорів щодо належності об'єктів тваринного світу, які перебувають у водному об'єкті разом з об'єктами аквакультури. Напрацьовано пропозиції для внесення змін та доповнень до чинного законодавства.

Ключові слова: природокористування, аквакультура, об'єкти тваринного світу, об'єкти аквакультури, право власності на об'єкти тваринного світу.

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NEW BOUNDARIES OF THE ENVIRONMENTAL LAW OF UKRAINE

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Abstract. The article shows the necessity of the newest vector of environmental law development, connected with the expansion of its spatial base to the near-Earth outer space. The historical context of the problem is being investigated, beginning with the first UN treaties on outer space. The gradual penetration of certain principles, provisions and requirements for the environmental safety of space activities into the national space and environmental legislation of space faring countries is analyzed. Taking into account foreign experience, the ways of the Ukrainian environmental law development with regard to involve outer space in the sphere of its protection are outlined.

Keywords: environmental law, national legislation, international space law, international environmental law, near-earth outer space, ecological safety of space activities.

1. INTRODUCTION

In the 90 years of the XX-th century, that is, during the formation of the Environmental Law of the independent Ukraine, the domestic ecological legal system was oriented to limitation of its scope of regulation by the Earth's atmosphere. This was understandable and justifiable, since it was precisely within such limits that human activities were extended for that period. Of course, this scope was not limited to a purely "terrestrial" environment, taking into account their penetration into the depths of the Earth, and to the bottom of the World Ocean. However, there was no objective reason, at that time, to look into the space outside of the Earth's atmosphere and to regulate the ecological requirements in this space.

The rapid development of astronautics at the turn of the millennium, the diversification of human activities in outer space, intrusion of humans into the extraterrestrial environment (including – in the deep outer space) have posed many questions on environmental sustainability of human life in outer space. This caused a lot of problems face to the environmental law, both international and national, especially of those countries that already carry out their space activities, or plan to implement it in the near future.

Let's try in this article to analyze the current status of the legal regulation of environmental safety of space activities, its improvement, as well as the main directions of further development of the respective branch of law to meet the needs of environmental safety in outer space.

2. ANALYSIS AND DISCUSSION

2.1. Overview of Environmental Threats to the Near-Earth Space, Requiring Legal Regulation

At the turn of the XX-th and XXI-st centuries, however, there were a large number of environmental threats of space activities that require their legal regulation. Historically first, the pollution and other influence caused by space activities on the Earth's environment and population began to emerge. This was due to the negative environmental effects of the ground space infrastructure operation (space launches, areas of rocket surplus falling, etc.). As these problems fit into the overall context of the environmental impact of economic activities, they fell under the existing environmental legal regulation.

Gradually, however, with the enlargement of space activities, environmental problems that go beyond the traditional boundaries of environmental legal regulation became perceived. These are the ecological legal status of cosmonauts/astronauts and other participants of space missions; the pollution associated with the use of nuclear energy sources in outer space; the problem of contamination of near-Earth space by so-called "space debris" and some other. Let's consider these problems in more detail.

As of March 2018, there are 565 people who performed orbital space flight [2]. Moreover, in addition to professional cosmonauts, at the end of the twentieth century, new actors appeared in space arena – space tourists, that is, persons carrying out space flights or near-Earth space orbit for entertainment or cognitive purposes, financed from their own funds or other private sources. It should be noted that suborbital commercial space flights began before the legal status of these participants in space missions was determined; without guarantees of their safety, including ecological ones. From an environmental point of view, however, is extremely important the definition of sanitary-hygienic and medical factors of life support of astronauts and other participants of space missions, setting threshold values of radiation, weightlessness, noise, lighting, gas composition of the environment, water supply and other factors, affecting the human body aboard spacecraft, space stations and in the open space.

Among the harmful influences on the near-Earth space the use of nuclear power sources (NPS) in outer space is one of the most dangerous. The use of NPS in outer space is a logical result of scientific and technological progress. It is objectively necessary for the successful continuation of the exploration of outer space in the interests of all mankind. But the fuel used in nuclear power sources has extremely dangerous properties that require special precautions. Accidents that can occur with space objects equipped with NPS are of a special nature, the elimination of their consequences is significantly different from the cases of emergency return to the densest layers of the atmosphere of space objects using traditional energy sources [25, p. 3–15].

Another set of environmental threats to outer space is associated with the influence on it of space debris, that is, the remnants of space objects (fragments, splinters, associated and derived elements) that completed their life cycle, used their resources, but remained in outer space, since their return to Earth or destruction after working out of a life cycle proved to be economically ineffective or technically impossible. The most contaminated areas of orbits are the most often used for the operation of spacecraft: near-Earth orbit – up to 2000 km (NEO), a geostationary orbit (GSO), and a solar-synchronous orbit (SSO). According to the UN Office for Outer Space Affairs (UNOOSA), by date for October 2009, only in NEO, there were about 300,000 objects of space debris with a diameter of more than 1 cm [27]. At the same time, only about 6% of the monitored objects are active. The negative effects of space debris on the space environment and the operating space objects are increasing in geometric progression.

New threats to space environment and celestial bodies will most likely be associated with the exploration of their resources, which is already being actively discussed.

2.2. Current Status of the Environmental Issues of Space Activities in the International Space Law

Does the law adequately respond to emergence of threats for the outer space environment? Since

outer space is recognized as the common heritage of mankind, it is logical first of all to look for the answer to this question in International Law.

5 international UN instruments in the domain of space activities make the core of International Space Law. One should not forget that these instruments were created in the so-called “pre-ecological” era (the core of this branch of law was formed in the 60's and 70's of the twentieth century), when the problem of environmental protection of outer space has not yet gained today's acuteness; it was considered secondary, in a certain way “exotic”; such that it did not require the taking of immediate measures and adequate regulation. As a result of this – the lack of systematic regulation at the international level of the environmental issues that may arise during exploration and use of outer space. Neither of the International Space Law instruments is particularly targeted at relationships with respect to environmental safety. Nevertheless, some of their provisions are applicable in environmental relations, although they do not directly regulate them.

Therefore, the inclusion of principle to avoid harmful contamination of the Moon and other celestial bodies as well as the adverse changes in Earth's environment as a result of the delivery of extraterrestrial matter on the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (hereafter – Outer Space Treaty), entered into force on 10 October 1967 (Art. 9) [26, p.6–7], is considered as apogee of prospective international outer space regulation.

We also find separate legal provisions having environmental content in subsequent UN outer space treaties. Thus, the Convention on International Liability for Damage Caused by Space Objects (Liability convention) regulates issues of liability for damage being caused by space objects not only on the surface of the Earth or to aircraft in flight, but elsewhere than on Earth environment, in other words – in outer space or on board of spacecraft [6, p.14–23].

Further regulation of environmental issues relating outer space and other celestial bodies was extended by the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies. In particular, according to para. 1 of the Art. 7 of this Agreement, “in exploring and using the Moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise” [1, p. 33].

The search for international space law requirements having ecological “coloration” brings us to the analysis of Article 4 of the Outer Space Treaty where States parties undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, not install such weapons on celestial bodies, or station such weapons in outer space in any other manner [26, p. 4]. This provision, aimed at preventing the militarization of space, at the same time, prevents its pollution, first of all, the most dangerous of its kind – radiation. The radiation pollution of space came to the forefront quarter century after with adoption by the UN General Assembly on December 14, 1992 of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space. [22]. States parties are primarily required to minimize the amount of radioactive materials in outer space, to restrict space missions which cannot be operated by non-nuclear energy sources in a reasonable way. Although the relevant Principles primarily recognize as objects of protection the Earth's population and the biosphere. The space environment is also recognized as protected; however, the safety criteria for this object are not as rigid: The design and use of space objects with nuclear power sources on board shall ensure, with a high degree of confidence, that the hazards, in foreseeable operational or accidental circumstances, are kept below acceptable levels.

As for space debris mitigation, it should be noted that International Space Law even does not refer to the concept of space debris. That does not imply the total legal vacuum in this domain.

Several specific not binding instruments were grafted to resolve the issue:

- the Inter-Agency Space Debris Coordination Committee (IADC) – the IADC Space Debris Mitigation Guidelines [12];
- the Committee on Space Research (COSPAR) – Planetary Protection Policy [7];

– the Committee on the Peaceful Uses of Outer Space – the UN COPUOS Space Debris Mitigation Guidelines [24].

In recent years International Organization for Standardization adopted the set of relevant international standards, including ISO 24113: 2011 (“Space systems – Space Debris Mitigation Requirements”) – Technical Committee ISO / TC 20, Aircraft and Space Vehicles, Subcommittee SC 14, Space Systems and Operations [13].

In 2000 the European Space Agency (ESA) adopted the ESA Resolution for a European Policy on Protection of the Space Environment from Debris Damage Caused by Space Debris; in 2004 the European Code of Conduct for Outer Space Activities (CoC) was approved and in 2014 the ESA Space Debris Mitigation Policy for Agency Projects was adopted.

Finally, when examining the problems of environmental safety of space activities, one can not ignore the concept of the long-term sustainability of this activities, the concept dominant in the consideration of space security issues in UN international organizations (first of all – UN Committee of peaceful use of outer space, but also Conference on Disarmament [5] and some other), starting from 2010. As a result of this, Guidelines for the long-term sustainability of outer space activities have been elaborate on 2017 [11].

All the above instruments belong to the so called “soft” law, as they are not binding, but contain recommendations that guide both states and international organizations in their choice of certain behavior with the purpose to reduce space debris volume. The majority of States use them as indicative materials when they set up their domestic frameworks to limit the space debris amount. At the same time, we should not underestimate the relevant instruments, as their majority point out that implementation of their requirements should take place through formulation of the national instruments or through agreements with the interested states.

2.3. National Space Legislations with Regard to the Environmental Safety of Space Activities

To date, more than 20 countries of the world, including Ukraine, have adopted national space legislation. Although we could not find the legislative definition of the environmental/ecological safety of space activities in the national space laws, the content of this concept is done by the general provisions of these laws, with regard to ensure the space activities safety.

For example, Art. 5. §1 of the Belgian Law On the Activities of Launching, Flight Operation or Guidance of Space Objects, among other provides that the King may determine the conditions for granting authorizations with a view to ensuring the safety of people and property, *protecting the environment, ensuring the optimal use of air space and outer space...* [15].

The Austrian Federal Law on the Authorization of Space Activities and the Establishment of a National Space Registry (Austrian Outer Space Act, adopted by the National Council on 6 December 2011, entered into force on 28 December 2011), determining conditions for authorization of space activities, declares that authorization, among other, shall be issued if the space activity does not cause harmful contamination of outer space or celestial bodies or adverse changes in the environment (§ 4. (1). 5) [3].

In all four laws on space activities, adopted in post-Soviet states, special sections are devoted to the appropriate provisions. This is Section V “Space Safety” (Articles 22–25) of the Federal Law of the Russian Federation of August 20, 1993, No. 5663-I “On Space Activities” ((with following amendments) [9]; Section V “Ensuring the Safety of Space Activities” (Articles 20–25) of the Law of Ukraine of November 15, 1996 No. 502/96-VR (with following amendments) “On Space Activities” [19]; Chapter 5 “Space Safety” (Articles 27–30) of the Law of the Republic of Kazakhstan of January 6, 2012 “On Space Activities” [16]; Chapter VI “Space Safety” (Articles 32–36) of the Law of the Republic of Turkmenistan of November 21, 2015 No. 307-V “On Space Activities” [18].

All these laws, as well as the space laws of other space faring countries, are based on safety relations targeted on humans, environment and property protection on Earth, practically leaving aside the safety of outer space or touching this matter partially and declaratively. Thus, according to the Part 1 of Art. 22 of the RF Law on space activities, such activities should be carried out taking into account

the level of permissible man-made pressures on the environment and *near-Earth space* (highlighted by myself – NM). The laws on space activities of Ukraine, the Republic of Kazakhstan and the Republic of Turkmenistan contain provisions regarding the prohibition of the launch into orbit, the deployment of weapons of mass destruction or testing of such weapons in outer space (Part 1, Article 9 of the relevant Law of Ukraine, Article 30.1 (2) of the Law Republic of Kazakhstan and Article 36.1 (2) of the Law of the Republic of Turkmenistan). In accordance with the relevant laws of Ukraine (Part 1, Article 9) and the Republic of Kazakhstan (Article 30. 1 (4)), in addition, the prohibition of violation of the international norms and standards concerning pollution of outer space is declared. Space legislation of Ukraine also extends prohibitions during exercising space activities to use space technology as a means of influencing the environment for military or other dangerous purposes for humanity and for the use of the Moon and other celestial bodies for military purposes.

Unfortunately, these restrictions and prohibitions, proclaimed by many national laws on space activities, have not yet found their detailed development. On the other hand, many states responded to the not binding guidances of the intergovernmental organizations on space debris mitigation and integrated the requirements related to minimization of debris on orbits into the body of their domestic law on space activities (primarily, it is true with respect to those states that recently adopted their relevant law), or they approved special national standards or other regulations for the purpose of space debris mitigation.

Thus, Belgian Law of 17 September 2005 On the Activities of Launching, Flight Operation or Guidance of Space Objects 2005 requires that, when deciding on the minimization of space debris, the guidelines of international organizations (UN COPUOS, IADC, ITU-R S.1003, as well as the European Code on Space Debris) are to be guided [15].

Austrian Federal Law on the Authorization of Space Activities and the Establishment of a National Space Registry (Austrian Outer Space Act, adopted by the National Council on 6 December 2011, entered into force on 28 December 2011), among conditions for space activities authorization contains the requirements of space debris mitigation: the operator has to make provision for the mitigation of space debris in accordance with the state of the art and in due consideration of the internationally recognized guidelines for the mitigation of space debris. Especially measures limiting debris released during normal operations have to be taken. The law also requires that the European Code for Space Debris Mining and the Standard ISO 24113 be tacked into account when planning appropriate measures [3].

The detailed provisions for the respective issues are in the legislation of Canada. In particular, according to 2017 Licensing of Space Stations Circular, to obtain a license requires a Satellite Removal Plan. There are also requirements for licensees to develop a plan of destruction, where it is necessary to specify which method is used, its reliability; indicative duration of the removal process; the amount of debris that reaches the Earth, the size, the territory of the defeat; calculation of reliability level; names and number of hazardous materials contained in each satellite; the estimate airborne contamination may be caused by a random explosion, an orbital malfunction, a deliberate breakdown, and measures aimed to reducing the impact of space debris [21].

Standards and guidelines for limiting space debris are actively being developed in the United States [28]. Mandatory legal instruments for the minimization of space debris have also been adapted in France, Germany, Italy, Japan, the Netherlands, Nigeria, the United Kingdom, the United States, Russia, as well as in Ukraine [4].

2.4. International and National Environmental Law in the Face of the Threats of Ecological Degradation of Outer Space Due to Anthropogenic Activities

Environmental law, both international and national, until recently, remained practically inert to regulate relationships associated with new area of space activities – outer space, first of all – its near-Earth part. International environmental law, being one of the most rapidly developing branches of international law, does not yet consider the space environment as an object of its scope.

This general rule allows exceptions. In this context, we should first of all recall the Moscow Treaty on the Prohibition of the Use of Nuclear Weapons in the Atmosphere, in Outer Space and Under Water, of August 5, 1963. This Treaty traditionally refers to international environmental law, although the scope of its regulation goes beyond the scope of the international environmental law of the 60-th of the XX-th century.

In a specific way, in the matter of protecting the space environment, acts of “soft” ecologic law can be applied. This is, for instance, Principle 13 of the Rio Declaration, which proclaims that States shall cooperate to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control *to areas beyond their jurisdiction (highlighted by myself – N.M).* [23].

It should be noted that the national environmental laws of many countries takes more account of the space activities features. In this context, it is useful to draw attention to an interesting innovation of the environmental protection legislations of some post-Soviet states. Thus, Laws On the protection of the Environment the Republic of Belarus (Arts. 1, 5) [14], of the Russian Federation (Arts. 1, 4) [8], of the Republic of Tajikistan (Art.1) [17] and, determined in their national laws of environmental protection, near-Earth space as one of the components protected by environmental law, along with its traditional components (land, subsoil, water, air, forests, objects of animals and plants).

As to the environmental legislation of Ukraine, it contains a single special provision for taking into account the environmental consequences of planned space activities. This is the rule of Art. 49 of the Law of Ukraine “On Use of Nuclear Energy and Radiation Safety” of February 8, 1995 (as amended on December 18, 2017), which provides special conditions on terms of spacecraft with nuclear installations and sources of ionizing radiation on board safety. When designing, constructing and operating such devices, their possible accidents must be taken into account, and the radiation exposure to humans and the environment must not exceed the limits established by the provisions, rules and standards of nuclear and radiation safety [20]. A similar article 43 is also in the Federal Law of the Russian Federation “On Use of Atomic Energy” of November 21, 1995 (as amended by the Federal Law of 10 February 1997 with subsequent amendments) [10]. Attention is drawn to the objects of protection against the possible harmful consequences of the use of nuclear sources in spacecraft: these are the humans and Earth environment. Space environment in this context remains out of brackets.

It is sure that the modern development of astronautics needs that the environmental legislation of Ukraine includes outer space as a component of the environment to be protected.

But it is necessary to go further in comparison with the above-mentioned post-Soviet states. It is not enough to proclaim near-Earth space as a component of the environment that needs to be protected by environmental law. It is extremely important to provide special regulation on the matter to implement this general rule. Separate norms and requirements of foreign legislation in this connection can be used. It is also necessary to “weave” this new regulation into the existing environmental law of Ukraine. From the formal legal point of view, it is necessary to take into account the features of the modern period when the concept of the systematization of the environmental legislator is being developed, in particular, the draft of the Environmental Code of Ukraine. In this act, a special chapter devoted to the regulation of the environmental safety of outer space should be allocated.

3. CONCLUSIONS

A feature of environmental law is its linkage to the environment surrounding the human beings. Legal mechanisms of this branch of law aim to ensure the protection of all elements of the environment where humans live and act. Until recently, *conditio sine qua non* was the limitation of this environment by the Earth's biosphere. However, in the past half-century, man's activities has moved beyond the biosphere and began to explore and use outer space increasingly. Every year, an growing number of space objects are launched into outer space, including manned ones. A new kind of travel – space tourism, becomes widespread. At the same time, space objects that have runned out their resources,

remain, completely or partially, in orbit, clogging it. The threat to the space environment is represented by nuclear energy sources used in space, and other factors.

Environmental law, both international and national, to date remains inert to the challenges associated with space activities. Expanding of human activities beyond the Earth's gravity and its spacewalk creates preconditions for expanding the scope of the environmental law regulation into near-Earth space.

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У статті ставиться питання необхідності розвитку нового вектора екологічного права, пов'язаного з розширенням його просторової бази аж до навколосемного космічного простору. Проблематика досліджується в історичному контексті, починаючи з перших договорів ООН щодо космічного простору. Аналізується процес поступового проникнення певних принципів, норм та вимог екологічної безпеки космічної діяльності до національного космічного та екологічного законодавства космічних держав. З врахуванням зарубіжного досвіду окреслюються шляхи подальшого розвитку екологічного права України з метою включення до сфери його охорони навколосемного космічного простору.

Ключові слова: екологічне право, національне законодавство, міжнародне космічне право, міжнародне екологічне право, навколосемний космічний простір, екологічна безпека космічної діяльності.

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ENSURING ECOLOGICAL SAFETY OR ENSURING A FAVORABLE ENVIRONMENT: THEORETICAL AND LEGAL JUSTIFICATION OF THE FUNCTION OF A MODERN ECOLOGICAL STATE

VASYL KOSTYTSKY

Abstract. The author examines the problems of contemporary society and their impact on the environment, as well as on the development of environmental law, analyzes such legal definitions as the environment, the right of environmental safety, their sociological and legal content, the right to a favorable environment as a subjective right of man in the modern world. In this article, it is not the first time when author raises the question of a new role of the state in modern conditions, the ability of the state to respond to global challenges using theoretical and legal science and sociology of law within the framework of the theological and sociological understanding of law which was proposed by the author. According to the author, the post-industrial state, which still remains the mechanism of servicing the liberal values of society, must be replaced with ecological state that can preserve democratic values, on the one hand, and to find answers to the challenges of the present, on the other hand, to strengthen the power influence on the course of events in society, between civil society and the state within the framework of the constitutional and legal requirements as a social agreement, to respond to global and regional environmental challenges within the framework of the modified ecological function of the state.

Keywords: ecological law, ecological function of the state, ecological safety, the right to environmental safety, the right of environmental safety, the right to a favorable environment, the codification of environmental legislation, the ability of the state to respond to the environmental challenges of the present.

Problems of interaction between society and nature, environmental protection ceased to be mere companions of social progress. They have shifted to the forefront of the general spectrum of global socio-economic, political, but above all humanitarian, problems, regardless of how scientists, politicians and astrologers would evaluate the prospects of human survival and the possible onset of a qualitatively new age in the development of civilization.

Today it is quite clear that the further growth of crisis phenomena, if it is not stopped by coordinated efforts of all countries of the world, will have only one result – a global ecological catastrophe. Although some politicians and economists yet are not ready to agree with this statement, the very response of the world community to the environmental challenges of the present – the creation of numerous national and international environmental organizations, a large number of environmental

NGOs, the adoption of many national and international environmental programs – is by-passing recognition of this crisis.

The interaction of society and nature is a general condition of people's livelihoods. Associated with labor, nature, thus, serves as a source, condition and factor in the implementation of productive activities, becomes social, as well as the process of its "humanization", that is – production. Therefore, social production as a process of development of nature, carried out through labor, should be regarded as the unity of social phenomena, as defined sociosystem of the hierarchical subordination of forms matter's movement. The central place in it belongs to a person who plays an active role in this interaction with his transformative activity. However, today it's hard to talk about the protection of nature and the rational use of natural resources, since the modern man has not been surrounded by inviolable nature for a long time. Today, in interaction with a person enters the natural environment, which, in addition to the untouched nature, includes the so-called man-made nature, that is, natural objects created by man (reservoirs, ponds, artificially created lakes, forest park plantations, etc.). In addition, this system includes anthropogenic and man-made objects - buildings, bridges, nuclear power plants and entire urbanized territories, which, together with objects of untouched and man-made nature, constitute an environment that surrounds a person.

Environment is the space that is necessary and accessible to humanity, which is exposed to the influence of the society which lives in it. Society is connected with nature by its origin, existence and future.

Consequently, the natural environment is a dynamically open system. The inclusion of new natural conditions in the sphere of material production means that the components of the environment become socialized elements of social life, either as a means of production, or as diverse objects of social or personal consumption. In this regard, the problem of environmental protection as a human living space still encompasses the protection of nature and the rational use of natural resources, but gradually the provision of environmental safety of human health and life has been becoming the basis of such activity.

Since society is a social system, the laws of its existence, being social in nature, that is, characterizing the development of the higher form of matter, cover with its regulatory action all the previous forms of motion of matter, which are present in it in the "taking form", which is based on the principle of compliance due to the effect of their integral unity. That is why solving the contradictions in the interaction of society and nature and avoiding the ecological crisis can only be done by taking into account globalization processes, using the benefits of globalization and V.I. Vernadsky's doctrine on the unity of the living space of modern humans – the noosphere, which should be the basis for ensuring environmental safety and a favorable for living environment.

Taking into account the modern features of the interaction of society and nature requires the consideration of environmental policy not only in Aristotle's interpretation as doctrine of the state and power, but also as a practical management of the life of society (functional Plato's approach) and a system of program settings, principles and norms of regulation of society's life and public relations, that is, the provision of a favorable environment for human life and society and environmental safety for present and future generations is the main area of implementation of the environmental functions of the state.

The emergence of the ecological function of the state is connected with the deepening of contradictions between society and nature and the necessity of expansion of state-legal interference in the sphere of environmental relations. The peculiarity of the ecological function of the state is that, in its content, it belongs to the sphere of ecological relations, and in its form – to the system of legal regulation of social relations.

The means of regulatory influence of the state in this area are environmental taxation, licensing, certification and standardization, regulation of prices and tariffs, application of norms and limits, granting of investment, tax and other privileges, granting of subsidies, compensations, targeted innovations and subsidies, etc.

Among the European states, Ukraine really has the highest integrated index of negative anthropogenic pressures on the natural environment, practically, throughout its territory. Moreover, in two thirds of the regions, the ecological situation and the quality of the environment are characterized as acutely critical and unfavorable to human health. Officially recognized international status of our state as a "ecological disaster" zone, which covers more than 10% of the total territory, status received by Ukraine after the Chernobyl accident. On the background of this, the use of nature is characterized as extremely irrational and unbalanced in terms of taking into account environmental requirements. The efficiency of the use of natural resources remains extremely low, therefore, the nature capacity, primarily land and water, gross domestic product, on the contrary, is too high.

Thus, the necessity of purposeful and effective solution of ecological problems and ecological security in Ukraine is determined by internal factors (inefficient nature use, excessive pollution of the environment, environmental degradation in general, which has reached high rates and sizes) and external factors and requirements. The latter is solved through the realization of the strategic goal of developing a comprehensive European and Euro-Atlantic cooperation with Western and Central European states with the prospect of gaining full membership in the European Union, the need to enter the European standards of environmental safety.

In order to implement the priorities of environmental safety in the socio-economic practice it is necessary to strengthen the actions of economic instruments of stimulating rational use of nature in the economic mechanism on the basis of the development of common for all structural levels of environmental and economic assessments, which precede the adoption of strategic decisions. The further development of social production should be accompanied by the ecologization of all its units. As a moral and ethical component covers all activities of a modern person, and property relations permeate the entire economic system of society, and environmental relations, in essence, are relations of the appropriation of natural factors in the process of production and in ensuring the external conditions of human life, socially determine the whole system of links of the social system of production. In other words, the content of environmental safety should be that the ecologised system of social relations - moral and ethical, economic, political, legal - was able to respond to the ecological state (level of development) of productive forces.

The need for purposeful and effective resolution of environmental problems and the provision of environmental safety in Ukraine is thus conditioned both by internal factors and international requirements. Since the strategic goal of Ukraine is to develop comprehensive cooperation with Western and Central European states with the prospect of gaining full membership in the European Union, it is necessary to reach the European standards of environmental safety in the political, legal, socio-economic, and ecological terms. At the present stage, the environmental factor is becoming more and more important and one of the priority in international relations, economic and scientific and technical cooperation of virtually all countries of the world.

Hence the conclusion - Ukraine must move through harmonization of national environmental legislation, requirements and standards of environmental safety of economic activity and their comprehensive adaptation to the West European ecological space. Along with this, the ecological state of the environment, the level and nature of nature use and environmental measures, environmental safety of technology should also be in line with Western European standards and norms.

Today, the solution of major environmental problems can not be imagined without international cooperation. This is primarily due to the global nature of environmental problems and the transboundary nature of the spread of pollution, in particular through air and water. That is why Ukraine's implementation of international obligations on environmental safety, the exchange of experience, technologies and information, and the attraction of international financial sources to the solution of national and transnational environmental problems is an essential part of the implementation of the ecological function of the state.

It can be noted that during the last decade of the second and first years of the third millennium, Ukraine, as an independent state, has been seeking self-assertion in the international and European community and within the framework of Ukrainian civil society, attempts to develop an optimal model

for regulating social, economic and environmental spheres of public life. And many successes have been made on this path, but the price of the latter has often been very high.

In view of this, it should be remembered that the ecological future of our people should be based on four strong pillars of ensuring the state of ecological safety: the first is a developed system of environmental law, the second is an effective system of administrative control and regulation, the third is the developed effective economic mechanism of nature use, aimed at maintaining environmental activities, and the fourth is the development of a legal and, in particular, political and legal culture.

The contradiction between these interests exists as satisfaction of human material needs which inevitably causes a limitation of biological means of satisfaction of human interests. Aggravation of these contradictions leads to the ecological crisis. The solution of such situation can be only in the revolutionary transformations of means and instruments of ecological safety.

The measure of correspondence between environmental and economic interests, which determines the quality of the environment and establishes the limits allowed in the plan of economic activity of man, are standards for the maximum permissible economic impact of society on the environment. We can conclude that the essence of environmental protection is to provide a scientifically justified measure of the balance of economic and environmental interests. The meaning of this measure is objectified in the norms of environmental quality, enshrined in the Law of Ukraine "On Environmental Protection". Their scientific validity is determined by the priority of protecting human life and health, protecting its environmental rights.

Environment is a space that is necessary and accessible to humanity, which is exposed to the influence of the society in which it lives. This environment is partially given by nature and partly by the person himself. Society is connected with nature by its origin, existence and future. The interdependence of social existence and nature lies in the fact that society in the process of its development can not but influence the nature, which, in turn, affects it itself. Understanding the nature and basic forms of relationships between them is the key to solving the contradictions in their interaction, that is, understanding the nature of environmental protection and the rational nature of use. People, using natural bodies and natural forces in their work activities, organize the production of certain material goods, and therefore enter into relationships that, in the process of influence on nature, manifest themselves as industrial relations. Social production, in essence, is the process of transforming the elements of nature into consumer goods, which (process) can be characterized as "stable functioning" [1].

From the conservative safety of nature through the creation of nature reserves from the XVII century and the special regime of the use of individual objects of nature and the system of rational nature use, formed in the middle of the twentieth century, mankind entered the third millennium with the awareness of the need for integrated provision of ecological safety, today there was a problem of environmental protection as a human living space.

In this case, the right question arises: can it be possible to apply the laws of the development of the natural environment of various living organisms and the conditions of their existence in relation to human society, or, in other words, is human society a necessary element in the natural environment? The methodology of ecosystem analysis, developed by M. A. Holubets, leads to the conclusion that in each ecosystem in the process of its development, animal and plant organisms perform certain functions, interacting with a biotype or biocenosis, which determines the integrity of the ecosystem, defining the laws of functioning and development [3]. All other ecosystems act in relation to any considered system as external forces of influence¹.

Another important concept, the meaning of which is comparable to the previous one, is the "favorable environment". This concept is often used in legislative acts and in practice. The very concept of a favorable environment serves as a benchmark for the legal regulation of nature use and

¹ The most important scientific and technical and socio-economic forecasts: Comprehensive forecast of the main trends in the global environmental situation for 1991-2010 / Scientific Council on the problems of scientific, technical and socio-economic forecasting. - M., 1987. - 55 p.

environmental protection, a criterion for assessing the legal nature of environmental requirements established in the legislation, and the corresponding activities of authorized bodies of state power.

Legislation does not define the concept, but it contains the relevant legal criteria expressed by the system of environmental protection norms and the limits of the use of nature. The system of such norms and limits, as well as general requirements for their development, are defined by the Law of Ukraine "On Environmental Protection". Standards express qualitative characteristics of the environment and are aimed primarily at ensuring its purity, which is only one, but an important characteristic of the favorable environment.

Another important characteristic of the environment concerns the resource-intensive (non-extinction) of natural resources. Taking into account the environmental safety requirements when regulating the use of natural resources in order to meet economic interests and human needs is ensured in accordance with the specified Law of Ukraine on environmental protection by limiting the use of natural resources. Environmental use limits are a system of environmental restrictions within the territory and represent the limits of the use (extraction) of natural resources that are set by the users for a certain period of time.

The environmental benefit also means the ability to satisfy aesthetic and other human needs, to maintain species diversity. Maintaining a favorable environment to meet these needs and preserving the potential of nature is ensured by regulation of the regime of natural territories and objects under special protection, recreation zones, etc.

The environment is favorable if its state meets the criteria, standards and norms, which are set in the environmental legislation on cleanliness (non-contamination), resource intensity (non-extinction), environmental sustainability, species diversity and aesthetic richness. The right to a favorable environment (the right to a favorable environment) is one of the fundamental and comprehensive subjective human rights.

The existence of a system of environmental law and social necessity in environmental protection necessitate the allocation of such a state function as ecological.

In legal literature, the functions of the state are the main directions of its activity, aimed at solving common issues of the subjects of society. It is noted that the necessity of solving these joint cases confronts the state with certain tasks, the set and content of which differ in preindustrial, industrial and postindustrial societies.

The ecological function of the state arose recently, along with the escalation of the problem of environmental protection. By this time, the use and protection of nature contained within the economic activity of the state and were seen as a manifestation of its economic function [8]. Aggravation of the environmental situation, the growth of the role and importance of the interaction of society and nature led to the need to appear in the number of internal functions of the state of independent ecological function.

At the same time, in the special scientific literature, there are other justifications for distinguishing the ecological function among the functions of the modern state. Sometimes such an attachment is conditioned not only by the requirements of proper environmental protection, but also by qualitatively new social and economic conditions – the transition of the world's vanguard to the stage of post-industrial or informational development, in which the demand for the relevant scientific and information resources is increasing, but also there is an emphasis displacement on the use of natural resources, the transition to a resource-saving economy, all social life is translated into rails of so-called sustainable development.

Analyzing in this context the peculiarities of the implementation of the ecological function of the state in modern conditions, it should be said that this process takes place, as a rule, in the context of the establishment and development of democratic states. This imposes an appropriate imprint on the specifics of the implementation of the ecological function of the state. Therefore, we can talk about the possibility of implementing the ecological function only in the conditions of a modern democratic legal social state, which assumes a certain complex of duties to society and man, protects environmental

rights and freedoms, cares for the protection and protection of the environment, possessing for this proper mechanisms [10].

The starting point for the content and direction of the state environmental policy of Ukraine is contained in the basic legislative act devoted to the issues of environmental protection – in the Law of Ukraine “On Environmental Protection” of June 25, 1991.

This Law establishes that Ukraine carries out on its territory an environmental policy aimed at preserving the life-threatening and inhospitable nature of the environment safe for existence, and protecting the life and health of the population from the negative impact caused by pollution of the environment.

The basis of environmental law is the natural human right to a healthy and environmentally safe environment. This right claims to the corresponding obligation of the state, which is now enshrined in Art. 16 of the Constitution of Ukraine: ensuring the ecological safety and maintaining the ecological balance on the territory of Ukraine, overcoming the consequences of the Chernobyl catastrophe – a disaster of a planetary scale, preservation of the gene pool of the Ukrainian people is the responsibility of the state. This norm of public law has developed in the “Basic Law of Private La” – the Civil Code of Ukraine, which came into force on January 1, 2004. In Article 293 of the Civil Code of Ukraine, “the right to a safe environment for life and health” states, in particular: “A natural person has the right to a safe environment for life and health, the right to reliable information about the state of the environment, the quality of food products and household items, as well as the right to collect and distribute them”.

The activity of a physical and legal person, which leads to destruction, damage, pollution, is illegal. Everyone has the right to demand termination of such activity. The activities of a natural or legal person who causes harm to the environment may be terminated by a court order. A natural person has the right to safe food products for her (food products and household items). A natural person is entitled to proper, safe, healthy working conditions, residence, training, etc. Article 293 of the Civil Code of Ukraine is interconnected not only with Article 16, but also with Article 50 of the Constitution of Ukraine, which also establishes the right of a person to environmental safety, but is slightly more restrictive in its content.

Today, we are forced to talk about the new socio-ecological role of the state associated with the spread of liberal democracy as one of the main trends in the process of globalization of public life. The modern state is compelled to become an element of civil society, loses the opportunity to dominate it or to take the position of an outsider observer, which is conditioned by globalization processes in the economy, as well as the peculiarities of the development of society. Consequently, the modern state has no choice: the threats of an ecological catastrophe of a planetary scale or regional ecological disasters and other challenges in the sphere of interaction between society and the environment determine not only the change in the content of state activity in this area of social relations, the reorientation of its ecological function to ensure a favorable environment for life, but also the development of state-public partnership in order to preserve the living space of man and society.

It is not the first time when the author raises the question of a new role of the state in modern conditions, the state's ability to respond to global challenges, using the achievements of theoretical and legal science, sociology of law and science of environmental law, taking into account the proposed theological and sociological understanding of law [4,5,6]. Today, to replace the post-industrial state, which remains the mechanism of servicing the liberal values of society, there must come an ecological state that can preserve democratic values, on the one hand, and to find answers to the challenges of the present, on the other hand, to ensure compliance with norms and standards of environmental safety, strengthening of the power influence on the course of events in the society between the civil society and the state and between society and the environment within the framework of constitutional and legal requirements as a social contract [5].

It is clear that all these interpretations and concepts can not be reduced to a single generalized image of a modern state. Along with purely functionalist, institutional and normative approaches to the interpretation of the essence of the modern state, gradual weight gaining also axiological and

anthropologically oriented concepts. Here we draw attention to the emergence of the term “ecological state”, which appeared in Ukrainian legal science not only in author’s scientific works but also in publications of the younger generation of environmental lawyers – Father Oleksa Petriv [12] and Olga Pavlova [11].

Therefore, the role and functions of the modern state and the nature of its interaction with society and the market environment are manifested not only in the spheres of social communication and environmental safety (social security, environmental protection, health care, education and science), but also in the field of technology (e-government, the role of statistics), innovation (advanced management technologies) and the application of relevant nanotechnologies. Productive, in this regard, in particular, is the understanding of the modern state as a state which is able and directed to its self-preservation and strengthening, stability and advocacy of its rights to actual and potentially dangerous for self-preservation of civilization challenges, such as religious fundamentalism, terrorism, financial crises, shortage of natural resources, climate change, etc. [2].

State can be called ecological if it meets certain criteria, when certain conditions are laid for its functioning: guarantee of environmental rights and freedoms; the presence in the constitution of the state enshrined its ecological function and ecological duties to society and man; availability of a developed system of ecological law; creation of an institutional basis for ensuring the implementation of the ecological function of the state; formed a balanced economic and legal mechanism of environmental protection; independent public control of society for the implementation of environmental legislation; approval of the principle of joint responsibility of the state and society for the future environment; availability of general social ecological dialogue; the basis of the state environmental policy – the human right to a favorable living environment; developed ecological and legal culture that underlies decision-making; formed ecological and legal motivations of behavior and life of the elite.

In today's global development, environmental problems of the social life are objectively relegated to the background under the pressure of the threat of the deployment of world war and regional military conflicts that have seized our country, terrorism, ethnic resettlement, economic wars which the modern state and international organizations are often not able to cope with. At the same time, our civilization does not have a more effective institute to solve today's environmental problems than the state and international organizations. Hence, the state for a long time will remain the most effective among existing models of regulation of social processes, including, above all, relations in the sphere of protection and use of natural resources.

Consequently, the science of environmental law, the theory of law, sociology of law is forced to seek new opportunities for law and state in order to solve environmental problems of our time. The ecological state is one of the options to overcome the crisis of the possibilities of a modern state in preserving the environment for present and future generations of people, it has to find its consolidation in the new legislation, in particular, in the draft of Environmental Code of Ukraine proposed by the author.

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Костицький Василь. Забезпечення екологічної безпеки чи забезпечення сприятливого довкілля: теоретико-правове обґрунтування призначення сучасної екологічної держави. *Журнал Прикарпатського університету імені Василя Стефаника*, **5** (2) (2018), 25–32.

Автор розглядає проблеми сучасного суспільства та їх вплив на довкілля, а також на розвиток екологічного права, аналізує такі юридичні дефініції, як навколишнє природне середовище, довкілля, право екологічної безпеки, їх соціолого-правовий зміст, право на сприятливе довкілля як суб'єктивне право людини у сучасному світі. У цій статті автор уже не вперше ставить питання про нову роль держави у сучасних умовах, здатність держави відповісти на глобальні виклики з використанням теоретико-правової науки та соціології права в рамках запропонованого ним теолого-соціологічного розуміння права. На думку автора, на зміну постіндустріальній державі, яка залишається механізмом обслуговування ліберальних цінностей суспільства, має прийти екологічна держава, яка зможе зберегти демократичні цінності, з одного боку, та знайти відповіді на виклики сьогодення, з другого боку, забезпечити посилення владного впливу на перебіг подій у соціумі, між громадянським суспільством і державою у рамках конституційно-правових вимог як Суспільного договору, відповісти на глобальні і регіональні екологічні виклики у рамках модифікованої екологічної функції держави.

Ключові слова: екологічне право, екологічна функція держави, екологічна безпека, право на екологічну безпеку, право екологічної безпеки, право на сприятливе довкілля, кодифікація екологічного законодавства, можливості відповіді сучасної держави на екологічні виклики сьогодення.

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THE INTEGRATED ENVIRONMENTAL PERMIT: REQUIREMENTS OF EU LEGISLATION, PRACTICE OF ITS IMPLEMENTATION IN POLAND, PROSPECTS FOR UKRAINE

NADIYA KOBETSKA

Abstract. The article is aimed at analyzing the system of integrated environmental permit regulation. It includes a study of Directive 2010/75/EU analyzing the specific features, requirements, grounds of and the procedure for issuance of integrated permits. Since the Directive is a framework document, each state makes its own decisions as to what mechanisms to use. The article studies the statutory regulation and the practice of the implementation of integrated permits in the neighbouring Poland. It interprets the principal legal environmental document of the Republic of Poland – the Environmental Protection Act. Its main focus is on defining the conditions for the application of the BAT principle and the procedure for permit issuance: the competent authorities, time limits, control, etc. Ukrainian legislation on permits for emissions of pollutants into ambient air, discharges into waters, and waste management is subject to independent analysis. On the basis of the study, the generalized characteristic features of the integrated permit system in the sphere of environmental protection and environmental safety enforcement, the principal tasks and measures aimed at ensuring the implementation of the system of integrated environmental permits in Ukraine are defined.

Keywords: Directive 2010/75/EU, an integrated environmental permit, the BAT principle, the implementation of the provisions of Directive 2010/75/EU.

1. INTRODUCTION

The European Integration priorities of the state policy of Ukraine, brought to the fore by the signing of the Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part [1], concern all the spheres of the activity of the state and society, and the environmental sphere in particular. Currently, the work of the state authorities and public organizations is aimed at ensuring the implementation of the principal requirements and principles of EU legislation (“*acquis communautaire*”). The newest processes of compliance of Ukrainian legislation with EU legislation, which apply to environmental legislation as well, presuppose significant alterations not only to the system of formal legal rules and regulations, but to all the political, economic, financial systems of the state. Pursuant to Item 4.8 of the Law of Ukraine “On the Fundamental Principles (Strategy) of Ukraine’s State Environmental Policy for the Period until 2012” [17], the implementation of environmental policy requires the efficient functioning of the system of

environmental legislation aimed at achieving national priorities. The principal requirements for such legislation include its compliance with the Constitution of Ukraine, its approximation to the corresponding EU Directives, ensuring the implementation of multilateral environmental agreements (conventions, protocols, etc.), of which Ukraine is a party, social acceptability, feasibility, economic efficiency. Such legislation has to facilitate the flexible application of the corresponding economic instruments for fostering the introduction of innovative ecological technologies and the resolution of local environmental issues at local level.

Art. 360–366 of the Association Agreement between EU and Ukraine cover environmental matters whereas Annex XXX to Chapter 6 “Environment” of Title V “Economic and Sector Cooperation” contains a list of directives and regulations, which are to be incorporated into national legislation. Among them – Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) [6]. In fact, Directive 2010/75/EU has two issues in focus: the limitation of emissions from waste incineration plants and the introduction of an integrated permit. The new advanced idea of integrated (comprehensive) protection is perceived as the attempt to eliminate the deficiencies of the differentiated (sectoral) approach to environmental protection, based on the conservation, first and foremost, of certain components of the environment [5]. A complex approach to control of pollution is focused on a hazardous substance (source), and the territory where this substance is emitted. Such an approach presupposes the necessity to establish emission standards and to issue integrated permits for emissions.

This article is aimed at analyzing Directive 2010/75/EU in order to identify the characteristic features, requirements, and grounds for issuing integrated permits, to interpret the statutory regulation and practice of the implementation of integrated permits in the neighbouring Poland, and to study the current state of the permit system of environmental protection in Ukraine as well as the prospects for implementing the provisions of Directive 2010/75/EU.

2. ANALYSIS AND DISCUSSION

An integrated approach to the permit regulation of adverse effects on the environment within EU legislation was adopted by Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control. Since January 7, 2014, Directive 96/61/EC and a number of other Directives, listed in Item 1 of Art. 81 of Directive 2010/75/EU have been terminated, and the regulation of integrated permit issuance is determined by the provisions of Directive 2010/75/EU. It places emphasis on the permit system and its corresponding procedures as well as on outlining a basic framework for the integrated prevention of pollution and control over it. A complex approach to pollution control is aimed at preventing emissions into the air, water, and soil everywhere where it is possible, taking into account waste management. Analyzing the said Directive and its implementation into the national legislation of the EU member states, scholars repeatedly emphasize that Directive 2010/75/EU, being based on the same principles as the preceding one, ensures the adoption of the permit system aimed at attaining the highest level of environmental protection [29, 11]. “The system of integrated environmental permits provides for the assessment of emissions of air, water (including the discharge of wastewater into drains), soil pollutants and a number of other effects on the environment (use of energy, water, raw materials) considered together” [4, p. 17].

A permit in the system of legal means of regulating social relations serves as an instrument for realizing the statutory possibility to take action. In the Russian Dictionary of Administrative Law a permit is defined as “an authorization by the competent executive authorities (officials) of certain actions taken by a person or entity aimed at ensuring social security, law and order, law enforcement, and the protection of the life and health of citizens” [2, p. 178]. Studying permits in the context of environmental matters, environmental safety enforcement, and use of natural resources, Ukrainian scholars provide a more specific definition of this notion in this type of matters. Analyzing the permit system in the area of environmental safety enforcement, M. M. Romaniak defines a permit document as a legal form of state administrative permit activity, which is a legalized action of the executive

authority, taken within the scope of its competence, which expresses the will of the state, and has legal implications in the form of the possibility to perform certain types of economic activity that will not present a high risk of damage to the environment after a permit document comes into effect [21, p. 5]. N. R. Kobetska in her post doctoral thesis on the permit system in the area of use of natural resources provides the three-component definition of permits of use of natural resources: they are the results of the declaration of the will of competent subjects (owners of natural resources or persons authorized by them) aimed at delegating the right to use the designated part of a natural resource; official written documents of personified character defining the right of a natural resource user to use a natural resource in the way stated in the document; legal facts causing the development of the relations of use of natural resources [8, p. 25].

In academic studies an integrated environmental permit is defined as a resolution of the competent authority that establishes individual requirements concerning the impact of specific environmentally damaging types of economic activity on the environment in terms of an integrated approach to assessing the effect of certain activities or installations and on the basis of the best available techniques (BAT) conclusions [7, p. 51]. Defining a permit by introducing the term “resolution” reflects only the formal aspect of this notion (an official written document of specific format that is the declaration of the will of competent authorities). From the perspective of its essential characteristics, a permit is an authorization of the actions and activities of the user of the environment. Pursuant to Item 7 of Art. 3 of Directive 2010/75/EU, a permit is a written authorization to operate all or part of an installation.

An integrated permit concerns the operation of certain technical industrial facilities designated as “installations”. This term is legally defined in Item 3 of Art. 3 of Directive 2010/75/EU. “Installation means a stationary technical unit within which one or more activities listed in Annex I or in Part 1 of Annex VII are carried out, and any other directly associated activities on the same site which have a technical connection with the activities listed in those Annexes and which could have an effect on emissions and pollution”. Essentially, it is a stationary technical unit within which a certain activity is carried out (one or more) that might have a negative impact on different elements of the environment. It has to be emphasized that Directive 2010/75/EU applies only to the types of activity of certain parameters listed in Annex 1.

One of the most important principles governing the system of integrated permits is the principle of the best available techniques (the BAT principle), which is used to identify: the volume of emissions of pollutants into air, water, and soil, the sustainable use of resources and electrical energy, the volume of waste production, noise parameters, etc. [4, p. 19]. This principle means “the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole” (Item 10 of Art. 3 of Directive 2010/75/EU). Essentially, the BAT principle consists in creating legal conditions for ensuring sustainable development by resolving the conflict between economic and ecological interests. The resolution presupposes creating conditions for a certain type of economic activity, provided that its highest possible (for the time being) sustainability is guaranteed [28, p. 261].

Another fundamental principle is the principle of an integrated approach to assessing the impact of installations. The Preamble to Directive 2010/75/EU emphasizes that “different approaches to controlling emissions into air, water or soil separately may encourage the shifting of pollution from one environmental medium to another rather than protecting the environment as a whole. It is, therefore, appropriate to provide for an integrated approach to prevention and control of emissions into air, water and soil, to waste management, to energy efficiency and to accident prevention” (Item 3 of the Preamble). The general requirements that must be fulfilled during the operation of installations and identified during issuance of integrated environmental permits are contained in Art. 11 of Directive 2010/75/EU:

- “(a) all the appropriate preventive measures are taken against pollution;
- (b) the best available techniques are applied;

- (c) no significant pollution is caused;
- (d) the generation of waste is prevented in accordance with Directive 2008/98/EC;
- (e) where waste is generated, it is, in order of priority and in accordance with Directive 2008/98/EC, prepared for re-use, recycled, recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment;
- (f) energy is used efficiently;
- (g) the necessary measures are taken to prevent accidents and limit their consequences;
- (h) the necessary measures are taken upon definitive cessation of activities to avoid any risk of pollution and return the site of operation to the satisfactory state defined in accordance with Article 22".

"Within EU the system of integrated environmental permits in general and BAT conclusions in particular are aimed at big and complex installations that have considerable potential to cause pollution". In the meantime, the Directive on industrial emissions does not specify the BAT requirements for different types of installations and does not contain provisions concerning the level of the maximum permissible emissions of pollutants or other information about the principles behind establishing the permit conditions for different types of installations; therefore, it provides the opportunity for the member states to establish requirements for certain categories of installations within the scope of the general compulsory regulations. Thus, the implementation of the integrated permit system requires a detailed study of new or already existing installations, the operation of which needs a permit, as well as of all the aspects of their environmental impact and the possibilities for improvement" [7, p. 54].

The provisions of the Directive do not outline the status and the specific features of the authorities competent to grant a permit, although Items 15-16 of the Preamble contain the general requirements for the said authority to be competent in legal environmental, technological, and financial matters, associated with the impact of a certain type of activity on the environment and its elements. P. 2 of Art. 5 of Directive 2010/75/EU also states the following: "Member States shall take the measures necessary to ensure that the conditions of, and the procedures for the granting of, the permit are fully coordinated where more than one competent authority or more than one operator is involved or more than one permit is granted, in order to guarantee an effective integrated approach by all authorities competent for this procedure".

Directive 2010/75/EU is a framework document establishing the objectives for the member states. Each state has the right to make its own decisions as to what mechanisms to use for attaining the set objectives. In this regard, the experience of the neighbouring Republic of Poland is worth mentioning; it has been a full member of the EU since 2004, and its environmental legislation is currently based on and is compliant with EU legislation. Ukraine and Poland, as neighbours, are tightly bound historically, and it gives the grounds and possibilities for analyzing the processes of the approximation of Polish legislation to EU legislation, the newest Polish environmental legislation, and the experience of its implementation. The approximation of Polish legislation (including environmental legislation) to EU standards practically lasted from 1993 to 2004. The key thing was not so much formal compliance with EU standards, as the creation of organizational and material conditions, legal-administrative and financial mechanisms, regulatory structures, necessary for the actual implementation of the adapted regulations. According to Maciej Nowicki, the former Polish Minister for Environment, ensuring the efficiency of environmental protection in Poland rests on three "pillars": clear-cut legislation on environmental standards; enforcement of the adopted regulations; the financing of environmental measures [30, p. 21–22].

As stated in Polish academic literature, a system of administrative permits for the activity that might adversely affect the environment is based on the provisions of EU directives governing the principles and conditions for emissions of substances and energy into the environment [3, p. 248]. The main regulations on an integrated approach are stated in Chapter 4 of Title 4 of the Environmental Protection Act of the Republic of Poland of 27 April 2001 under revision as of April 13, 2018 [20]. The said chapter was included in the first edition of the Act, although was considerably amended in 2013

and 2016 in accordance with the requirements of Directive 2010/75/EU. Art. 201 of the Environmental Protection Act outlines the general conditions for issuing integrated permits (as stated in Directive 2010/75/EU), namely: integrated permits are issued for installations whose operation is likely to cause substantial pollution of the particular natural elements or the environment as a whole; the Minister of Environment shall lay down the types of such installations; the Minister shall take into account the type and scale of the activity conducted in installations. A list of the types of installations that are likely to cause substantial pollution of the particular natural elements or the environment as a whole and whose operation requires an integrated permit is contained in the Annex to the Regulation of the Minister for Environment of the Republic of Poland of 27 August 2014 [26]. This list is identical to the one contained in Annex I to Directive 2010/75/EU.

The conditions for effects on the environment, determined by an integrated permit, except as otherwise provided by law, are identical to those stated in other permits. Except for an integrated permit, Item 1 of Art. 181 of the Environmental Protection Act provides the possibility to grant a permit for gas or dust releases into ambient air and a permit for waste generation. There is also a permit in water use matters (for instance, a permit for the discharge of wastewater into waters), subject to regulation by water law. They are called specific or sectoral permits. It has to be emphasized that in case of obtaining an integrated permit, there is no need to obtain specific (sectoral) permits. Nevertheless, an integrated permit is issued (as provided for by the Directive) only for installations causing substantial pollution (emissions, discharges, waste) of the environment and its elements (ambient air, water, soil).

Polish environmental legislation on integrated permit issuance reflect the requirements of the BAT principle. Currently, generalized information of technological and ecological character for installations requiring an integrated permit is documented in the form of BAT conclusions and published in the Official Bulletin of the EU, and, consequently, should be the compulsory reference for issuing a permit. A departure from the BAT requirements happens when the emission limit values are exceeded in comparison with environmental benefits (Art. 204 of the Environmental Protection Act). Pursuant to Art. 206, the Minister for Environment shall collect and generalize information on the best available techniques (BAT) and provide such information for the authorities competent to grant permits and the interested users of the environment. Moreover, in case of publishing BAT conclusions at EU level, the competent authority conducts an analysis of new requirements and notifies the operator of an installation (the user of the environment). If an analysis of conclusions necessitates a review of an integrated permit, the operator of an installation is notified by the competent authority and is granted a period of up to four years to align the operation of an installation with the requirements. Such information is available on the website of the Ministry, where the time for analysis of the performance of each type of installations and the time for aligning their operation to the BAT requirements are specified.

The procedure for issuing integrated permits is specified in the Environmental Protection Act of the Republic of Poland and the Code of Administrative Procedure [9].

The authorities competent to grant permits vary in accordance with the specific characteristics of the user of an integrated permit and the site where an installation is operated. The authorities competent to grant integrated permits include: 1) Starosts (in the cities with Powiat rights); 2) Voivodship Marshalls – in case of substantial pollution of the environment caused by an installation, and when permits are granted for installations for recycling household waste; 3) Regional Directorate for Environmental Protection – for projects implemented on the so-called “closed sites”, indispensable for the purposes of national defence, the list of which is compiled by the state authorities; 4) the environmental authority – in the process of decision-making concerning the approval of excavation waste management programs. Furthermore, integrated permit issuance requires the approval of the Minister for Environment who is sent an online application for an integrated permit within 14 days upon receipt. Similarly, a copy of the granted permit is sent to the Minister for Environment who keeps a register of integrated permits.

The general time period for granting an integrated permit – six months from the date of submitting an application (Item 2 of Art. 209 of the Environmental Protection Act). It applies to the cases when a permit is issued for the first time, or when an installation has undergone significant changes, which, consequently, necessitates amendments to an integrated permit. In the cases when amendments to an integrated permit are minor, the time period for granting a decision is one month; in more complicated cases – no more than two months (Art. 35 of the Code of Administrative Procedure).

Pursuant to Art. 210 of the Environmental Protection Act of the Republic of Poland, the amount of the registration charge for obtaining a permit shall not exceed 12 000 zloty (~3300 \$). The precise amount of the registration charge is calculated using the formula laid down by the Regulation of the Minister for Environment of 27 August 2014. It depends on the scope and type of activity and the basic established payment rates.

An integrated permit is granted for an indefinite period (Item 1 of Art. 188), although the competent authority shall once in five years conduct an analysis of the integrated permit conditions, and in case there are changes in the BAT requirements, ensure the corresponding amendments are made to an integrated permit. The granted integrated permit can be substituted for a new one upon the initiative of the owner of an installation who is planning to conduct its considerable modernization.

The practice of implementing regulations on an integrated environmental permit in Poland has demonstrated the problems associated with issuance of such permits. The audit of integrated permit issuance conducted by the Supreme Chamber of Control of Poland in Subcarpathian Voivodeship brought to the fore a number of deficiencies and problems in implementing the procedure of integrated permit issuance [27]. The Report of the Supreme Chamber of Control states the following problems: failure to meet the deadlines for application processing, a delay in passing applications on to other state authorities for approval, lack of information about approval to integrated permit issuance by the state environmental authorities in the cases when such approval is necessary. With regard to the initial stage of the implementation of integrated permits, a considerable problem was lack of skilled professionals and equipment for checking the operation of installations for which permits were granted. It specifically concerns the existing units (installations), integrated permits for which had to be obtained by the end of 2008, although the deadline was not met due to technical and organizational reasons. Furthermore, there were violations of the five-year time limit, after which the permit had to be reviewed. As was mentioned above, Polish legislation (amended in 2014) confirmed the necessity to take into consideration the developed and officially published at EU level BAT conclusions for different types of installations and, consequently, the necessity to align the operating installations with new requirements and obtaining new permits. Nevertheless, as stated in academic literature, these obligations present an extra burden for those involved in economic activity. On the other hand, they have a positive effect ensuring the same (equal) conditions for doing business [25, p. 395]. All of this has to be taken into account in the process of implementing the integrated permit system in Ukraine.

The system of environmental permit issuance in Ukraine acquired its current shape in the process of the development of environmental activity and the necessity to regulate and limit adverse effects on the elements of the environment: water, ambient air, soil. The development of specific types of permits is caused both by the objective far-reaching consequences of industrial pollution and the subjective interests of the state. As it is noted in the publications, licensing (permitting) function of the authorities is directed towards the regulation of state accounting and control system in the sphere of environmental protection and it is implemented by the means of issuing permits (licenses) for the special use of natural resources, permits for dumping and disposal of hazardous substances and waste into the environment [10, p. 262].

The procedure for issuing specific environmental permits was regulated for a long time exclusively by environmental legislation and specified in regulatory acts. In 2005, the Law of Ukraine “On Licensing System in the Field of Business” [14] laid down the requirements for issuance of permit documents entailing a lengthy process of approximating the provisions of environmental legislation. The Law of Ukraine “On List of Permitting Documents in the Field of Business” [15], passed in 2011, laid down the List of relevant documents and established the proscription to demand of subjects of

economic activity to obtain permit documents not included in the List. In 2014, the Law of Ukraine “On Licensing System in the Field of Business” that established the procedure for issuing permits, including environmental permits, was significantly amended. The amendments were aimed at reducing the number of permit documents, eliminating duplication, and simplifying the procedure for their issuing. Major changes in terms of simplification of the permit procedure were made in the area of waste management.

Analysis of regulatory environmental and permit acts gives the grounds for outlining three major permit documents, which can come under the integrated permit system. They include: a permit for emissions of pollutants into ambient air by stationary sources (Art. 11 of the Law of Ukraine “On Ambient Air Protection” [13]); a permit for specific water use (for instance, for emissions of pollutants into waters) (Art. 49 of the Water Code of Ukraine [24]); a permit for activity in the area of waste management (the Law of Ukraine “On Waste” [19]). Nevertheless, the procedure for issuing the last permit has not yet been regulated.

The environmental requirements for subjects of economic activity who are granted these permits are laid down in the statutes of Ukrainian law. Pursuant to P. 10, 11 of Art. 11 of the Law of Ukraine “On Ambient Air Protection”, “permits for emissions of pollutants into ambient air are issued on the following conditions: if the standards of environmental safety are not violated during their period of duration; if the standards of permissible emissions of pollutants from stationary sources are not violated; if the requirements for technological processes with regard to limiting emissions of pollutants are met. In case the parameters of emission sources, their number, the quality and quantity of pollutants, measures aimed at reducing their amount are changed, the above-mentioned permits are amended.

The authorities competent to grant these permits are different and change often. For instance, permits for emissions of pollutants into waters are currently granted by local government agencies that implement the policy of the state in the area of water industry development; permits for activity in the area of waste management are granted by regional state administration agencies; permits for emissions of pollutants into ambient air by stationary sources – by the Ministry of Ecology and Natural Resources or regional state administration agencies (depending on the category of the user of a permit).

Currently, permits are issued through centers for administrative services according to the “one window” principle under the Law of Ukraine “On Administrative Services” [12].

Analyzing the current rules and regulations governing the procedure for the permit regulation of emissions, discharges, and other adverse effects on ambient air, waters, soils [7; 22; 28], Ukrainian scholars identify the provisions containing specific requirements for the integrated permit system. Nevertheless, they are certainly not compliant with the nature of integrated permits and the BAT principles, and need to be updated. No less important is aligning the system of integrated environmental permits with environmental impact assessment, particularly in the course of introducing and designing new installations. Environmental impact assessment is carried out at an earlier stage of designing an industrial facility. Its conclusions can be further used for permit issuance.

Annex XXX to the Association Agreement contains a list of measures and the deadlines for their adoption aimed at ensuring the implementation of the provisions of Directive 2010/75/EU. They include: adoption of national legislation and designation of the competent authority (authorities); identification of facilities in need of a permit; implementation of the best available techniques in accordance with EU reference documents; introduction of the integrated permit system; adoption of the mechanism for compliance supervision; establishment of emission limit values for incineration; planning the programmes aimed at reducing the total annual volume of emissions from installations in operation. This general list of measures was elaborated in the regulatory acts of the Government of Ukraine. The Order of the Cabinet of Ministers of Ukraine of 17 September 2014 No. 847-p. “On the Implementation of the Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part” [18] ratified the Action Plan on Implementation of the Association Agreement for the years 2014–2017. Item 257 of the Plan defined the obligation to develop regulatory acts aimed at implementing Directive 2010/75/EU (the deadline – December 2017). To

execute the Order of the Cabinet of Ministers, the Ministry of Ecology and Natural Resources ratified the detailed plan on implementation of the Directive, which was not carried out within the set time limit. The Resolution of the Cabinet of Ministers of Ukraine of 25 October 2017 No. 1106 "On Execution of the Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part" [16] repealed the previously ratified orders concerning the measures and the deadlines for implementation and ratified a new Action Plan on Implementation of the Association Agreement. Item 1725 of the Plan provides for the necessity to adopt national legislation on the implementation of integrated permits and designation of the competent authority (authorities) in the area of industrial pollution (from the project approval to adoption of regulatory acts) until March 20, 2018. Nevertheless, for the time being, no action has been taken on this matter.

The current Ukrainian permit system for regulating the activity of industrial enterprises in terms of their environmental impact includes the autonomous, sectoral systems of permit issuance. The procedures for issuing these permits, despite the present tendencies of deregulation and the introduction of unified, simplified approaches, involve the necessity to prepare numerous documents, which are added to applications for permit issuance. As stated by the Deputy Minister of Ecology and Natural Resources of Ukraine, "currently, the national system of environmental protection is developing around its specific areas (ambient air protection, waste management, the protection and sustainable use of water resources, mineral resources management), although there is no proper systematic exchange of information in electronic format. The main difficulty lies in the fact that the environmental sphere is currently managed by different state executive authorities. The state control of the environmental sphere has to be integrated, exercised both over its areas (ambient air protection, waste management, the protection and sustainable use of water resources, mineral resources management, etc.) and its functional elements (the permit, report, supervision systems, etc.). The implementation of the integrated electronic system of environmental management, in accordance with European approaches to environmental information management, will eliminate the "dispersal" of environmental information between different executive authorities ensuring the availability of information not only on emissions into the environment, but also on permits, constraints, resolutions concerning environmental impact assessment in one database" [23].

3. CONCLUSIONS

Therefore, the basic generalized characteristics of the integrated permit system in the sphere of environmental protection and environmental safety enforcement in accordance with the requirements of Directive 2010/75/EU include:

- the system of integrated environmental permits is the immediate realization of the principle of sustainable development and reflects a compromise between economic and ecological interests;
- an integrated environmental permit is authorization of, approval to a certain activity;
- it is granted by the written resolution of the competent authority;
- it is issued for the operation of technical installations;
- stationary technical installations that require an integrated permit have a considerable negative effect on the environment;
- a list of such installations is limited and determined by the area of economic activity, its parameters and environmental impact;
- it defines the conditions of the complex impact on the environment and its elements;
- these conditions must be based on the statutory requirements and technical recommendations specific to each installation;
- the principle of the best available techniques (BAT) is the basis for establishing the requirements for each installation;
- the definition of these conditions is possible as a result of cooperation and consultation with the state authorities, the interested parties, the public;

- the process of integrated permit issuance must be transparent and ensure the possibility of the public participation and access to information;
- the time limit for permit issuance must be optimal and long enough for a comprehensive analysis of the conditions of the operation of an installation;
- integrated permits have an extended or even unlimited validity period, although the legislation must provide for the systematic control and revision of the permit conditions in accordance with objective changes in the operation of an installation or environmental and technical standards.

The institutional and functional legal organizational mechanism of Ukraine's transition to the new system of integrated permit regulation involves many aspects, including:

1. Making amendments to the legislation on the basis of the earlier developed strategy for aligning the current environmental legislation with the requirements of Directive 2010/75/EU. It must be based on an integrated approach. Amendments must concern the basic statutory regulations of the Law of Ukraine "On Environmental Protection" and be elaborated in specific legislation. The statutory regulation of integrated environmental permits must be based on the principles laid down in Directive 2010/75/EU in accordance with the national system of legal environmental regulation and the practice of the implementation of this type of permits in the neighbouring states.

2. The differentiation of regulation depending on the scope of the adverse effects of economic facilities on the environment. Only the users who cause substantial pollution of the environment must be obliged to obtain integrated environmental permits. Enterprises with a lower environmental impact must be subject to simplified legal environmental regulation. In this case, the general methods of regulation can be used: registration, permit issuance after the submission of an application, etc.

3. Making a specific "inventory" of installations that require integrated environmental permits. It is important to set priorities and define the stages of the application of the integrated permit procedure to industrial facilities.

4. The necessity to adopt a transparent and thorough approach, to consult different competent authorities, and to take into consideration their recommendations in the course of analyzing the conditions of the operation of installations that require an integrated permit. The authorities competent to grant a permit must have a certain freedom of action, since analysis of the operation of an installation and the definition of the conditions for its compliance with the best available techniques cannot fit into a standard algorithm. It, therefore, requires the reorganization of the work of the state authorities, the growth of their competence and responsibility.

5. Financial support from the state and the concessionary loan system for the modernization of industrial infrastructure in accordance with the requirements of EU BAT conclusions. The incentive scheme for subjects of economic activity that are adopting the BAT principles.

6. Emphasizing the role of voluntary environmental audit and environmental certification as the relatively "mild" ways to adopt new European environmental requirements. The voluntary forms of internal environmental control, the implementation of the system of the environmental management of enterprises can play a significant role in the process of adopting the new principles of the regulation of adverse effects on the environment.

The current tasks for the implementation of the integrated environmental permit system in Ukraine include: the development and adoption of laws and regulations governing the procedure and conditions for implementing the integrated permit system; expert and informational support of this activity; a proper personnel supply and training of the competent authorities that will be assigned the function of issuing permits; the practical realization of the procedures for issuing permits, controlling and examining compliance with the conditions stated in them, and registering these permits; ensuring public access to information associated with obtaining integrated environmental permits, etc.

The implementation of integrated environmental permits is a lengthy and complicated process. It requires consistent actions aimed not only at making formal amendments to legislation, but also at reorganizing the economic, financial, technical, institutional systems, and at supporting and coordinating the work of different state authorities. Special attention should be directed to the development of technical recommendations in compliance with EU requirements. The application of

the BAT principle in the long run will contribute to the technical modernization of enterprises, to making them more economical with resources as well as increasing competitiveness on EU and world markets, and, on the other hand, to improving environmental conditions and enforcing environmental safety. It would be reasonable to start with the implementation of pilot projects aimed at incorporating integrated permits into different spheres of economic activity. Informational and ideological support plays an important role, since it is aimed at persuading the interested parties of the viability and significance of the implementation of the integrated environmental permit system. The gradual adoption of the integrated permit system can take up to ten years, although this time limit is objectively justified.

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Кобецька Надія. Інтегрований екологічний дозвіл: вимоги законодавства ЄС, практика реалізації в Польщі, перспективи для України. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 33–44.

Стаття присвячена аналізу інституту інтегрованого дозвільного регулювання забруднення довкілля. Вона включає аналіз Директиви 2010/75/ЄС на предмет визначення особливостей, вимог, підстав та порядку надання інтегрованих дозволів. Оскільки Директива є рамковим документом, кожна держава самостійно вирішує, які механізми слід задіювати. В статті проаналізовано законодавче регулювання і практику запровадження інтегрованих дозволів у сусідній Польщі. Проводиться тлумачення основного еколого-правового документу Республіки Польща – Закону про охорону довкілля. Основну увагу приділяється встановленню умов застосування принципу ВАТ, процедурним аспектам надання дозволів: суб'єкти видачі, строки, контроль тощо. Самостійній характеристиці підлягають законодавчі акти України щодо дозволів на викиди забруднюючих речовин в атмосферне повітря, скидів у водні об'єкти та поводження з відходами. На підставі проведеного дослідження формулюються узагальнені характеристики інтегрованої дозвільної системи у відносинах охорони довкілля та забезпечення екологічної безпеки, основні завдання та заходи, що покликані забезпечити впровадження інституту інтегрованих екологічних дозволів в Україні.

Ключові слова: Директива 2010/75/ЄС, інтегрований екологічний дозвіл, принцип ВАТ, імплементація положень Директиви 2010/75/ЄС.

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CONTRIBUTING TO NATURE'S RECOVERY THROUGH URBAN AGRICULTURE

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Abstract. The paper analyses the legally established practice of agriculture has been forced out of the urban environment as land value increases with higher population densities. It's stated, that cities and surrounding urban environments have grown dependent upon regional areas and industrial agricultural practices to provide food for their increasing populations. Most commonly, urban agriculture is practiced by third world nations as a first line of defence against hunger and malnutrition or as poverty alleviation in times of economic stress. This paper argues that the practice of urban agriculture contributes to vital environmental recovery necessary in this, the geological age of the Anthropocene. As human activity continues to impact the functioning of earth systems at the planetary scale, we must actively assist nature to recover rather than assume that our existing environmental protection and conservation strategies are effective in preserving the natural environment.

Keywords: urban environment, urban agriculture, Anthropocene.

1. INTRODUCTION

Today, the practice of agriculture has been forced out of the urban environment as land value increases with higher population densities [1, p.114]. Cities and surrounding urban environments have grown dependent upon regional areas and industrial agricultural practices to provide food for their increasing populations [2, p. 48–49]. As a result, 50% of Earth's habitable land area is utilised for agricultural production [3], and 'agribusinesses' employ mechanically and chemically intensive farming methods to produce a maximum yield for both domestic and international markets [4]. Unfortunately, the industrial practice of agriculture negatively impacts upon farming land and the surrounding environment. Increased use of fossil fuels and indiscriminate use of chemicals lead to air pollution, groundwater contamination, soil erosion, depletion of soil nutrients and considerable impact upon insect populations [4, p. 208]. Furthermore, the import of food from regional areas to urban environments requires motorized transport or airfreight and often, non-recyclable packaging. This promotes additional use of fossil fuels, air pollution and plastic or non-recyclable waste in the process of food production [5, p. 45]. On the other hand, urban agriculture is the practice of growing, processing and distributing food and non-food products to an urban environment by re-using resources, products and services from within that urban environment [6, p. 85]. Put more simply, urban agriculture involves food production for cities in cities where production activities are integrated into

the local urban ecological system [7, p. 190]. The practice closes an 'open loop' system where produce has typically been imported into cities and remaining waste is dumped instead of being reused or recycled [8, p. 141]. Individuals or organizations may engage in activities such as growing vegetables and fruit, raising livestock, beekeeping, aquaculture, hydroponics and aquaponics in an attempt to cultivate fresh produce closer to home [9]. These activities are generally conducted in urban or backyard gardens, community plots or urban farms operating with the purpose of generating profit [10, p. 224–225]. Most commonly, urban agriculture is practiced by third world nations as a first line of defence against hunger and malnutrition or as poverty alleviation in times of economic stress [9, p. 153]. Families will grow crops and livestock in their homes for their own consumption or for sale as a predominant or supplementary source of income [2, p. 49]. Urban agriculture can be particularly beneficial where valuable produce, such as fruit trees, medicinal or ornamental plants, silkworms and mushrooms, is cultivated on small pockets of urban land [11]. However, first world nations are now recognising that there are many social and environmental benefits to the urban agricultural practices that sustain life and communities in poorer countries. Urban agriculture in first world nations typically constitutes backyard or community gardens operating with the purpose of teaching sustainable living practices and promoting the consumption of local and nutritious produce.

The potential for urban environments to produce food is immense despite cities appearing to lack the required space and resources to do so [12]. Even where urban agricultural practice may not produce significant quantities of fresh produce, the practice in itself performs vital functions that enrich city life and assists in recovering the natural environment [13, p. 225]. In particular, urban agricultural practice promotes improved air quality, waste and water management, nutrient recycling and biodiversity in urban environments [14, p. 47]. There are also many social benefits to the practice of urban agriculture. The opportunity to conduct agricultural practices in urban environments allows for transparency in food production and increased literacy of the community in food and health sciences [11, p. 225]. Furthermore, consistent gardening within the community instills environmental ethics [4, p. 215] and promotes political activism [15, p. 13].

This paper argues that the practice of urban agriculture contributes to vital environmental recovery necessary in this, the geological age of the Anthropocene. As human activity continues to impact the functioning of earth systems at the planetary scale, we must actively assist nature to recover rather than assume that our existing environmental protection and conservation strategies are effective in preserving the natural environment [16, p. 737]. In recent years, a significant amount of research has considered environmental recovery issues through the conceptual framing of ecological restoration and rewilding [46]. In this paper, the term 'recovery' is used more broadly to refer to activities that contribute to reducing the likelihood of tipping any of the nine established earth systems at the planetary scale [43]. As such, recovery initiatives can include a wider range of activities such as the practice of urban agriculture. The first part of this paper discusses the concept of urban agriculture and briefly explores how the practice contributes to environmental recovery efforts. It then goes on, in the second part, to consider how urban agriculture operates in a Western democratic system like that of Australia. Overall, this paper argues that the successful implementation of agriculture in Australian urban centres requires all tiers of the Australian Government to develop more robust initiatives to encourage environmentally-friendly food production, health of urban citizens and more broadly, environmental recovery efforts. By viewing urban agriculture through this recovery lens, this paper demonstrates that urban agriculture is more than food production and should be valued by Western democratic countries like Australia.

2. ANALYSIS AND DISCUSSION

2.1. Economic, Environmental and Social Impacts of Urban Agriculture Food Production and Enrichment of City Life

Urban agricultural ventures enrich city life for individuals, families and communities by providing fresh food for consumption or sale whilst beautifying the surrounding urban environment.

Despite the limited size of urban allotments, urban agricultural plots actually have the potential to out-produce industrial agricultural plots. Industrial agriculture promotes monoculture cultivation and the intensive use of chemicals in fertilisers and pesticides. Firstly, monoculture farming is known to deplete and degrade the integrity of nutritious soil [49, p. 156]. Also, when chemical fertiliser or pesticide is used excessively, it can result in nutrient loss, surface and groundwater contamination, soil acidification or basification and reductions in useful microbial communities in farming [14, p. 137]. However, urban agricultural practice promotes polyculture and the rotation of crop species, as well as the use of recycled organic, household or human wastes as fertiliser [5, p. 49]. These processes replace nutrients in the soil as well as improve the structure of soil, increasing its ability to hold water and nutrients. Therefore, the more fertile soil of urban agricultural projects should be capable of producing a larger and more nutritious yield than the soil of industrial agricultural land.

This yield may be sold within the community to fund the ongoing costs of a venture or to generate profit. In larger ventures, additional income may also be derived through community gardening workshops or garden tours [4, p. 210]. Whilst volunteers from within the community tend to most community gardens, larger ventures have the potential to provide full time, part time or paid work opportunities. For example, workers may assist in gardening, teaching workshops or delivering fresh produce donated or sold to local organisations and restaurants [4, p. 210].

Another benefit of urban agricultural practice is the indirect beautification of the surrounding urban environment. Garden plots can replace vacant or abandoned city land that is oft prone to discarded rubbish and destructive vandalism [4, p. 213]. Also, the addition of green space, foliage or flowers adds diversity and aesthetic appeal to the urban landscape [4, p. 210]. It is reported that the natural, repetitive patterns of trees and plants radically reduces stress levels in humans [4, p. 210]. Furthermore, the introduction of green space in urban environments encourages physical activity and leisure time spent outdoors in nature [4, p. 210].

2.2. Recovery of the Natural Environment

However, most significantly, urban agricultural practices show great promise in recovering the natural environment devastated by the development of cities and urban sprawl. As discussed above, the organic farming practices utilised in urban agriculture return nutrients to the soil in which they started [4, p. 210]. For example, when organic household waste is turned into fertiliser, composted food scraps are absorbed back into the soil and enrich new crops. This practice keeps urban soil systems in balance as well as redirects waste otherwise intended for landfill [4, p. 210]. Similarly no-organic household waste such as wood, old carpet and glass can be recycled as production infrastructure in agricultural activities [4, p. 210]. In particular, old tyres and wood offcuts can be repurposed as troughs or containers, barrels can store irrigation water and plastic bottles can hold plants in vertical gardens. Also, plastic bags or sheeting can be shredded and used as mulch to conserve water and reduce the growth of weeds in garden bed [4, p. 210].

Secondly, the addition of plants and green space within cities assists in improving a city's microclimate [5, p. 48]. Green foliage increases humidity levels and intercepts direct solar radiation to reduce temperatures in otherwise hot, concreted areas. Furthermore, foliage captures dust and gases from polluted city air whilst introducing more pleasant odours into the urban environment [5, p. 48]. In particular, plants will absorb a greater amount of carbon dioxide during their growing phase. The continuous practice of crop production will allow for more carbon dioxide to be captured from city air than in natural, established systems such as tropical forests [5, p. 53–54].

And lastly, the addition of plants and green space promotes flora and fauna biodiversity within the urban environment [5, p. 53]. Firstly, urban green spaces connect fragmented habitats across cities creating new habitat and wildlife crossings, which divert migrating or foraging animals away from busy roads and intersections [21, p. 194–195]. Secondly, different urban agricultural ventures introduce a range of plant species not typically found in cities or developed areas. In particular, ventures may promote the growth of aquatic plants, edible produce and ornamental native and exotic species. The introduction of these plant species encourages pollinating insects, such as bees and butterflies, into the

urban environment [21, p. 193]. Similarly, tall, native and fruit or seed-bearing trees encourage wildlife [21, p. 194] and provide a resting place for migratory bird species.

Urban agriculture also promises to assist flora and fauna biodiversity in regional areas once cities grow less reliant upon industrial agriculture. Where regional agricultural land is left to recover from monoculture cultivation, soil erosion and intensive chemical use, wildlife may recolonise natural habitats. Also, a variety of native flora species may flourish where non-native or monoculture crops typically grow in great volumes [21, p. 193].

2.3. Community Engagement and Awareness

The practice of urban agriculture requires the community to come together in cooperation and partnership. In doing so, farming as a community increases community engagement and provides an opportunity for community education about nature, consumption and living in balance with the environment [2]. Some urban agricultural initiatives operate indefinitely, making sustained contributions to environmental recovery efforts and building communities around the venture where the venture has been strategically embedded into a community space.

However, urban agricultural practices go further to allow individuals to more intimately connect and interact with nature. By engaging in local farming, individuals are able to recognise the benefits of the practice and the human connection to the environment. When individuals better understand this connection, there is a heightened awareness of the human responsibility to implement change and reduce impact upon the natural environment [30, p. 215]. Therefore, urban agriculture has the potential to promote important change in the lifestyle and consumption behaviour of individuals who engage in the practice [5, p. 54]. Similarly, community activities around urban agriculture support discussions and interaction between different generations within the community. This practice can, in turn, enable future generations to assume responsibility over pressing environmental issues.

2.4. Urban Agriculture around the World and in Australia. International Examples of Urban Agriculture

As discussed above, it is typically the poorer communities of developing countries who practice urban agriculture [21, p. 194–195]. Individuals and families are reliant upon domestic produce for household consumption and sometimes engage in selling excess produce to supplement low income [21, p. 194–195]. Urban agriculture has also become necessary where a country suddenly faces food insecurity [23, p. 174]. In particular, cities in Cuba and the city of Detroit constitute model examples of how urban agricultural practice can supplement a city's reliance upon foreign or regional industrial agriculture.

Prior to 1990, Cuba was dependent on industrial agriculture and foreign imports for food supply. When the United States implemented an embargo interfering with Cuba's trade relations, Cuba experienced a chronic food shortage [21, p. 194–195]. The country had no food production infrastructure or land dedicated to growing produce, however, citizens began to plant crops in backyards and on balconies, rooftops and vacant land sites. The result was so effective that the Cuban Government amended city laws to allow citizens to use vacant public and private land lots as productive agricultural land [30, p. 233]. The Government also created the Urban Agriculture Department to aid and support development of urban farms. The Department specifically engages with the Government's research sector to effectively promote small-scale urban agriculture and educate farmers about sustainable farming methods. As a result, Cuban cities now produce more than 90% of the perishable produce consumed in those cities [30, p. 234].

Detroit has also resorted to urban agricultural practices following significant population decline and widespread poverty [35, p. 4–5]. When all large supermarket chains closed their Detroit branches, there was insufficient fresh produce to feed the majority of Detroit citizens. Citizens resorted to planting illegal gardens on side lots and vacant plots around the city in order to cultivate fresh produce [15, p. 502]. The Government did not penalise these citizens but actually adopted Urban Agriculture

Amendments into the city's zoning ordinance. Whilst the small-scale rearing of livestock is yet to be approved, urban farming is now a legal and encouraged practice [15, p. 504]. The Government leases properties to organisations such as the Detroit Black Community Food Security Network and the Earthworks Urban Farm who grow food and promote healthy eating and instill environmental awareness in citizens and volunteers. The Earthworks Urban Farm even accommodates court-ordered community service and a program to certify volunteers in safe food handling, food processing and restaurant work [37, p. 7–8].

Therefore, it would appear that governments are only receptive to urban agricultural practice in situations of high need. However, cities stand to benefit substantially from urban agricultural practice if governments and public policies promote such practice. Unfortunately, small-scale ventures in first world nations, such as the United Kingdom, the United States and Australia, have been impeded by government regulation and lack of consistent funding. Therefore, so long as Australia is perceived to be a food-secure country, it is unlikely that the Australian Government will allow for the unlimited adoption and promotion of urban agricultural practices.

2.5. Urban Agriculture in Australian Cities

Australia is one of the most urbanised nations in the world with over two-thirds of its population residing in capital cities [17, p. 12]. Each Australian city is reliant upon regional food sources to provide sustenance for its ever-increasing urban population. Whilst the country is fairly food secure and does not suffer from widespread poverty, Australia's adoption of urban agricultural practices should be based on the motivation of environmental awareness [3, p. 22]. It is argued that the legal implementation of urban agriculture would reduce Australia's reliance on industrial agriculture and assist in recovering the natural environment within Australian cities.

Australia's local governments typically exercise jurisdiction over planning, development and environmental protection issues that may influence the practice of urban agriculture. Local governments are enabled by State legislation such as Queensland's Local Government Act 2009 (Qld) or New South Wales' Local Government Act 1993 (NSW). However, Federal support of regional industrial agriculture suggests that Australia's governments will preference agribusiness and foreign exports over any local and environmentally friendly farming alternative [11].

In 2013, the Australian Government's Department of Agriculture, Fisheries and Forestry released 'the National Food Plan' [8]. The Plan only briefly considered Australian food consumption and processing matters, focusing predominantly on maximising export of produce for Australian industrial producers [11]. In particular, the Federal Government promised to reduce trade barriers with Asian countries and ensure that food producers have access to all the technology and resources required to increase production to export food to Asia [9, p. 4–5]. Whilst the economic advantages of industrial agriculture are significant, the Government needs to specifically consider the impacts of climate change and the future of food production. The Government's focus on economic prosperity, employment and community wellbeing in regional Australia will inevitably reduce the impact of any positive environmentally friendly farming alternatives practiced in urban environments. Accordingly, it may be expected that Government funding will instead be prioritised in regional farming research initiatives.

Therefore, where the Federal Government does not recognise the environmental significance of urban agricultural practice, lower Australian governments will need to regulate and encourage such practice. Unfortunately, a tension between economic development and environmental protection will typically preference profit or economic opportunity within our capitalist society. Commonly, where local government might legislate for urban agricultural practice, Australia's city councils appear reluctant to allocate vacant urban land to growing produce instead of using the land as profitable residential or commercial space [35, p. 13]. Also, issues of public safety and insurance liability mean that any council policy relating to community gardening is often heavily regulated or requires significant financial investment from residents [44]. A consideration of council laws, State building development code and State teaching curriculums provides that Australian local and State

governments have failed to truly encourage urban agricultural practice amongst the Australian community.

Firstly, a majority of city councils require residents to apply for a permit and pay an average yearly fee of approximately \$170 to construct a garden bed, plant or interfere with vegetation on council land [10]. In some city councils, this fee is waived for 'edible' or community gardens, however, residents cannot utilise any gardening structures such as garden bed edging, planter boxes or non-organic materials including loose gravel and crushed brick [4]. Furthermore, particular city councils, such as the Sunshine Coast Council in Queensland, require residents to hold public liability insurance over any garden beds, should any injury occur due to or surrounding a resident's gardening venture [44]. Whilst it is reasonable for local councils to prioritise the safety and regulation of resident gardening ventures, the costs involved in applying for a permit, paying annual fees and maintaining insurance cover is likely to deter residents who would usually wish to engage in urban agricultural practices.

Secondly, consideration of State Sustainable Building Codes for new developments establishes that there is no requirement for the inclusion of green space, garden beds, irrigation or solar systems to be used for agricultural practices on new residential properties. For example, Queensland's Sustainable Buildings Guideline recommends the inclusion of outdoor living areas such as decks, verandas or balconies as these structures promote the Queensland outdoor lifestyle and encourage time spent outdoors without the use of artificial cooling [1, p. 17]. Also, the Guideline recommends solar energy systems as an environmentally friendly substitute to reduce a household's green house gas emissions [1, p. 22]. However, there is no mention of any land area or infrastructure, which would specifically assist in growing food or other non-edible plants at home. This is especially concerning in the development of high-density living where green space is already typically limited. It would be encouraging to see that Australian State governments have considered regulating the inclusion of valuable green space in new housing developments.

And lastly, consideration of State Primary School Curriculums suggests that the Australian State School system fails to adequately instill an appreciation for horticulture and/or urban agriculture in young children. For example, the New South Wales State School Curriculum, provided by the New South Wales Education Standards Authority, is said to encourage children to consider the process of growing plants and raising livestock, as well as the impact of significant development and drought [28]. However, no further information is provided to suggest whether students are taught about negative environmental impacts of industrial agricultural practices. It would be encouraging to see that Australian education standards instill an appreciation for healthy and locally grown fresh produce in Australia's youngest generation.

Fortunately, regardless of the above-mentioned financial or regulatory hindrances, a handful of urban agricultural ventures have persisted and flourish in Australia's capital cities. These ventures typically constitute 'city farms' founded by non-profit organisations and are tended to by volunteers or a limited staff. In order to continue operating, these city farms sell their produce within the community or rely upon intermittent funding grants [16].

In Sydney, Pocket City Farms operate with the purpose of filling neglected spaces with fresh, organic produce. The Pocket City pilot farm collects food scraps from local homes in a large composting unit to ensure that nutrients are returned to the soil and future-harvested crops. The farms generate income by selling produce at a farm gate stall every Saturday morning and encourage paid community and school tours [31].

In Brisbane, Northey Street City Farm operates on four hectares with more than one thousand varieties of fruit trees, bushes, shrubs and ground-covering plants. The farm is heavily reliant upon community grants and the work of volunteers to remain viable [22, p. 113].

However, its founders continue on in the belief that permaculture can create an environmentally, socially and economically just world. Accordingly, operators encourage anyone in the community to volunteer or attend workshops about sustainable living taught specifically at the farm [27].

In Perth, Green World Revolution is another enterprise growing and selling produce from a 400m² site in the city centre. The enterprise provides paid work for unemployed Australians through the

Australian Work for the Dole Scheme. Workers tend to the gardens and bicycle deliver fresh produce grown on site to local restaurants and cafes. Green World Revolution also re-collects food packaging from restaurants for re-use in future produce deliveries [13].

However, the most impressive Australian venture operates in Melbourne with extensive support from the Yarra City Council. The Council developed the Community Growing Spaces Program as part of the Urban Agriculture in Yarra Strategy [49]. The program operates with the purpose of assisting the community to grow pop-up gardens, planter boxes or nature strip gardens on Council property [50]. Residents must simply attend a gardening workshop before the Council will provide the basic resources for residents to erect gardens in the community. It is understood that this program is so successful because the Council is connecting people to the land and cultivating a food culture. The program promotes the building of communities and the growing and sharing food with minimal environmental impact [50].

3. CONCLUSIONS

The community ventures described above are instrumental in reconnecting people within communities and establishing healthier relationships between these communities and the environment. When ventures inspire people to assist in gardening, erect their own gardens or live in better harmony with the environment, they promote recovery of the natural environment in cities and surrounding urban areas. Nutrient-rich soil, an improved microclimate and flora and fauna biodiversity will assist in returning cities to their more natural state [7, p. 47].

However, at present, only more substantial and persistent urban agricultural ventures survive. It is expected that if policymakers understood urban agriculture on a holistic level and did not focus on economic output and profit margins, there would be greater opportunity for smaller ventures to flourish too [29]. The Australian legal system can no longer rest on the foundations that evolved prior to the Anthropocene. This new geological era requires urgent legal intervention into the development and maintenance of urban environments to ensure the protection and recovery of natural habitat and biological diversity [20].

Australian governments at federal, state and local levels can play a key role in promoting small and medium-scale urban agriculture, which will assist in recovering the natural environment of Australia's cities [24, p. 48].

The development of urban agricultural ventures has the potential to assist climate restoration, soil fertility, biodiversity and overall environmental awareness in urban environments. It has been argued that the future of any urban agriculture policy will begin with an effort by the Government to celebrate local food networks. In turn, the Australian community should be inspired to engage in the practice of urban agriculture and these local food networks.

In overseas cities and countries where urban agriculture has been successfully implemented, there has always been a form of regulation or policy in place. Therefore, it is recommended that Australian local governments consider the development of an urban agricultural plan that recognises the interrelation of food, agriculture, health and the environment. An urban agricultural plan may be incorporated into city land-use planning allowing for the use of inner city green space for agricultural practices [7, p. 59]. The plan could be used to preserve agricultural land on the fringe of cities and promote better regulation of environment, social and financial factors balanced in any development assessment [42, p. 122]. Furthermore, Australian governments could promote legislation that imposes green space, solar and water facilities for urban agriculture on all new housing developments. In cases of redevelopment, legislation may also impose site remediation to ensure that soil is safe for future farming of produce [42, p. 122].

Lastly, it is recognised that the successful implementation of urban agriculture into cities is reliant upon community engagement and education. It would be beneficial for Australian governments to promote the establishment of backyard plots, community gardens or even city farms by providing funding and education required for growing fresh produce. Australian governments could also

develop an accreditation system for identifying and promoting produce grown and sold locally in communities [7, p. 54].

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Метьюз Джеймі, Ахтар-Кхварі Афшін. Відновлення навколишнього природного середовища через ведення сільського господарства у містах. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 45–54.

У роботі аналізується практика правового регулювання забезпечення та ведення сільського господарства у містах в умовах зростання вартості землі та збільшення щільності населення. Визначено, що навколишнє середовище у містах залежить від регіональних умов та сільськогосподарської практики, на яких базується регулювання продовольчої безпеки в умовах постійного зростання населення. Найчастіше міське сільське господарство практикується країнами третього світу як першочерговий спосіб запобігання голоду та недоїдання або як засіб запобігання бідності в періоди економічного спаду. У даній статті стверджується, що практика міського сільського господарства сприяє життєво важливому відновленню довкілля, необхідному у межах даного антропоцену. Оскільки діяльність людини продовжує впливати на функціонування екосистеми у планетарному масштабі, антропогенне відновлення екосистеми є одним із пріоритетів заходів охорони навколишнього середовища та індикатором ефективності існуючих стратегій захисту та збереження навколишнього середовища.

Ключові слова: міське середовище, міське сільське господарство, антропоцен.

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CHINA'S NATIONAL PLAN ON IMPLEMENTATION OF THE 2030 SUSTAINABLE DEVELOPMENT GOALS: FROM THE PERSPECTIVE OF NATIONAL PERFORMANCE OF MULTILATERAL ENVIRONMENTAL AGREEMENTS

QIN TIANBAO, HOU FANG

Abstract. In terms of the implementation of Multilateral Environmental Agreements, the implementation of the agreements has gradually shifted from the institutional construction of the international level to the implementation of the national level. Since the Millennium Development Goals did not reach the goal of sustainable development in the year of 2015, 2030 Sustainable Development Goals had drew the lessons, put forward the goals of economic, social and environmental, and required all countries to provide their own country's plan. As the largest developing country, China plays a decisive role in the international environmental governance. At home, China has formulated the domestic environmental governance norms for the implementation of the 2030 Sustainable Development Goals, and established an inter ministerial coordination mechanism for implementing the Sustainable Development Agenda composed of 43 government departments. China is also actively participating in international environmental governance, participating and promoting the conclusion and effectiveness of treaties on environmental protection at the international and regional levels, earnestly implementing and helping other countries to implement treaties, and expanding the global partnership through various formal and informal meetings and other channels.

Keywords: 2030 Sustainable Development Goals, China's National Plan, National Performance, Global Environmental Governance, Multilateral Environmental Agreements.

1. INTRODUCTION

As the Millennium Development Goals(MDGs) era comes to a conclusion with the end of the year of 2015, 2016 ushers in the official launch of the bold and transformative 2030 Agenda for Sustainable Development (A/RES/70/1) adopted by world leaders at the United Nations on September 25th 2015. The new Agenda calls on countries to begin efforts to achieve 17 Sustainable Development Goals (SDGs) over the next 15 years. "The seventeen Sustainable Development Goals are our shared vision of humanity and a social contract between the world's leaders and the people", said the Former UN Secretary-General Ban Ki-moon. "They are a to-do list for people and planet, and a blueprint for success" [1]. These goals are different from the previous SDGs or other targets under the Multilateral Environmental Agreements (MEAs). They are unified goals of environmental protection at the highest

standard at the international, regional and national levels, which are conducive to promoting the coordination and unification of international environmental governance. However, the SDGs and the targets under existing MEAs are not completely coincident, and, to be exact, there are intersections between them. Then, as the main body of final performance, states need to consider the relationship between SDGs and various targets under MEAs in order to implement SDGs. As the largest developing country, China's country plan of implementation on SDGs is worth studying.

2. ANALYSIS AND DISCUSSION

2.1. 2030 SUSTAINABLE DEVELOPMENT GOALS. CONNOTATION AND EXTENSION

The concept of Sustainable Development was firstly put forward in "Our Common Future", a report of the World Commission on Environment and Development, in 1987. It was defined as: "the ability to make development sustainable to ensure that it needs of the present without compromising the ability of future generations to meet their own needs". Moreover in this report it associated the energy crisis, environmental crisis to development and put forward the suggestion of changing human's development model [2]. The United Nations Conference on Environment and Development in 1992 and its documents indicated that "sustainable development" had officially shifted from theory to practice. *Agenda of the 21st Century* has become the fundamental principle and guideline for the sustainable development strategy of all mankind. At the beginning of the new millennium, world leaders come up eight Millennium Development Goals (MDGs). Due to various reasons, the completion of MDGs was not ideal [3]. And then the international community sought new, more concrete, and more comprehensive goals. Finally, SDGs had put forward including 17 Sustainable Development Goals and 169 targets. "These goals and targets described the needs of people in developed and developing countries and emphasized that no one will be left behind. The new Agenda is broad and ambitious, including three dimensions of sustainable development: the economic, social and environmental" [1].

2.2. OTHER RELATED GOALS

2.2.1. MILLENNIUM DEVELOPMENT GOALS

At the beginning of the new millennium, world leaders gathered at the United Nations to shape a broad vision to fight poverty in many dimensions. They committed to "spare no effort to free our fellow men, women and children from the abject and dehumanizing conditions of extreme poverty" [3]. That vision, which was translated into eight Millennium Development Goals (MDGs), has remained the overarching development framework for the world for the past period from 2000 to 2015. "Former Secretary General of the United Nations Ban Ki-moon believes that the global movement behind the MDGs is the most successful anti-poverty movement in history" [3]. Thanks to concerted global, regional, national and local efforts, the MDGs have saved the lives of millions and improved conditions for many more. But inequality still exists, and progress is uneven. Despite many successes, the poorest and most vulnerable people are being left behind: Gender inequality persists; Big gaps exist between the poorest and richest households, and between rural and urban areas; Climate change and environmental degradation undermine progress achieved, and poor people suffer the most; Conflicts remain the biggest threat to human development; Millions of poor people still live in poverty and hunger, without access to basic services [3]. The experience of the Millennium Development Goals provides a useful reference for SDGs.

2.2.2. AICHI BIODIVERSITY TARGETS

In addition to the MDGs and SDGs, MEAs have also set their own performance targets. The United Nations Framework Convention on Climate Change (UNFCCC), for example, put forward: "the concentration of greenhouse gases in the atmosphere will be stabilized at the level of preventing human

interference in the climate system from being dangerous. The global average temperature rise will be controlled within 2 or 1.5 degrees Celsius higher than that before industrialization". SDGs and the targets of the Paris Agreement are both pointing to 2030. In the next 15 years, these two objectives are bound to support each other and become an important part of the international and domestic level of coordinated response to climate change, which put forward new requirements for the synergy between the two levels at home and abroad.

Here we take Aichi biodiversity goals as an example to analyze in detail. In 2010, the Convention on Biological Diversity's tenth meeting of the Conference of Parties (COP) held in Aichi County in Japan, this COP adopted the *2011-2020 Biodiversity strategic plan*, which has given strategic goals and 20 related outline targets called "Aichi Biodiversity Targets" (ABTs). ABTs aims to inspire all states and stakeholders to take measures to promote CBD's three goals during the United Nations decade of biological diversity: biodiversity conservation, sustainable use of biodiversity components, fair and reasonable sharing the benefits produced by the use of genetic resources. The contents of the CBD have all been included in SDGs' goal 14 and goal 15. Comparing these two goals with the *2011-2020 Biodiversity strategic plan* and the ABTs, we can see that the latter two are more detailed. So, conscientiously implementing the *2011-2020 Biodiversity strategic plan* and the ABTs are to implement SDGs.

In the resolutions and the documents of the CBD's 13th session of the COP and the first meeting of subsidiary bodies, parties were encouraged to carry out the targets of biological diversity as soon as possible, including SDGs. In those papers the complementary relationship between *2011-2020 Biodiversity strategic plan*, the ABTs and the 2030 Agenda for Sustainable Development and SDGs were mentioned many times. COP13 also recommended that the convention's executive secretariat should study the relationship between the goals of biodiversity and the sustainable development goals in the context of funding permits (see the decision of CBD/CBD/COP/DEC/XIII/1, and the documents of UNEP:UNEP/CBD/SBI/1/14, UNEP/CBD/COP/13/6).

2.2.3. RELATIONSHIP BETWEEN SDGs, MEAs AND NATIONAL PERFORMANCE

2.2.3.1. 2030 SDGs: MASTER PLAN FOR INTERNATIONAL ENVIRONMENTAL GOVERNANCE

In the virtue of the global governance, SDGs are different from the MDGs. The former has made significant improvements. "The MDGs have a series of inadequacies: first, the environmental problems covered are limited; Second, it ignores the relevance of other development goals; Third, environmental goals should not be palliative; Fourth, the goal is vague, which can make it difficult for governments to implement. The main problems are the lack of relevance in the area of problems and the lack of attention to sustainable development, particularly the lack of an adequate representation of the overall relationship between the environment and society and the economy" [4]. In the 2030 Agenda for Sustainable Development, relationship between them has been given full attention and put the environment together with the economy and society as three pillars of the Agenda. Therefore, from the perspective of global environmental governance, the 2030 Agenda for Sustainable Development and SDGs are unified documents that coordinates the relationship among economy, society and environment.

For MEAs, SDGs have a paramount and top-down coordination role. One of the most important characteristics of international environmental law is fragmentation, which is divided into various self-contained fields and lacks coordination between different fields. MEAs overlap each other in the areas of global climate change, biodiversity, and hazardous chemicals control, etc. Therefore, MEAs have a certain synergy in terms of performance. According to the *2015 Global Outlook Report*, we can see that MEAs did not meet the Millennium Development Goals. SDG smake up for the shortcomings of the MDGs. They are the top-level design of the international rules for MEAs' coordination from top to bottom. In the complex jungle of MEAs, the direction of reunification in the future is established.

For states, 2030 Agenda requires every state to meet the goals and develop its own state's plan according to the "top-down" standards. However, in aspects of the formulation of specific standards

and the implementation of specific objectives, 2030 Agenda fully respects the sovereignty of the state and adopts a relatively free form of performance. Therefore, SDGs' national performance is "down to the top".

2.2.3.2. MULTILATERAL ENVIRONMENTAL AGREEMENTS: SPECIFIC NORMS OF INTERNATIONAL ENVIRONMENTAL GOVERNANCE

2030 Agenda itself is only a declaration of the broad political commitment of the international community, without concrete operable rules and legal binding force on states. Therefore, the implementation of SDGs depends on MEAs, such as *Kyoto Protocol*, *Paris Agreement*, *Convention on Biological Diversity*, *Biosafety Protocol*, *Stockholm Convention and Minamata Convention on Mercury*, etc. These MEAs have a set of relative detailed implementation systems, including implementation authority, implementation mechanisms and funding sources. At present, there are some deficiencies or even conflicts between these rules while the number of MEAs will be more and more as the further development of global environmental governance. It is foreseeable that states, as the main performing body of MEAs, will face more and more severe pressures of implementation: increasing state's reporting obligations, short of performance funding, lack of performance personnel, low performance ability and so on. However, the disunity between rules leads to rapid increasing performance costs and low efficient performance, which will eventually hinder SDGs' achieving. António GUTERRES, the Secretary-General of United Nations, pointed in the *Sustainable Development Goals Report 2017* that: "the rate of progress in many areas was far slower than needed to meet the targets by 2030". While considerable progress has been made over the past decade across all areas of development, the pace of progress observed in previous years is insufficient to fully meet the Sustainable Development Goals (SDGs) and targets by 2030. Time is therefore of the essence. Faster and more inclusive progress is needed to accomplish the bold vision articulated in the 2030 Agenda [5].

2.2.3.3. NATIONAL PERFORMANCE: THE KEY TO INTERNATIONAL ENVIRONMENTAL GOVERNANCE

The implementation of MEAs and SDGs depends on the domestic performance of states. There are two ways to perform in domestic: transformation and adoption. According to the principle "*paeta sunt servanda*", states have an obligation to fulfill its obligations, but the specific rules of performance are determined by states. If the international obligations are not fulfilled, international responsibility of the state will arise. Traditional international dispute settlement mechanism is an afterthought that cannot be prevented. Now most of MEAs have established the mechanism for promoting compliance, which is based on the principle of precaution.

However, the international community does not have a set of machines that push the law from top to bottom, which is similar to the domestic society. In this equal community, we can only refine the specific international obligations through domestic law of states to implement the specific rules of MEAs. Thus, rules of MEAs were transformed into specific norms of domestic environmental governance and were carried out by the domestic legal system and the state's machines, realizing the international protection goals indirectly. At present, there is no unified approach, because the rules in the sovereign states not only should be guided by MEAs, but also should be combined with different national conditions and legal system of each state. In order to implement SDGs and related MEAs, China should take full account of international and domestic environments, not only to implement international obligations, but also to take into account the national conditions of developing countries, and to formulate moderate performance goals.

2.3. CHINA'S PLAN TO IMPLEMENT THE 2030 SUSTAINABLE DEVELOPMENT GOALS

2.3.1. DOMESTIC: POSITIVE PERFORMANCE

2.3.1.1. IMPROVE THE ENVIRONMENTAL GOVERNANCE RULES WITHIN THE COUNTRY

In order to transform SDGs and MEAs into domestic environmental governance rules, China has formulated medium-term and long-term plans, revised and improved domestic laws, enacted various operational standards. From the framework to the law, and then to the specific operating standards, a relatively perfect system of domestic environmental governance rules has been formed. The detailed contents are listed below table.

	Plan	Law	Norm
Goal 12 Ensure sustainable consumption and production patterns	Formulated and implemented “ <i>Plan for the Development of Energy-conserving and Environmentally Friendly Industries During the 13th Five-Year Plan Period</i> ” and the “ <i>Action Plan on Energy Conservation by All During the 13th Five-Year Plan Period</i> ”; implemented the strategy of “ <i>Made in China 2025</i> ”; <i>Outline of the Development of Food Industry during the 13th Five-Year Plan Period</i> has been issued; promulgated and issued the <i>National Action Plan to Contain Antimicrobial Resistance (2016-2020)</i> and the <i>Catalog of “Encouraged Substitutes to Toxic and Hazardous Raw Materials (2016)”</i> ; released the <i>Outline for the Publicity and Education of Environmental Protection Nationwide (2016-2020)</i> .	Amended the <i>Land Management Law</i> ; revised the <i>Law of the People’s Republic of China on Prevention and Control of Environmental Pollution by Solid Waste</i> .	Introduced the <i>Plans for the Promotion of the Extended Producer Responsibility System</i> ; promulgated the <i>Guidance on Promoting Green Consumption</i> ; issued the <i>National Demonstration List of Advanced Pollution Prevention Technology (VOCs prevention)</i> and the <i>List of Recommended Proven Technologies for Energy Conservation and Carbon Reduction (Second Group)</i> .
Goal 13 Take urgent action to combat climate change and its impacts	The <i>Work Plan for Greenhouse Gas Emissions Control during the 13th Five-Year Plan Period</i> and the <i>Action Plan for Adaptation to Climate Change in Cities</i> have been formulated and implemented; released the <i>National Plan for Comprehensive Disaster Prevention and Reduction (2016-2020)</i> ; implemented important policy documents, including the <i>National Plan on Climate Change (2014-2020)</i> and the <i>National Strategy for Climate Change Adaptation</i> .		Released the <i>Opinions on Promoting Reform of Institutions and Mechanisms for Disaster Prevention, Reduction and Relief</i> .
Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development	Formulated the <i>13th Five-Year Plan for National Fishery Development</i> , the <i>13th Five-Year Plan for National Sea Water Utilization</i> , and the <i>13th Five-Year Plan for the Development of Marine Renewable Energy</i> ; promulgated the <i>Marine Accountability Inspection Plan</i> .	Revised the <i>Marine Environment Protection Law</i> .	Promulgated the <i>Administrative Measures on the Protection and Utilization of Coastlines</i> , the <i>Measures for the Management and Control of Land Reclamation</i> .

<p>Goal 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</p>	<p>Released the <i>Implementation Plan for Wetlands Protection during the 13th Five Year Plan Period</i>, the <i>Implementation Plan for Conversion of Degraded Farmland into Wetland (2016-2020)</i> and the <i>Plan for Wetland Protection and Restoration System</i>; implemented the <i>National Plan for Desertification Prevention and Management (2011-2020)</i>; formulated the <i>Development Plan of Suburban Forest Parks (2016-2025)</i>.</p>	<p>Revised the <i>Wild Animal Conservation Law</i>.</p>	<p>Promulgated the <i>Measures for Management of National Forest Germplasm Resources</i>; formulated the <i>Regulations on Access and Benefits Sharing of Genetic Resources</i>; issued the <i>Directory of Key Invasive Species (the First Batch)</i> and the <i>List of Invasive Alien Species in China's Natural Ecosystem (the Fourth Batch)</i>.</p>
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Tab. 1. Implementation Progress on Environmental Governance Rules in China During the Period September 2015 - August 2017 [6]

2.3.1.2. Established the Domestic Performing Institution of Environmental Conventions

China has established an inter ministerial coordination mechanism for implementing the 2030 Agenda, composed of 43 government departments, which forms a joint force among various government departments [6]. This is different from the previous national implementation coordination mechanism in China. The former coordination mechanism is mainly aimed at individual MEAs' implementation. For example, "*Montreal Protocol, Stockholm Convention and Convention on Biological Diversity*, all set up national implementation coordination mechanism and performance management office, that led by the Environmental Protection Department and composed by multiple departments" [7].

The inter ministerial coordination implementation mechanism plays an important role in national coordinated performance. Although relevant conventions, treaties, agreements have their own emphasis, they all made about environmental protection, and have common problems of limited performance resources and performance capacity. Coordination implementation is key to MEAs' effective implementation, especially true at national level. It's a big challenge for national performance authorities to make a coordinately implementation plan and mechanism and relocate implementation resources.

It is necessary to further implement the national strategic action of cooperative performance on the basis of the inter ministerial coordination implementation mechanism, in order to coordinate the position of international negotiations and improve the effectiveness of implementation. At present, China has promulgated *China's National Plan on Implementation of the 2030 Agenda for Sustainable Development*, which is a unified national strategy for collaborative performance. However, the inter ministerial coordination mechanism should also take depth study on collaborative performance between SDGs and MEAs, establishing implementation information exchanging and reporting mechanism, joint participation team in international negotiations and synergistic action on national implementation.

Implementation information exchange and reporting mechanism. The national performance authorities should exchange information timely, including the progress of international MEAs and the experience gained in the negotiations, the domestic implementation actions, achievements and problems. On this basis, the inter ministerial coordination authorities should summarize the performance of the agreements at the end of the year, and publish them in the form of annual reports, so as to provide early warning for possible future problems.

Joint participation team in international negotiations. As the content of MEAs is cross related, it is necessary to invite other relevant persons, including officers, scholars, specialists and civil stakeholders, to participate in the negotiation of important issues in specific MEAs, so as to jointly cope with the problems arising from the negotiations.

Synergistic action on national implementation. In the implementation of MEAs, we should clarify the common performance tasks in accordance with SDGs. In the formulation of medium-term plan, long-term plan and annual plan, implementation authorities of MEAs should strengthen cooperation and joint planning and setting up appropriate projects and activities in order to avoid repetition. Substantive projects should be carried out in environmental protection, scientific research, publicity education and training, public participation, information management, international cooperation, local cooperation and so on, so as to achieve synergy.

2.3.1.3. Earnestly Fulfill International Obligations

In the field of biological diversity, the wetland protection system is preliminarily formed. In 2016, China conducted 31 projects to conserve and restore wetland, converted 200,000 *mu* of degraded farmland to wetland, restored 300,000 *mu* of degraded wetland and built 134 national wetland parks. [6] China has participated in the demonstration projects of zero growth in land deterioration under the *United Nations Convention to Combat Desertification* and actively implemented the *National Plan for Desertification Prevention and Management (2011-2020)*. China has ratified the *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing*, formulated the *Regulations on Access and Benefits Sharing of Genetic Resources*, established the International Training Center for Forest Genetic Resources and promoted fair and equitable sharing of genetic resources. In 2016, China established 16 new national forestry protection areas, 22 national forest parks and designated 86 national forest germplasm preservation facilities. Currently, China has put in place a comprehensive and complete wildlife protection network, which effectively protects 90% of terrestrial ecosystem, 85% of wildlife species and 65% of higher plants communities. China has enhanced the capacity of preventing and control of bio-invasion. The *Directory of Key Invasive Species (the First Batch)* has been issued and the *List of Invasive Alien Species in China's Natural Ecosystem (the Fourth Batch)* has been released. A multi-agency risk-evaluation system has been introduced. The research and development for an online information system for domestic forestry plant quarantine has been completed. China has stepped up the construction and management of marine reserves, and the total area of reserves has been further expanded. Redoubled efforts have been made to build marine reserves, and 16 special marine reserves and national marine parks were established in 2016, expanding the total area under protection by 42.7% [6].

In the field of hazardous chemicals and wastes management, China has not only strengthened domestic laws and regulations, but also strengthened the environmentally sound management of hazardous chemicals and wastes. In 2016, China ratified the *Minamata Convention on Mercury* and the *Amendment on the Addition of Hexabromocyclododecane (HBCD) to the Stockholm Convention*, and actively implemented the *Stockholm Convention on Persistent Organic Pollutants*, the *Basel Convention on Transboundary Movements of Hazardous Wastes and Their Disposal* and other related international instruments. A series of documents such as the *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste* have been revised, and some new documents such as the *National Demonstration List of Advanced Pollution Prevention Technology (VOCs prevention)* and the *List of Recommended Proven Technologies for Energy Conservation and Carbon Reduction (Second Group)* have been issued, so as to reduce waste and promote prevention and control of air, water and soil pollution.

In the field of climate change, China has attached importance to both mitigation and adaptation, proactively controlled carbon emissions, honored its commitment to combating climate change, and enhanced adaptation capabilities. The *Work Plan for Greenhouse Gas Emissions Control during the 13th Five-Year Plan Period* and the *Action Plan for Adaptation to Climate Change in Cities* have been formulated and implemented. Pilot projects have been carried out in building low-carbon provinces, cities, towns, industrial parks and communities, and the development of a national market for the trading of carbon

emission rights has been moving ahead. In 2015, the Chinese government submitted to the UN the *Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions*, which put forth such goals as to achieve the peaking of carbon dioxide emissions around 2030 and making best efforts to peak early and to lower carbon dioxide emissions per unit of GDP by 60% to 65% from the 2005 level, charting the course for China's effort to cope with climate change in the medium and long run.

2.4. International Actively Participating in Global Environmental Governance

2.4.1. International Environmental Governance

2.4.1.1. Actively Participating in MEAs' Formulation and Promoting MEAs' Enforcement

China has actively contributed Chinese wisdom and solutions for global climate governance and worked with other countries for the adoption of the *Paris Agreement*. China was among the first countries to sign and ratify the Agreement. The Presidents of China and the US both attended the ceremony for depositing their national instruments of ratification, making a historic contribution to the early entry into force of the *Paris Agreement*. China participated in the Marrakesh COP 22 in a constructive manner and pushed for its success. In hazardous waste related aspects, China participated in the intergovernmental negotiating committee of the *Minamata Convention on Mercury* and promoted the text of the Convention. In 2016, China ratified the *Minamata Convention on Mercury* and the *Amendment on the Addition of Hexabromocyclododecane (HBCD) to the Stockholm Convention*. The *Minamata Convention on Mercury* came into force in August 16, 2017.

2.4.1.2. Publication of Relevant Documents on China's Implementation of the 2030 Agenda of Sustainable Development

In September 2015, China has announced the *China's Position Paper on the Implementation of the 2030 Agenda for Sustainable Development*, including the General Principles, Key Areas and Priorities, Means of Implementation and China's Way Forward. China believes that the world should develop in peaceful way, the countries' development capacity should be enhanced, and the 2030 Agenda should be implemented coherence with country's national development strategy to promote each other and form a joint force.

China has announced *China's National Plan on Implementation of the 2030 Agenda for Sustainable Development* in September 2016 [6]. This plan introduced the achievements and experience in China's implementation of the Millennium Development Goals and the opportunities and challenges in China's implementation of the 2030 Agenda for Sustainable Development, formulated the guiding thoughts and general principles for China's implementation of the 2030 Agenda for Sustainable Development, put forward the overall approaches for China's implementation of the 2030 Agenda for Sustainable Development, finally publicized the implementation plan for the 17 Sustainable Development Goals through a detailed comparison in the form of a chart. We can see that some of China's targets, in fact, have already set ahead of the targets in 2030 Agenda, as China's targets are set in the deadline of 2020.

In August 2017, China has issued the *China's Progress Report on Implementation of the 2030 Agenda for Sustainable Development* [6]. With abundant examples and data, the report presents an overall review of the progress China has made in realizing the 17 SDGs since September 2015, the challenges it faces and its future plans. Going forward, China will continue to earnestly and fully implement the 2030 Agenda under the guidance of the vision of innovative, coordinated, green, open and shared development. In the meantime, China will continue to provide assistance with the best of its ability to other developing countries within the framework of South-South Cooperation, and support them in their efforts to implement the 2030 Agenda and achieve a common development.

2.5. Regional Environmental Governance

China not only actively participates in international environmental governance, but also plays a positive role in the regional environmental governance by the platform of "*The Belt and Road Initiative*",

the *G20 Summit*, etc. Among them, two areas of achievements are most prominent: one is the marine field, and the other is the field of ecosystem security.

In the field of marine environment protection. China has actively carried out international maritime exchange and cooperation with other countries. For example, “The *China-US Framework Plan for Marine and Fishery Science and Technology Cooperation (2016-2020)* has been signed. China has pushed forward the development of the 21st Century Maritime Silk Road, signed a memorandum of understanding for marine cooperation with Cambodia, and conducted high-level dialogues and cooperation on maritime affairs with countries including India, Sri Lanka, Thailand and Malaysia” [6]. In addition, China has also actively helped other countries to carry out relevant capacity building. For example, “China has provided assistance to build aquaculture facilities and carried out demonstration on aquaculture technologies in countries along *the Belt and Road*. Under the framework of South-South cooperation, China has conducted capacity building cooperation with other developing countries including small island developing states and least developed countries, in maritime disaster prevention and reduction, fishery, aquaculture, tourism, seawater desalination, and other areas” [6].

In the field of ecosystem security. Through vigorous international cooperation, China has effectively promoted cross-border and global ecological security. China has actively carried out forestry cooperation with the countries along “*The Belt and Road*”. China has signed 35 forestry cooperation agreements with countries along the route of *the Belt and Road Initiative* and established forestry cooperation mechanisms with ASEAN and Central and Eastern European Countries. Through the Asia-Pacific Forestry Commission, China has conducted a series of pilot and demonstration programs including sustainable management of forests in northern Laos, planning and demonstration of integrated management of forest ecosystem in the Lancang River-Mekong River basin, pilot forest restoration project in greater Central Asia region, and capacity building of Pacific island states on sustainable forest management. The concept of green development has been promoted in the construction of China-Mongolia-Russia economic corridor. China has collaborated with Russia on protecting and utilizing forest resources, preventing forest fires along the borders, and protecting tigers and migrant birds. China has worked together with Mongolia on wildlife protection and desertification prevention and control. China has also conducted cooperation with Egypt, Israel, Iran, Sri Lanka, Pakistan, Nepal, Myanmar and other countries in fields including desertification prevention and control, sustainable use of forests, wildlife protection, ecosystem management, wetland protection and response to climate change in the field of forestry [6].

2.5.1. Global Partnership

While promoting the implementation of *2030 Agenda for Sustainable Development* and SDGs, China has also actively advocated to promoting the building of a community of a shared future for mankind [8]. The expounding of a community of a shared future for mankind in *Report of the 19th National Congress of the Communist Party of China* has pointed out the direction and way for China to build a global partnership in the future. “The dream of the Chinese people is closely connected with the dream of the peoples of other countries; the Chinese Dream can be realized only in a peaceful international environment and under a stable international order. We must keep in mind both our internal and international imperatives, stay on the path of peaceful development, and continue to pursue a mutually beneficial strategy of opening up. We will uphold justice while pursuing shared interests, and will foster new thinking on common, comprehensive, comprehensive, cooperative, and sustainable security. We will pursue open, innovative, and inclusive development that benefits everyone; boost cross-cultural exchanges characterized by harmony within diversity, inclusiveness, and mutual learning; and cultivate ecosystems based on respect for nature and green development. China will continue its efforts to safeguard world peace, contribute to global development, and uphold international order” [9]. At present, China has formed an international development cooperation pattern with “the United Nations as the core, the North South cooperation as the main channel, and the South South cooperation as an important supplement” [6].

Taking the United Nations as the core. Xi Jinping, Chinese leader, attended the 70th anniversary series of summits of the UN, and the 71th session of the UN General Assembly series of high-level conferences and other major conferences. The 70th anniversary summit of the United Nations was held in New York in September 26, 2015. Xi Jinping made a speech entitled *Seeking Common Sustainable Development and Win-win Cooperation*, in which calling on the international community to take the new development agenda (*2030 Agenda for Sustainable Development*) as a new starting point after 2015, and jointly go out of a fair, open, comprehensive and innovative way of development, and achieve common development of all countries[10]. In the General Debate of the 70th UN General Assembly, Xi Jinping once again published the statement of *Building a New Partnership of Cooperation and Win-win Cooperation and Building a Community of a shared future* [11]. When attending the Summits marking the 70th anniversary of the UN in September 2015, Chinese President Xi Jinping announced that China would establish a 20 billion-yuan South-South Cooperation Fund for Climate Change. In November 2015, President Xi announced at the Paris Conference on Climate Change that “China would launch cooperation projects in developing countries including building 10 low carbon demonstration zones, carrying out 100 mitigation and adaptation projects and providing 1,000 training opportunities on climate change” [12]. At the beginning of 2017, the China's top leader Xi again in the United Nations Geneva headquarters, together to explore the construction of a common destiny of mankind in this era. “We need to think of contemporary people, but also responsible for next generations. China's plan is to build a community of a shared future and achieve a win-win cooperation” [9].

North and South cooperation is the main channel. China successfully held the Symposium on the 2030 Agenda for Sustainable Development to deepen global partnership for implementing the Agenda and pushed for the endorsement of the *G20 Action Plan on the 2030 Agenda for Sustainable Development* at the G20 Hangzhou Summit [13]. This is the first time that the international community has made a pioneering initiative in implementing the plan of action for the 2030 sustainable development agenda of the United Nations. China has urged G20 members to make commitments and national declarations on climate funding, played an exemplary role in the climate change Paris agreement, and put forward the concept of green finance. The *G20 initiative to support industrialization in Africa and the least developed countries* was launched by China to contribute to reducing the imbalance and inadequate development of the whole world. In addition, China has attended the World Economic Forum, held consultations with the United States and other developed countries to develop cooperation consensus.

Take the South South cooperation as an important supplement. China has strengthened cooperation with other developing countries and emerging markets on the important platform of the *High-level Round table on South-South Cooperation* and BRICS to deepen global partnership for the implementation of the 2030 Agenda. In September 2015, President Xi Jinping announced a series of important measures at the summits marking the 70th anniversary of the UN, including establishing the *China-UN Peace and Development Fund*, the *South-South Cooperation Assistance Fund*, an *international development knowledge center*, an *institute of south-south cooperation and development* and exempting the debt of outstanding intergovernmental interest-free loans due by the end of 2015 owed by relevant least developed countries, landlocked developing countries and small island developing countries [10]. These measures have been well implemented. The *Peace and Development Fund* was put into operation in 2016. Among the first 13 projects, eight were aimed to support sustainable development of other developing countries in such areas as poverty reduction, infrastructure, scientific and technological innovation and social development. In the same year, the *South-South Cooperation Assistance Fund* was launched with priority given to helping other developing countries grow the economy, improve people's well-being, respond to such challenges as food security and refugees and promote implementation of the 2030 Agenda. President Xi Jinping announced in May 2017 a replenishment of USD 1 billion to the Fund, giving fresh impetus to developing countries' efforts to achieve sustainable development [8, p. 11–12]. In April 2016, the *Institute of South-South Cooperation and Development* was launched in Peking University, aiming to strengthen the capacity of developing countries for implementing the 2030 Agenda through providing educational opportunities to obtain academic degrees and diploma and sharing development experiences [13]. In August 2017, *Center for International*

Knowledge on Development was established for research on development practices and theories that suit different countries and exchanges of research findings in the area of development. Moreover, the exemption of the debt of outstanding intergovernmental interest-free loans for countries with special difficulties is implemented effectively [6].

With the pattern of “the United Nations as the core, the North South cooperation as the main channel, and the South South cooperation as an important supplement”, China actively has promoted “*The Belt and Road*” international cooperation and the sustainable development in the countries along the “*The Belt and Road*”, and maintained peace and stability, sustainable development in the Asia Pacific Region through the Shanghai Cooperation Organization, APEC, BRICs Leaders’ Summit, China-Africa Cooperation Forum Johannesburg Summit, Asian Infrastructure Investment Bank, etc. In May 2017, China successfully hosted the “*The Belt and Road*” International Cooperation Forum, in which announced a series of concrete measures supporting the sustainable development of the countries along the “*The Belt and Road*”, that is a strong impetus to the global implementation of the 2030 Agenda for Sustainable Development.

3. CONCLUSIONS

As the largest developing country and a responsible country, China adheres to the principle of “common but differentiated responsibilities”, and actively promotes global environmental governance and SDGs. The experiences of implementing SDGs in China include: First, the organization and coordination have been focused on. China has established a inter ministerial coordination mechanism in the central governmental level including 43 departments, committees or offices. Second, combining SDGs with the relevant implementation goals of MEAs, China has formulated the domestic environmental governance norms in line with China's national conditions. Third, China focus not only on China's development, but also on the global and human development, and actively promote global environmental governance. In summary, the greatest experience of China's implementation of SDGs is development: comprehensive, full and sustainable development. In order to realize the sustainable development of mankind, the plan given by China is to build a community of a shared future for mankind and achieve a win-win cooperation.

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Тіанбао Кін, Ху Фанг. Національний план Китаю по впровадженню пріоритетів сталого розвитку до 2030 року з перспективою національної реалізації багатосторонніх міжнародних угод. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 55–66.

Реалізація багатосторонніх природоохоронних угод поступово перейшла від інституційного міжнародного до національного рівня. Оскільки цілі розвитку тисячоліття не досягли мети сталого розвитку в 2015 році. Цілі сталого розвитку до 2030 року наголошують на цілях економічного, соціального та екологічного характеру, та вимагають від усіх країн створення відповідних планів досягнення цих цілей. Як найбільша країна, що розвивається, Китай відіграє вирішальну роль у міжнародному екологічному управлінні. Китай сформулював вітчизняні норми екологічного управління для реалізації цілей сталого розвитку в 2030 році та створив міжвідомчий координаційний механізм для реалізації Цілей сталого розвитку, до роботи якого залучено 43 урядових департаменти. Китай також активно бере участь у міжнародному екологічному управлінні, беручи участь та сприяючи укладенню та ефективній реалізації договорів про охорону навколишнього середовища на міжнародному та регіональному рівнях, розширюючи глобальне партнерство через різні офіційні та неформальні зустрічі та інші канали комунікації.

Ключові слова: Цілі сталого розвитку до 2030 року, національний план Китаю, національна ефективність, глобальне екологічне управління, багатосторонні екологічні угоди.

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RECOGNITION OF CUSTOMARY LAW AND INSTITUTIONS AND COMMUNITY PROTOCOLS OF INDIGENOUS PEOPLE IN DOMESTIC ABS LEGISLATION OR POLICIES IN ACCORDANCE WITH THE PROVISIONS OF NAGOYA PROTOCOL

HASRAT ARJJUMEND

Abstract. The Nagoya Protocol on Access and Benefit Sharing (ABS) provides for the rights of Indigenous people and local communities in accordance with United Nations Declaration of Rights of Indigenous People. The Parties are obliged to take legislative, administrative and technical measures to recognize, respect and support/ensure the customary laws & institutions and community protocols of Indigenous peoples and local communities (ILCs). Within the ambit of contemporary debates encompassing Indigenous peoples' right to self-determination, this paper examines the effectiveness of international law (i.e. Nagoya Protocol) to influence existing or evolving domestic laws, policies or administrative measures of Parties on access and benefit sharing. Through opinion surveys of Indigenous organizations and national authorities of CBD's Parties, the findings indicate that the space, recognition and respect created in existing or evolving domestic ABS measures for rights of Indigenous communities are too inadequate to effectively implement the statutory provisions related to customary laws & institutions and community protocols, as envisaged in Nagoya Protocol. As the bio-cultural rights of Indigenous people are key to conservation and sustainable use of biodiversity, the domestic ABS laws need reorientation to be sufficiently effective in translating the spirit of international ABS laws into domestic policies.

Keywords: community institutions, community protocol, customary law, genetic resources, indigenous people, Nagoya Protocol.

1. INTRODUCTION

Indigenous people have been acknowledged for making significant contributions to the sustainability of planet Earth. As highlighted in Joint Submission of Grand Council of the Crees *et al.* [1], Indigenous peoples and local communities (ILCs) have a distinct and essential role [2]¹ in

¹ See [2] "... plant diversity is of special concern to Indigenous and local communities, and these communities have a vital role to play in addressing the loss of plant diversity". Also see, e.g. European Council, "Indigenous peoples within the framework of the development cooperation of the Community and the Member States", Resolution, 30 November 1998: "... many Indigenous peoples inhabit areas crucial for the conservation of biodiversity, and maintain social and cultural practices by way of which Indigenous peoples have a special role in maintaining and enhancing biological diversity and in providing unique sustainable development models".

safeguarding biodiversity that benefits humankind². The Office of the High Commissioner for Human Rights has noted that by respecting and protecting their rights, biodiversity objectives are strengthened. Yet Indigenous peoples remain among the most disadvantaged peoples globally [3]³. With an exploitative history grounded in cultural misappropriation, Indigenous people continue experiencing cultural erosion, and reckless and inequitable exploitation of natural resources. While Indigenous people continue to face challenges of multi-dimensional poverty, and ongoing cultural degradation, several international instruments support safeguarding the important role Indigenous people play as stewards of biodiversity and natural ecosystems⁴.

Biological diversity and associated Indigenous traditional knowledge (TK) of the Indigenous people and local communities (ILCs) are provided protections under the Convention on Biological Diversity (CBD) and the Nagoya Protocol on Access and Benefit Sharing in a manner consistent with rights of ILCs in accordance of United Nations Declaration for Rights of Indigenous People (UNDRIP)⁵. Contextually, at the core of the human rights of ILCs is their demand for self-determination [4]. Defined by Anaya [5], the self-determination comprises certain core values, including non-discrimination, protection of cultural integrity, rights over lands and natural resources, social welfare for economic well-being, and self-government. The right to self-determination of the ILCs is supported through recognition of local self-governance of natural resources and traditional knowledge enshrined in Articles 8(j) and 10(c) of the Convention [4]. Providing further clarity to the rights of ILCs, the Nagoya Protocol establishes obligations on Parties relating to recognition of customary law and institutions, community protocols, involvement in issuing prior informed consent (PIC) and mutually agreed terms (MAT), free access to biological resources, and unrestricted exchange of genetic resources.

A range of provisions of the Nagoya Protocol, including Articles 5.2, 5.5, 6.3, 8, 15.1 and 16.1, specifically oblige Parties to formulate, enact and implement the domestic legislation, policies, administrative measures and governance systems in support of rights of ILCs. Additionally, Articles 5, 6.2, 7, 8, 12 and 18.2 of the Nagoya Protocol require domestic legislation relating to ABS including establishment of prior informed consent (PIC), mutually agreed terms, and recognition of laws, customs, and institutions of ILCs. A total of 47 countries and European Union have developed domestic ABS legislation, policy or an administrative framework [6].

Compliance of Parties with the relevant provisions of the CBD, Nagoya Protocol and UNDRIP is ripe for further evaluation both quantitatively and qualitatively. Following the entry into force of the Nagoya Protocol in October 2014, all 101 Parties of the Protocol have been requested to submit an Interim National Report of Implementation by November 2017⁶. This paper looks to explore evaluation of implementation to inform cases where the competent national authorities (CNAs) of the Parties are unable to file their interim or final compliance reports.

² Office of the High Commissioner for Human Rights, "It's not enough to support the Declaration on the Rights of Indigenous Peoples, says UN expert", statement issued by UN Special Rapporteur on the situation of human rights and fundamental freedoms of Indigenous people, James Anaya, on the occasion of the International Day of the World's Indigenous Peoples, Geneva, 9 August 2010: "[Indigenous peoples] have preserved, generation after generation, an extraordinary wealth of knowledge, culture, and spirituality in the common benefit of humankind, contributing significantly to the world's diversity and environmental sustainability".

³ See [3] "Indigenous peoples face many challenges and their human rights are frequently violated: they are denied control over their own development based on their own values, needs and priorities; they are politically under-represented and lack access to social and other services. They are often marginalized when it comes to projects affecting their lands and have been the victims of forced displacement as a result of ventures such as the exploitation of natural resources".

⁴ For example, UN Permanent Forum on Indigenous Issues (UNPFII), International Convention on the Elimination of All Forms of Racial Discrimination, International Labour Organization Convention 169, UN Declaration on the Rights of Indigenous Peoples (UNDRIP), Expert Mechanism on the Rights of Indigenous Peoples, etc.

⁵ The *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization* was adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting on 29 October 2010 in Nagoya, Japan. In accordance with its Article 32, the Protocol was opened for signature from 2 February 2011 to 1 February 2012 at the United Nations Headquarters in New York by Parties to the Convention. The Protocol entered into force on 12 October 2014.

⁶ Under art. 29 of Nagoya Protocol, no country had filed any report on ABS Clearing-House until 5 August 2017, website: <https://absch.cbd.int/>. However, as on 25 January 2018, 67 national reports had been submitted on the website.

This paper aims to determine the extent of domestic ABS laws globally and recognition of rights of Indigenous people grounded in two special variables, namely: (1) Recognition of Customary Laws and Institutions of ILCs; and (2) Recognition of Community Protocols of ILCs. The variables chosen under this study have direct relevance to historically violated rights of Indigenous communities. Importance of these variables is reiterated by the UN Permanent Forum on Indigenous Issues (UNPFII) while emphasizing role of the CBD for respecting and protecting Indigenous rights of ILCs consistent with the UNDRIP [7]: "... consistent with international human rights law, *States have an obligation to recognize and protect the rights of Indigenous peoples to control access to the genetic resources that originate in their lands and waters and any associated Indigenous traditional knowledge. Such recognition must be a key element of the [proposed] international regime on access and benefit-sharing, consistent with the United Nations Declaration on the Rights of Indigenous Peoples [8]*".

Implementation is evaluated through both analysis of the legal measures, and survey data of Indigenous organizations/individuals from around the world and the competent national authorities (CNAs) of 12 countries from Asia. The results of the analysis illustrate the importance of the CBD and the Nagoya Protocol play in effectively realizing the human rights of ILCs in accordance with UNDRIP.

2. METHODOLOGY

As part of a project on ABS studies at Academy of International Studies of Jamia Millia Islamia⁷, the field data was gathered from 2012 to 2015. Evaluative research methods were applied to examine the position of ILC representatives in international forums and the impact of their position on ABS laws. *Nonreactive* (analysis of existing documents and secondary information)⁸ as well as *reactive* (structured interviews and participant observation) research methods were employed in the study and development of this paper.

2.1. SAMPLING FOR STRUCTURED INTERVIEWS

Stratified random sampling was employed for the purposes of conducting the structured interviews, with a list of potential respondents being prepared beforehand. Civil society organizations and individuals working on or advocating issues and causes relevant to ILC were first selected and contacted. The list of participants was narrowed down based on scope of expertise and operational constraints (able to answer questions in English via email for instance). A total of 5876 organizations, groups and individuals had been contacted to evaluate interest. Based on participant availability a total of 15 in-depth interviews were conducted with individuals intensively involved in their communities, and active in international forums. Individuals represented diverse organizations from various parts of the world as represented in Table 1. Their responses are conveyed in Table 2 and have been expressed in percentage format.

Participant	Organization	Country
Emma Chippendale	Unrepresented Nations and Peoples Organization (UNPO)	Belgium
Sali Django	Mbororo Social and Cultural Development Organization (MBOSCUDA)	North West Region, Cameroon

⁷ A central university by Act of Indian Parliament: <http://jmi.ac.in>

⁸ In nonreactive research the people studied are unaware that they form part of a study. They thus leave evidence of their social behaviour or actions 'naturally'. Creating nonreactive measures follows the logic of quantitative measurement, although qualitative researchers also make use of nonreactive observation. The operational definition of the variable includes how the researcher systematically notes and records of observations. Because nonreactive measures indicate a construct indirectly, the researcher needs to rule out reasons for the observation other than the construct of interest.

Paul Joffe	Grand Council of the Crees (Eeyou Istchee)	Canada
Babagana Abubakar	Kanuri Development Association (KDA)	Nigeria
Alpha Beretay	World Institute for a Sustainable Humanity	Sierra Leone
Andy Savage	Direct Sponsor (Tribal Networks)	Ireland
Peter Watson	Legal Assistance Centre	Namibia
Nsase Soki Maurice	Foret pour le Development Integral (FODI)	Democratic Republic of the Congo (DRC)
Alex Nyamujilirwa George	(individual)	Tanzania
Imad Abdel Moniem	(individual)	Sudan
Hemant Larma	Mizoram Chakma Development Forum	New Delhi/India
P. Murugan	NESAM Trust	Tamil Nadu/India
Amit Kumar	Citizens Foundation	Himachal Pradesh/India
Sanjay Garg	Centre for Policy Solution	Jaipur/India
M. Sudhakar	(individual)	Karnataka/India

Tab. 1. Participants of Research

Responses were also gathered from various national focal points of governments from Asian countries particularly. The CBD Competent National Authorities (CNAs) from 50 jurisdictions were contacted for face-to-face and email interviews. A total of 12 CNAs responded with substantial information in the questionnaire, including: India, Bangladesh, Nepal, Thailand, Vietnam, Lao PDR, Timor Leste, Brunei Darussalam, Philippines, Mongolia, China and Russia. Bahrain, Singapore, Qatar and South Korea replied that they had not started any preparation for ABS legislation or policy in their respective countries.

2.2. STRUCTURED INTERVIEWS

A set of questions were developed to structure the interviews (see Table 2: Survey Questions and Responses, and Table 3: Opinions of CBD/NP Parties). Questions were categorized into two Groups: (1) Recognition of Customary Laws and Institutions of ILCs, (2) Recognition of Community Protocols of ILCs. Participants from Indigenous organizations/individuals (Table 2) received a questioner comprised of 3 relevant questions, with CBD CNAs receiving 3 pertinent questions (Table 3). The nature and number of questions were limited to maintain predominance and to respect the time investment in sufficiently responding to the survey, at times during international forums and contacted face-to-face.

2.3 PARTICIPANT OBSERVATION

Observation of international negotiation processes in the CBD was also utilized to inform this research. Participant observation is a research technique used for qualitative research purposes [9].

DeMunck and Sobo [10] describe participant observation as the primary method used by anthropologists doing fieldwork, which involves “active looking, improving memory, informal interviewing, writing detailed field notes, and (...) patience” [11]. The first and third authors directly observed the following two international meetings on the ABS regime:

- The Second Meeting of the Open-Ended *Ad Hoc* Intergovernmental Committee for the Nagoya Protocol on ABS (ICNP-2) (9 – 13 April 2012, New Delhi, India)
- The Eleventh Meeting of the Conference of the Parties (COP11) to the Convention on Biological Diversity (8 – 19 October 2012, Hyderabad, India)

Questions of Opinion Survey	Respondents (n=15)	
	In parenthesis, the no. of Respondents	Response Percentage
Recognition of Customary Laws & Institutions of ILCs		
1. Does your country truly respect, recognize and enforce the rights and ITK of your own Indigenous people?	1. Yes, our country does. (1) 2. Yes, but not truly. (8) 3. No. (4) 4. I don't know. (2)	1. 06.66% 2. 53.34% 3. 26.66% 4. 13.34%
2. Does your country's ABS legislation/policy recognize the customary law/institutions of your Indigenous people?	1. Yes, our existing/evolving ABS legislation/policy has such a provision. (2) 2. No, there is no such provision in our existing/evolving ABS legislation/policy. (3) 3. No ABS instrument is evolved or evolving in my country. (1) 4. I am not aware. (9)	1. 13.34% 2. 20.00% 3. 06.66% 4. 60.00%
Recognition of Community Protocols of ILCs		
3. Does your country's ABS legislation/policy provide for supporting the concerned ILCs to develop community protocols am not aware. (10)of your Indigenous people?	1. Yes, our existing/evolving ABS legislation/policy has such a provision. (3) 2. No, there is no such provision in our existing/evolving ABS legislation/policy. (1) 3. No ABS instrument is evolved or evolving in my country. (1) 4. I am not aware. (10)	1. 20.00% 2. 06.66% 3. 06.66% 4. 66.68%

Tab. 2. Survey of Indigenous Organizations and Individuals

The authors specifically interacted and observed the delegates of selected countries. They attended the negotiations, side events and meetings of ILCs, NGOs and international organizations at ICNP-2 focused on and ABS mechanism, and COP11. Particular attention was paid to how ILC members were engaged and involved in scheduled sessions of the ICNP-2 and COP11, as well as in side events. Debates concerning customary institutions, community protocol, and Indigenous rights had been attended and observed, in particular.

The present paper is grounded in the framework principles of ‘equity and justice’ enshrined in the Nagoya Protocol and the impact this has on national ABS regimes. It has been noted that “good policy

is just a starting point – good practice is more difficult to achieve” [12]; this fact is particularly relevant in ABS with the breadth of legal complexities inherent in governance of GRs and TK. Negotiation of international or national instruments take long route to translate into reality, with only half of the 102 Parties to the Nagoya Protocol have so established relevant domestic ABS legislation or policies. These complexities are exacerbated in the context of realizing right and interests of Indigenous people. Cotula and Mayers highlight the gap between what is “on paper” and what happens “in practice” in the context of land tenure in the territories where Indigenous people and marginalized communities reside. They underscore the fact that despite a growing international recognition of communities’ rights to self-determination and management of their natural resources [13], international rights are far from a solution against local disempowerment or the denial of procedural and substantive justice [14]. Activists are similarly skeptical of the Nagoya Protocol, as to whether it will help or hinder communities at the local level [15]. Such doubts on the overall impacts are often identified when ABS regimes are closely scrutinized. The highly publicized Hoodia case of benefit sharing in South Africa represents a moral victory for the San community for recognition of their rights relating to traditional knowledge, the outcome has been suggested to have undermined traditional values, knowledge, and resource governance systems of San community [4]. Critics further argued that the governance reforms weakened the San’s traditional forms of authority, increased the community’s reliance on external expert opinion, exacerbated power and information asymmetries in and across San communities, and initially fostered mistrust between the San and Nama communities⁹. This case is illustrative of the justice dynamics and challenges face by Indigenous peoples in aiming to actualize their rights to governance of GR and TK. As noted by Hon. Rosalie Abella, Justice of the Supreme Court of Canada, in discussing the plight of Indigenous people: “We need more than the rhetoric of justice. We need justice....” [16].

Q. No	Questions of Opinion Survey	Response Options	% age of Countries’ Response	Responses of Countries											
				South Asia			South East Asia					North Asia			
				I	N	Ba	Th	L	V	P	Br	Ti	M	R	C
Recognition of Customary Laws & Institutions of ILCs															
1.	In accordance of Article.12.1 of Nagoya Protocol, does your country’s ABS legislation/ policy recognize the customary law/institutions of your Indigenous people?	1. Yes, our existing/ evolving ABS legislation/policy has such a provision. 2. No, there is no such provision in our existing/evolving ABS legislation/policy. 3. I am not aware.	1. 44.44% 2. 33.33% 3. 22.22% NA _t = 1 NA _p = 2	1	NA _p	2	3	3	1	1	NA _p	NA _t	2	1	2

⁹ This has been addressed by the recent San-Nama Benefit Sharing Agreement.

Q. No	Questions of Opinion Survey	Response Options	% age of Countries' Response	Responses of Countries											
				South Asia			South East Asia						North Asia		
				I	N	Ba	Th	L	V	P	Br	Ti	M	R	C
Importance to Community Protocols of ILCs															
2.	In accordance of Article.12.3 (a) of Nagoya Protocol, does your country's ABS legislation/policy provide to ensure the development of community protocols before granting any PIC to users of ITK?	1. Yes, our existing/evolving ABS legislation/policy provides to ensure the development of community protocols. 2. No, there is no such provision in our existing/ evolving ABS legislation/ policy. 3. I do not know.	1. 12.50% 2. 75.00% 3. 12.50% NAt = 3 NAP = 1	NAt	NAt	2	2	3	2	1	NAP	NAt	2	2	2
3.	Does your country's ABS legislation/policy provide for supporting the concerned ILCs to develop community protocols of your Indigenous people?	1. Yes, our existing/evolving ABS legislation/policy has such a provision. 2. No, there is no such provision in our existing/ evolving ABS legislation/ policy. 3. I am not aware.	1. 50.00% 2. 37.50% 3. 12.50% NAt = 2 NAP = 2	NAt	NAP	3	1	1	2	1	NAP	NAt	2	2	1

Tab. 3. Opinions of CBD/NP Parties [position of countries represents that of 2014]

NAt = Not Attempted; NAP = Not Applicable.

I = India; N = Nepal; Ba = Bangladesh; Th = Thailand; L = Lao; V = Vietnam; P = Philippines; Br = Brunei; M = Mongolia; R = Russia; C = China

3. ANALYSIS AND DISCUSSION

States' acceptance and compliance with international law has a seemingly direct causal relationship with advocacy for Indigenous rights. It is hypothesized that States which have a poor record of recognizing, respecting, honouring and realizing the rights of their own Indigenous people are less likely to be vocal champions on the international stage. Consequently, the implementation of relevant provisions of Nagoya Protocol may also be treated with less emphasis at the domestic level, including not becoming a Party to the Protocol at all. As noted in the Joint Submission of Grand Council of the Crees *et al.* [1]: "States have adopted measures to the detriment of Indigenous and local communities. In

some States, the existence of specific Indigenous peoples is not recognized¹⁰ [17, 18] – and even if they are, States often refuse to affirm Indigenous peoples’ resource rights in national legislation [19]¹¹. This position is echoed by UN Department of Economic and Social Affairs (DESA) emphasizing: “...Indigenous peoples continue to lobby governments for the full legal recognition of their traditional land rights” [20]. Likewise, Faizi and Nair [21] have established that India has the world’s largest population of “*adivasis*”¹², yet, unfortunately, they are refused to be accepted as ‘Indigenous people’ by the post-colonial Indian governments and were defined as ‘Scheduled Tribes’ in the Constitution. This differentiation separates “*adivasis*” from Indigenous people resulting in a spectrum of inequalities and limiting access with international jurisprudence on self-determination. An analysis of domestic variables informs understanding of the field implications of domestic ABS legislation or policies, if it exists in the countries implementing the Nagoya Protocol.

3.1 Recognition of Customary Laws and Institutions of ILCs

A crucial question for consideration is what constitutes customary law. WIPO in a 2013 paper on relevant terms cited the Black’s Law Dictionary definition as “law consisting of customs that are accepted as legal requirements or obligatory rules of conduct; practices and beliefs that are so vital and intrinsic a part of a social and economic system that they are treated as if they were laws”¹³. Scholars have explained that the Indigenous property systems are normally characterized by collective ownership (where the community owns a resource, but individuals may acquire superior rights to or responsibilities for collective property) and communal ownership (where the property is indivisibly owned by the community). Subsequently, although some property is alienable within and outside of communities, Indigenous property systems emphasize duties and obligations to objects and resources. Indigenous property systems also generally emphasize the sacred, spiritual and relational values of resources rather than the utilitarian and economic [22]. Customary law of Indigenous peoples relating to ‘intangible property’ differs from mainstream dominant legal systems of States. Tsosie [23] clarifies that in many dominant legal systems, “property law” is utilitarian having focus on “private property rights”, and is based on a bundle of rights that “typically includes the rights to include, exclude, use, sell, transfer, purchase and impede” [22]. The customary law reflects the strengths of Indigenous and traditional societies as to how they link philosophical principles of conservation into real life practice. The utilitarian value of customary law for conservation is founded in its long history and robust institutions regulating the use of natural resources [24]. It is firmly agreed that customary law as a whole is not static but is based around sets of core principles that provide guidance for ongoing adjustments to dynamic environmental and social environments. Tobin [25] has suggested that the customary law is at the core of Indigenous identity. Lastly, Swiderska [26] described it as: “having adjusted to fit to particular historical, social and ecological contexts, the common principles of customary law include reciprocity, respect for the Earth and all living things, a focus on relational and restorative ethics and justice, and focusing on collective good rather than personal gain”.

¹⁰ “The Asian and Pacific region is home to about 70 per cent of the world’s Indigenous people, yet only a handful of States in that region have officially recognized the existence of Indigenous peoples in their countries”. For instance, India does not recognize its Indigenous people, instead call them as ‘tribes’ [17]. Also see, “The leaders of the country’s indigenous communities called upon the government to seriously consider the issue of constitutional recognition as indigenous instead of small ethnic group; otherwise, the process of amendment of constitution will remain incomplete.” [18].

¹¹ “In the courts [of Canada], government lawyers routinely deny the very existence of Indigenous Peoples and their rights, stating in their pleadings and legal arguments that, unless proven by Indigenous Peoples in the courts, neither Indigenous Peoples nor their rights exist. This means Indigenous Peoples must bring their elders, histories, cultures, ways of life and stories into a legal system foreign to them...” [19].

¹² *Adivasi* is a member of any of the aboriginal tribal peoples living in India before the arrival of the Aryans in the 2nd millennium BC (source: <https://en.oxforddictionaries.com/definition/adivasi>). The same *adivasis* were termed as Scheduled Tribes in the Constitution of India, Article 366 (25).

¹³ WIPO, Glossary of Key Terms Related to Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions WIPO/GRTKF/IC/25/INF/7 (7 May 2013), Annex at 8, online: http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_25/wipo_grtkf_ic_25_inf_7.pdf; Black’s Law Dictionary, 6th ed. (1990), Minnesota: West Publishing Co.

Despite supporting conservation and sustainability, only a cross-section of nations are recorded recognizing the customary laws of Indigenous people, and to varying degrees [27, 28], particularly as these relate to customary land tenure and local resource management. The United Nations recognized the close relationship between Indigenous peoples, their lands and economic, social and physical well-being in Chapter 21 of Agenda 21, urging Parties to take measures for the “recognition of their values, traditional knowledge and resource management practices with a view to promoting environmentally sound and sustainable development” (Agenda 21, 26.3.iii). Scholars have highlighted that respecting customary law in ABS regimes is the best way to promote the goals of the Convention, as a lack of respect is likely to lead to intractable conflicts and the failure or limited success of ABS initiatives. Equity in a contingent element of exchange of traditional knowledge, innovation and practices which could contribute to the security of nations and all peoples in meeting the challenges of a rapidly changing global environment [22].

The surveyed respondent groups/individuals provided fragmented views when reflecting on levels of respect, recognition and enforceability of rights of respective Indigenous people within their jurisdiction. Little more than half of surveyed Indigenous organizations/individuals (53.34%) responded ‘affirmatively’ that the countries respect, recognize and enforce the rights and ITK of own Indigenous people but not truly (Table 2: q.1). Additionally, over one-quarter (26.66%) of the respondents Indigenous noted they lacked adequate respect, recognition and enforcement of rights relating to ITK. Indigenous Only about 7% of respondents affirmed clearly that the country had recognized and enforceable rights for Indigenous people relating to ITK (Table 2: q.1). An additional 13% of the respondents did not respond at all. This data of surveyed Indigenous organizations/individuals suggests that countries of the world only partially respect, recognize and enforce the rights and ITK of their own Indigenous people.

Customary laws and institutions of Indigenous people have paramount importance in conserving and managing the biological resources and associated ITK. However, often customary laws and rules of Indigenous people or local communities (ILCs) are undocumented and seldom taken into account in national laws or administrative mechanisms. A critical issue identified by respondents was the limited priority provided to rights of ILCs under national regimes and even in their own territories. Indigenous organizations and individuals surveyed were asked to verify the status of national ABS legislations or policies having respect to or recognition of customary laws/institutions of respective Indigenous people. Only 13.34% of respondents ‘confirmed’ customary law/institutions of Indigenous people were recognized in domestic ABS legislation/policy. These respondents indicated their existing or evolving ABS legislation/policies had such relevant provisions with replies listed in Table 2: q.2. Conversely, 20% of respondents responded ‘negatively’ indicating that their existing/evolving ABS legislation/policies lacked such provisions. The majority of respondents (60%) were totally unaware of such issues. Therefore, it can be drawn hereby that the majority of Indigenous organizations/individuals surveyed were unaware or did not view the ABS legislation/policy in their respective country adequately recognized customary laws/institutions of Indigenous people.

Competent national authorities (CNAs) responded differently with 44% (India, Vietnam, Philippines and Russia) having responded “affirmatively” that their existing/evolving ABS legislation/policy have provisions recognizing the customary laws/institutions of their Indigenous people, in accordance of Article 12.1 of Nagoya Protocol (Table 3: q.1). Comparatively, 33% of the CNAs (Bangladesh, Mongolia and China) responded ‘negatively’ stating that their existing/evolving ABS legislation/policies lack provisions recognizing the customary laws/institutions of their Indigenous people (Table 3: q.1). Among the responding countries, two countries – Thailand and Lao – were unaware of the facts. The responses of competent national authorities reveal that only a limited cross-section of countries recognize the customary laws/institutions of their Indigenous people in texts of existing/evolving ABS legislation/policy and have relevant provisions.

Observations suggest that customary laws and institutions of ILCs have limited substantive recognition globally and nationally, with the scope of domestic protections where present having variance in terms of the type of rights protected, who constitutes an “Indigenous person” in law, and

the effectiveness of legal protections. Opinions of Indigenous communities have also been supported by the responses of CNAs who revealed that only some countries recognize the customary laws/institutions of their Indigenous people in texts of existing/evolving ABS legislation/policy. Article 12 of Nagoya Protocol (TK associated with Genetic Resources) is of particular importance to ILCs as it requires Parties to take into consideration the customary laws, community laws and procedures of ILCs with respect to TK associated with genetic resources [29]. Critics express disappointment in the Nagoya Protocol suggesting the outcome of compromise between different Parties of the CBD does not go far enough [30]. A critical tension relates to legitimacy of rights if State sovereignty clearly overrules the rights of Indigenous people throughout the whole of the Protocol [31]. The recognition of rights and ITK of Indigenous people receives inadequate space in domestic ABS legislation/policies of Parties.

Recognition (in domestic ABS laws) of customary laws or institutions of the Indigenous people remains limited, with critics providing two core arguments: (1) the language creates a double standard between ILCs' rights and those of Parties by qualifying the scope of protections through terms "in accordance with domestic law", "established rights", "as appropriate", "as applicable" and "with the aim of ensuring" effectively undermining rights of ILCs [32],[31]¹⁴, and (2) in regards to Article 12.1 of Nagoya Protocol, the standard of protection is inadequate with Parties obliged to only take into account customary laws of ILCs [25].

Similarly, the Joint Submission of Grand Council of the Crees *et al.* [1] reiterates that the States cannot be relied upon to safeguard the customary law and practices of Indigenous peoples through national legislation. For example, in Africa [33] and Asia [34], customary law is often subjugated to national laws or is otherwise insufficiently protected. Surprisingly, such inadequacies occur even in cases where there may be significant recognition of Indigenous legal systems [35]. Roy [34] has elaborated the same in a starker tone noting: "Indigenous peoples' customary laws and institutions continue to suffer from de-recognition and policy neglect due to discriminatory or assimilationist state policies. Like Indigenous peoples in other parts of the world, Indigenous peoples in Asia have been subject to social, political and economic marginalization, especially through conquest and colonization. In only a few cases have Asian Indigenous peoples been able to retain a substantive level of political and legal autonomy".

Overall it can be asserted that Indigenous peoples often have significant conflicts of law with dominant legal systems of States citing that their definition of duties, obligations, powers, limitations and harms are defined through their customs, not national or foreign courts. Cotula and Mathieu [36] express that the customary laws that govern communities' sustainable use of natural resources face conflicts with international and State laws partially due to fundamental differences in treating the property concepts in two opposing types of laws [36]. Understandings of 'property' under State law is attributed to the private rights of a person or entity to appropriate and alienate both the physical and intellectual property. In contrast, communities' property systems (under customary laws or institutional arrangement) tend to emphasize relational and collective values of resources [37]¹⁵. Unfortunately, the implementation of State law tends to overpower and contravene customary law. As Sheleef suggests", a system that denies legal pluralism has direct impacts on communities' lives, for example, by undermining the bio-cultural practices and institutions that underpin sustainable ecosystem management" [38].

Finally, as the Joint Submission of Grand Council of the Crees *et al.* [1] reiterates, the failure to respect customary law will contribute to the further erosion of traditional biodiversity management systems and traditional knowledge associated with biodiversity, and thus to barriers to meeting the goals of the Convention as well as the loss of global cultural diversity.

¹⁴ If comparison of the Articles 6.2, 7, 11, 12, 16.1 of Nagoya Protocol is being done.

¹⁵ Such systems have been described as "...commonly characterized by collective ownership (where the community owns a resource, but individuals may acquire superior rights to or responsibilities for collective property), and communal ownership (where the property is indivisibly owned by the community)" [23].

3.2 Recognition of Community Protocols of ILCs

Community Protocols hold potential as legal tools to facilitate, through the use of cultural-rooted and participatory approaches such as endogenous development, the assertion of communities' rights over their territories, cultures and traditional knowledge [39]. Through safeguarding communities' custodianship rights over their natural environment and traditional way of life community protocols aim to assist communities in establishing a firm foundation upon which to develop the future management of their natural resources by setting out their values and customary procedures that govern the management of their natural resources [40]. They also provide a vehicle for articulating their procedural and substantive rights to, *inter alia*, be involved in decision-making according to the principle of free, prior and informed consent, develop the specific elements of projects that affect their lands, and ensure that they are involved in the monitoring and evaluation of such projects [40]. Köhler-Rollefson [41] further adds that community protocols vary in how they are documented, shared, and utilized and have been highlighted as a meaningful affirmation of community laws, practices, and procedures. This approach Köhler-Rollefson suggests is intended to mobilize and empower communities to use international and national laws to support the local manifestation of the right to self-determination [41]. By exhibiting community-determined values, procedures and priorities community protocols set out rights and responsibilities under customary, state and international law as the basis for engaging with external actors such as governments, companies, academics and NGOs [39]. They can be used to catalyze constructive and proactive responses to threats and opportunities posed by land, resource development, conservation, research and other legal and policy challenges [39]. Article 12.1 requires Parties to take into consideration the customary laws, community laws and procedures of ILCs with respect to TK associated with genetic resources, to support the development of Community Protocols in relation to ABS in TK, and not to restrict the customary use and exchange of genetic resources and associated TK within and amongst ILCs in their implementation of the Nagoya Protocol [29]¹⁶.

Respondents of Indigenous organizations/individuals surveyed were asked to confirm whether their country's ABS legislation/policy provides for supporting the concerned ILCs to develop community protocols. Only 20% of the respondents affirmed that their respective country's ABS legislation/policy included a provision(s) in support of community protocols (Table 2: q.3). The majority (66.7%) of respondents were not aware of such provisions in their ABS legislation/policy (Table 2: q.3). An additional 6.66% of the respondents denied any such provision in evolving ABS legislation/policy, while 6.66% of indicated there was no ABS legislation/policy in place (Table 2: q.3). The responses provided by Indigenous organizations/individuals indicate that evolving/existing national ABS legislation/policies in various countries have given limited emphasis or reference to community protocols, if any such provision exists in their respective laws.

Article 12.3(a)¹⁷ of Nagoya Protocol provide the Parties should support Indigenous people and local communities, especially women, in development of community protocols relating to governance, access, and utilization of ITK associated to genetic resources. Implications of this provision were explored through structured interviews with the CNAs of 12 countries considering if domestic ABS legislation/policy provides for the recognition and development of community protocols before granting any PIC to users of ITK (in accordance of Article.12.3(a) of Nagoya Protocol). Of the 12 interviewed only 8 CNAs (Table 3: q.2), with only one country (Philippines) (12.5%) confirming that its existing/evolving ABS legislation/policy provides for the development of community protocols (Table 3: q.2). The majority of surveyed countries (75%) – Bangladesh, Thailand, Vietnam, Mongolia, Russia and China – responded that no such provision existed in their evolving ABS legislation/policies

¹⁶ Article 12.1 reads: "In implementing their obligations under this Protocol, Parties shall in accordance with domestic law take into consideration Indigenous and local communities' customary laws, community protocols and procedures, as applicable, with respect to traditional knowledge associated with genetic resources¹".

¹⁷ Article 12.3(a) reads: "Parties shall endeavour to support, as appropriate, the development by Indigenous and local communities, including women within these communities, of (a) Community protocols in relation to access to traditional knowledge associated with genetic resources and the fair and equitable sharing of benefits arising out of the utilization of such knowledge".

(Table 3: q.2), with one country (Lao) (12.5%) indicating it was unaware of the issue. Four countries namely India, Nepal, Brunei and Timor did not respond on the question. These results suggest that existing/evolving ABS legislation/policies in majority of countries do not provide sufficient protections or enablers to promote the development of community protocols, as envisaged in Article 12.3(a) of Nagoya Protocol.

Related, inquiry moved beyond recognition, to explore the level of support provided for ILCs to develop community protocols with the 8 countries respondents of CNAs (Table 3: q.3). From among the responding countries, 50% of CNAs namely Thailand, Lao, Philippines and China responded positively that their existing/evolving ABS legislation/policies have provision for supporting the concerned ILCs to develop community protocols of their Indigenous people (Table 3: q.3). Conversely, 37.5% of the responding CNAs (Vietnam, Mongolia and Russia) expressed that their existing/evolving ABS legislation/policies lacked such a provision for supporting the concerned ILCs to develop community protocols of their Indigenous people (Table 3: q.3). Bangladesh was the only respondent which was unaware. Overall, half of the CNAs highlighted the fact that their respective existing/evolving ABS legislation/policies have provision for supporting the concerned ILCs to develop community protocols of their Indigenous people.

Finding largely the scarce attention provided by Parties to the recognition and support for development of community protocols, significant concerns relating to the effectiveness of the Nagoya Protocol remain. Some scholars question the Nagoya Protocol, asking whether the instrument and its national level implementation would move beyond merely facilitating the transfer of TK, to supporting communities' biocultural rights to self-govern their natural resources and associated TK [42]. Consultations conducted by Natural Justice in Asia and Africa have revealed that the process of developing a protocol could be abused by certain parties either from outside or from within the community [43]. Subsequently, Jonas, Bavikatte and Shrumm argue that communities' ability to exercise their rights to protect their knowledge, innovations and practices and to support their customary uses of bioresources will depend solely their capability to understand the legal framework adequately in context of their rights and obligations at various levels, to foresee the practical implications of their involvement in ABS, and to overcome the power asymmetries underlying their interface with State agencies (Parties) and commercial entities [4]. Irrespective of the respect extended by national authorities of Parties to community protocols and ILCs' customary rights, community protocols are embedded in the Nagoya Protocol as a community-led modality for the codification of customary legal principles. Leveraging localized governance models which are grounded in customary law provides a potentially useful framework with which communities can appraise whether ABS would help or hinder their local development aspirations and engage stakeholders in "protecting" or "promoting" territories, knowledge, innovation, and practices [4]. Globally, there is increased belief by ILCs that the legal validity of community protocols would assist to give recognition to customary laws at the national level leading to enhanced recognition, protection, and respect for rights of ILCs by States. According to the Indigenous groups, having the shortcoming of intellectual property laws for traditional knowledge, it is nevertheless suggested that community protocols could serve as an interface with intellectual property and ABS laws as well as in the context of protected areas [44, 45].

4. CONCLUSIONS

Customary laws and institutions of ILCs receive limited legal recognition globally and nationally. Evidently, the trend of responses from Indigenous organizations/individuals exhibits only partially recognition and enforcement of the rights and ITK in a limited number of jurisdictions. Where recognition is provided effective implementation was found lacking. Article 12 of Nagoya Protocol in requiring Parties to take into consideration the customary laws, community laws and procedures of ILCs with respect to TK, to support the development of Community Protocols in relation to ABS in TK, and not to restrict the customary use and exchange of genetic resources and associated TK within and amongst ILCs provides significant space to assist ILCs in protection of ITK, preservation of customary

law, and development of community protocols. State sovereignty clearly overrules the rights of Indigenous people both in domestic laws as well as on the ground. Importantly, the promotion of community-controlled governance depends on the space given in domestic laws of the countries. While a number of countries' existing policies/laws recognize the ILCs, limited influence is provided for ILCs to claim or enforce their rights even by using enabling laws. Limited capacity remains a reality, with Parties remaining challenged with implementation and reporting under the Nagoya Protocol and even under the Convention.

Bio-cultural rights of ILCs over all aspects of their ways of life that are relevant to the conservation and sustainable use of biodiversity generates a broad range of legal intersections. These aspects include rights relating to their knowledge, innovations and practices, natural resources, lands and waters, traditional occupations, and customary laws and systems of governance. Effectively, these are rights to self-determination, but specifically self-determination oriented towards stewardship of ILCs' traditional lands, waters, resources, and knowledge Article 12.3 of Nagoya Protocol recognizes and upholds the ownership rights of ILCs over their traditional knowledge. Contrary to this provision, many jurisdictions do provide sufficient recognition for Indigenous nationalities and provider countries lack the necessary know-how to effectively support ILCs in the development community protocols. This lack of progress comes on the backdrop of increasing recognition of rights to self-govern their territories, natural resources and traditional knowledge in international law and institutions¹⁸. Such rights of self-determination are unequivocally manifested in 'bio-cultural rights,' which are relevant to the conservation and sustainable use of biodiversity including rights of their knowledge, innovations and practices, natural resources, lands and waters, traditional occupations, and customary laws and systems of governance.

As illustrated, the core concern of this paper is to what extent the ILCs' right to self-determination is recognized, respected and honoured by the States. Noticeably, while many Indigenous peoples do not have written laws or systems of governance, the customary laws exist and are practiced in different levels and forms. A crucial factor is how strong the communities are in asserting their right to control their lands and resources. As emphasized in the Joint Submission of Grand Council of the Crees *et al.* [1], States generally disregard requests to carefully consider the human rights implications of proposed texts relating to Indigenous peoples. Shortcomings in the Nagoya Protocol relating to scope and deference to implementation in accordance with national legislation are likely to be exploited by some States in the future. Corrective measures include the a meaningful recognition of the legal pluralism inherent in indigenous governance systems requiring as noted by Tobin "incorporation directly or indirectly of principles, measures and mechanisms drawn from customary law within national and international legal regimes for the protection of traditional knowledge" [46]¹⁹.

Observations illustrate a prevailing trend of State laws being compartmentalized and disaggregated. The implementation of those disaggregated State laws further compounds challenges by requiring communities to engage with complex administrative frameworks, and a multiplicity of stakeholders²⁰. Communities face a stark choice to either reject their domestic framework (something which is a virtual impossibility, considering the ubiquitous nature of State law) or engage with them at the potential expense of becoming complicit in the disaggregation of their otherwise holistic ways of

¹⁸ For example, the UN Convention to Combat Desertification, UN Framework Convention on Climate Change (including under the programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries), UN Forum on Forests, Food and Agriculture Organization (including the International Treaty on Plant Genetic Resources for Food and Agriculture), UN Educational, Scientific and Cultural Organization (including cultural conventions and Biosphere Reserves), International Union for Conservation of Nature (including World Conservation Congress resolutions and World Parks Congress recommendations), UN Permanent Forum on Indigenous Issues, International Convention on the Elimination of All Forms of Racial Discrimination, International Labour Organization Convention 169 Concerning Indigenous and Tribal Peoples in Independent Countries, UN Declaration on the Rights of Indigenous Peoples, Expert Mechanism on the Rights of Indigenous Peoples, Agenda 21, and the World Intellectual Property Organization.

¹⁹ This is arguably a huge challenge and most States are a long way from incorporating Indigenous worldviews into legal and policy frameworks

²⁰ Examples include government agencies, conservation and development NGOs, private sector companies, and researchers.

life and governance systems [4]. Both the conditions result in a losing outcome for ILCs. Further operationalization of the Nagoya Protocol is needed to assist in the effective realization of Indigenous rights, and preservation of Indigenous knowledge systems.

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Аржжуменд Хасрат. Нормативне регулювання визнання інституцій, забезпечення діяльності корінних народів у процесі прийняття національного законодавства про імплементацію норм Нагойського протоколу. *Журнал Прикарпатського університету імені Василя Стефаника*, **5** (2) (2018), 67–82.

Нагойський протокол про доступ до генетичних ресурсів (ABS) визначає права корінних жителів та місцевих громад згідно з Декларацією Організації Об'єднаних Націй про права корінних народів. Сторони зобов'язані приймати законодавчі, адміністративні та технічні заходи для визнання, поваги та підтримки, забезпечення звичайних законів та інститутів громад корінних народів та місцевих громад. У статті досліджується ефективність міжнародного права (тобто Нагойського протоколу) щодо впливу на існуючі закони, політику чи адміністративні заходи. Зроблено висновки, що простір, визнання та повага, створені в рамках існуючих або планованих національних антикризових заходах захисту прав корінних громад, є недостатніми для ефективного здійснення положень звичайних законів та норм, інститутів громад корінних народів, як це передбачено Нагойським протоколом. Оскільки біокультурні права корінних народів є ключовими елементами збереження та сталого використання біологічного різноманіття, закони про доступ до генетичних ресурсів потребують якісного доопрацювання, щоб бути достатньо ефективними.

Ключові слова: інститути громад, протокол Співтовариства, звичаєве право, генетичні ресурси, корінні народи, Нагойський протокол.

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LEGISLATIVE REGULATION OF THE PRODUCTION OF ORGANIC AGRICULTURAL PRODUCTS IN UKRAINE

NADIIA BAHAI

Abstract. The article analyzes the legislation on the production of organic agricultural products in Ukraine. Legal acts regulating the relationships in the sphere of production and circulation of organic agricultural products (raw materials) are analyzed. The main scientific approaches to the further development of national legislation on the production of organic agricultural products are investigated. The article formulates the suggestions on the improvement of legal regulation of organic production in Ukraine as well as on the adaptation of Ukrainian legislation on the production of organic agricultural products (raw materials) to the EU legislation.

Keywords: organic production, agricultural production, organic agricultural production, ecologization of agricultural production, agrarian legislation.

1. INTRODUCTION

An important direction of the development of agricultural production under modern conditions is its ecologization. As agricultural productive activity is inseparably linked to the use of land and other natural resources, the problems of ecologization of agricultural production are becoming particularly relevant.

One of the means of ecologization of agricultural productive activity is the development of the production of organic agricultural products (raw materials). The implementation of the organic production of agricultural products (raw materials) and state support for the producers of such products are a guarantee of quality and safety of agricultural production, and hence, a guarantee of the rights of consumers of agricultural products (raw materials).

At the same time, the development of organic production is possible only with the establishment of a proper regulatory framework for the implementation of such activity by agricultural commodity producers as well as with the definition of clear and stable conditions for state support and regulation of such activity, etc.

The problems of the legal regulation of the production of organic agricultural products (raw materials) were investigated by the representatives of agrarian and legal science including M. M. Bakhurynska, A. P. Hetman, V. M. Yermolenko, T. O. Kovalenko, T. H. Kovalchuk, V. M. Korniienko, S. I. Marchenko, V. O. Melnyk, V. V. Nosik, T. K. Overkovska, A. M. Stativka, V. Yu. Urkevych, M. V. Shulga and other scientists. At the same time, the existence of gaps in the

legislative regulation of organic production and the importance of adaptation of national legislation to the requirements of the EU legislation predetermine the need for further scientific research of the modern legislative provision for the production of organic agricultural products (raw materials).

2. ANALYSIS AND DISCUSSION

The legislation on the production of organic agricultural products (raw materials) includes a system of normative legal acts of various legal force that regulate social relations in the field of production and circulation of organic agricultural products (raw materials) and determine the order and conditions for the implementation of organic production.

The development of the legislation on organic production began with the adoption of the Law of Ukraine "On the Production and Circulation of Organic Agricultural Products and Raw Materials" from September 3, 2013 [21]. In accordance with Part 1 of Article 3 of this Law, "the legislation of Ukraine in the field of organic production consists of the Constitution of Ukraine, the Law of Ukraine "On Environmental Protection", this Law and other laws of Ukraine, international treaties of Ukraine, the consent for necessity of which was given by the Verkhovna Rada of Ukraine, and other legal acts issued in accordance with them" [21].

The Law of Ukraine "On the Production and Circulation of Organic Agricultural Products and Raw Materials" defines the principles of production, storage, transportation, and sale of organic products, the main directions of state policy in the field of production and circulation of organic products (raw materials) and the powers of state authorities in this area; regulates the procedure and conditions for the production of organic products and raw materials; defines the conditions of suitability of the land (soils) for the production of organic products and raw materials and the procedure of confirming the conformity of the production of organic products and raw materials; establishes general requirements for storage, processing, and sale of organic products and raw materials, etc.

In order to ensure the implementation of the legislative provisions, a number of legal acts regulating social relations in the field of production of organic agricultural products (raw materials) were developed and adopted. Among them, the Detailed rules for the production of organic products (raw materials) of plant origin (approved by the Decree of the Cabinet of Ministers of Ukraine on August 31, 2016, No. 587) [17], the Detailed rules for the production of organic products (raw materials) of animal origin (approved by the Decree of the Cabinet of Ministers of Ukraine on March 30, 2016, No. 241) [13], the Detailed rules for the production of organic products (raw materials) of beekeeping (approved by the decree of the Cabinet of Ministers of Ukraine on March 23, 2016, No. 208) [15], the Detailed rules for the production of organic marine algae (approved by the Decree of the Cabinet of Ministers of Ukraine on September 30, 2015, No. 980) [16], and the Detailed rules for the production of organic products (raw materials) of aquaculture (approved by the Decree of the Cabinet of Ministers of Ukraine on September 30, 2015, No. 982) [14] are of particular importance. However, proceeding from the contents of Article 14 of the Law "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21], the specified legal acts are insufficient, as the legal acts must be adopted that will determine the procedure and conditions for the transportation, storage, and sale of organic products (raw materials); collection of wild plants, forest products, and algae; production during the transitional period; the order of transition to the production of organic products (raw materials); the list, conditions, and allowable volumes of use of inorganic products, substances, and products obtained during the transitional period in the production of organic products (raw materials) for each category of products and substances; the list of substances that are forbidden to use in the production of organic products (raw materials); allowable volumes and the list of inorganic products, substances, and products obtained during the transitional period, which can exceptionally be used in the production of organic products (raw materials); the criteria for assessing the suitability of agricultural land for the production of organic products (raw materials) (Part 3 of Article 14 of the Law).

According to Article 1 of the Law "On the Production and Circulation of Organic Agricultural Products and Raw Materials", the production of organic products (raw materials) is the productive activity of individuals or legal entities (including the cultivation and the processing), in which during such production, the application of chemical fertilisers, pesticides, genetically modified organisms (GMOs), preservatives, etc. is excluded and at all the stages of the production (the cultivation and the processing), methods, principles, and rules prescribed hereby for the obtainment of natural (environmentally safe) products as well as for the preservation and the restoration of natural resources are applied [21]. Also, the law also defines the concepts of "organic products" and "organic raw materials". In particular, organic products are products obtained as a result of the certified production in accordance with requirements of the Law, and organic raw materials are the raw materials obtained as a result of the certified production in accordance with requirements of the Law and intended for the subsequent use for the obtainment of new products [21]. Analyzing the relation between the concepts of "organic agricultural products" and "ecologically safe agricultural products," T. K. Overkovska notes that the latter concept is wider, since "organic production should imply only that obtained as a result of production that has passed the evaluation and confirmation of the conformity of the production of organic products (raw materials) and has received a certificate of conformity" [22, p. 96].

According to V. Yu. Urkevych, organic production can be defined as a special means (method) of agriculture (production of agricultural products), carried out on certified agricultural lands and subject to mandatory certification, that provides for the use of such a production management system that takes into account and improves the condition of the agro-ecosystem (including biological diversity, biological cycles, and biological nature of the soil), minimizes soil cultivation, and uses energy- and resources-saving technologies, is characterized by the care for all the components of the environment as well as by the refusal to use artificial fertilizers or synthetic chemicals and genetically modified organisms, the purpose of which is the most complete satisfaction of consumers with products manufactured with the use of natural substances and mechanisms [24, p. 26]. As the scientist points out, the notions of organic production and organic farming should be correlated as a general and a component, and the categories "organic production" and "organic agriculture" should be considered synonymous [8, p. 70].

At the legislative level, the principles of production, storage, transportation, and sale of organic products (raw materials) are also defined. The general principles of production, storage, transportation, and sale of organic products (raw materials) are the principles of: 1) voluntariness; 2) equality of rights of economic entities that produce, store, transport, and sell organic products (raw materials); 3) rational use of natural resources and the ensurance of their proper use and reproduction; 4) refusal to use genetically modified organisms and products with them; 5) refusal to use chemically synthesized external resources, except for the exceptional cases established by this Law; 6) long-term maintenance of soil fertility; 7) the use of living organisms and methods of mechanical production; 8) the ensurance of a high level of biological diversity; 9) the use of the processes that do not harm the environment, human health, plants, animal health, and welfare in production.

The special principles of production, storage, transportation, and sale of organic products (raw materials) include the principles of: 1) the preservation and restoration of soil fertility, soil stability, and soil biodiversity methods that optimize the biological activity of the soil providing a balanced supply of nutrients for plants; 2) minimizing the use of non-renewable and external resources; 3) processing of waste and related products of plant and animal origin for further use in the production of products of plant and animal origin; 4) taking into account the local or regional ecological status of the territories when choosing the category of production for manufacturing; 5) the protection of animal health by encouraging the natural immune protection of animals and the selection of the breeds; 6) the protection of plants by means of preventive measures, such as the selection of appropriate species and varieties resistant to diseases and pests, crop rotation, mechanical and physical methods, and the protection of natural enemies (pests); 7) consideration of the degree of adaptation to local conditions when selecting breeds of animals as well as consideration of their vitality and resistance to disease; 8) observance of a high level of welfare of animals that meets the needs inherent for each individual species; 9) organic

livestock production from animals that have been grown in organic farms since birth throughout the whole life; 10) feeding animals with organic fodder; 11) the exclusion of the use of artificially derived polyploid animals; 12) the preservation of biological diversity of natural water ecological systems and continuous protection of the water environment and the quality of the surrounding water and the surface ecological systems in the production of fishery products.

V. O. Melnyk defines the legal principles of organic production as a system of "legally defined requirements, which should correspond to the practice of public relations in the production, storage, transportation, and sale of organic products (raw materials)" [10, p. 4]. However, according to scientists, these principles are the criteria for assessing the legality of decisions of public authorities and the subjects of agrarian relations [10, p.14].

As it is fairly noted by the scientists, the norms of the Law of Ukraine "On the Production and Circulation of Organic Agricultural Products and Raw Materials" concerning environmental safety are united into an independent legal institute of ecological safety in the production of organic agricultural products, which has an interdisciplinary character. The standards of the named institute belong both to the right to environmental safety and to agricultural law, since organic production is the result of agricultural activity [8, p. 69]. At the same time, according to A.M. Stativka and V. N. Kornienko, the Law contains a large number of blanket norms referring to other legislation, and requires the use of a large number of technical norms, most of which are not yet developed [23, p. 212].

Currently, there are some disadvantages of the legislative regulation of the registration of producers of organic agricultural products. Such registration is a necessary condition for carrying out activities in the field of organic production, since according to Article 12 of the Law of Ukraine "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21], an individual or a legal entity, who have passed the assessment of conformity of the production of organic products (raw materials), have received a certificate of conformity and are included in the Register of the Producers of Organic Products (Raw Materials), have the right to produce organic products (raw materials).

The concept of the producers of organic products (raw materials) is proposed by V.O. Melnyk and defines them as "the subjects of agrarian relations possessing a separate property, who are endowed with a special legal personality, carry out economic activity using land as the main means of the production of raw materials and products of plant and animal origin, products of beekeeping or using a fishing object for the production and processing of aquaculture objects with an aim to ensure food safety and subject to the requirements of environmental safety" [10, p. 4]. Today, the scientists substantiate important proposals regarding the need to expand the range of the producers of organic agricultural products (raw materials) and to enable individuals who are not entrepreneurs to also produce organic agricultural products (raw materials), which would be in line with European standards [11, p. 100].

According to the legislation, only natural and legal persons who have passed the assessment of the conformity of production of organic products (raw materials) and received a certificate of conformity may be included in the Register of the Producers of Organic Products (Raw Materials). The procedure of assessing and confirming the conformity of the production of organic products (raw materials), preceding the registration of the producers of organic agricultural products (raw materials), is determined by Article 24 of the Law "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21]. The assessment of the conformity of the production of organic products (raw materials) is carried out by the conformity assessment body in accordance with the rules of the conformity assessment procedure, which are determined by the central executive authority, which ensures the formation of the state policy in the field of conformity assessment, and with detailed rules of production and circulation of the relevant organic products (raw materials) [5]. The detailed requirements for the assessment of conformity of the production of organic agricultural products (raw materials) are stipulated by the Law of Ukraine dated January 15, 2015 "On Technical Regulations and Conformity Assessment" [20] and by subordinate legal acts.

The procedure of registration of the producers of organic products (raw materials) is determined by Article 13 of the Law "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21] and by the Resolution of the Cabinet of Ministers of Ukraine dated August 8, 2016 No. 505 "On Approval of the Register of the Producers of Organic Products (Raw Materials)" [18]. At the same time, Article 13 of the Law of Ukraine "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21] provides for the development and adoption of two subordinate legal acts on registration of the producers of organic products (raw materials), one of which has not yet been adopted.

According to the requirements of the legislation, the responsibility for maintaining the Register of the Producers of Organic Products (Raw Materials) is now assigned to the State Service of Ukraine for Food Safety and Consumer Protection (State Committee for Consumer Safety). Thus, according to Clause 2, Part 1, Article 9 of the Law "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21], the maintenance of the Register of the Producers of Organic Products (Raw Materials) and ensuring of the publication of official data on persons engaged in the production and sale of organic products (raw materials) belong to the powers of the central executive authority, which implements state policy in the field of safety and individual indicators of quality food products in the field of the production and circulation of organic products (raw materials). These powers are provided for in the Regulation on the State Service of Ukraine for Food Safety and Consumer Protection, approved by the Resolution of the Cabinet of Ministers of September 2, 2015 No. 667 "On Approval of the Regulation on the State Service of Ukraine for Food Safety and Consumer Protection" (sub-paragraph 124 paragraph 4 of the Regulation) [19].

In accordance with Part 2 of Article 13 of the Law "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21], the central executive body, which ensures the formation and implementation of the state agricultural policy, should establish and approve the Regulation on the Register of the Producers of Organic Products (Raw Materials). V. Yu. Urkevych correctly points out that the lack of subordinate acts on the issues of keeping the Register of the Producers of Organic Products (Raw Materials) "virtually eliminates the possibility of organic production in the territory of Ukraine. Article 4, paragraph 4 of the Law stipulates that persons who do not belong to the Register of the Producers of Organic Products (Raw Materials) have no right to carry out the production of organic products and / or raw materials" [25, p. 32].

To date, the draft Regulation on the Register of the Producers of Organic Products (Raw Materials) has been developed and promulgated by the Ministry of Agrarian Policy and Food of Ukraine [4]. According to the Explanatory note to the draft Regulations, the adoption of the corresponding order by the Ministry will enable "to register the business entities that produce and sell agricultural products (raw materials) with the logo "organic," which will allow for the legislative regulation of the process of identification of the producers of organic agricultural products (raw materials) and to accelerate the filling of the domestic market with high-quality food products" [6]. The legislative provision stipulated in Part 3 of Article 13 of the Law "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21] concerning openness and accessibility of the Register of the Producers of Organic Products (Raw Materials) has not yet been implemented. After all, the Register has not been disclosed on the official website of the central executive body that implements the state policy in the field of food safety in accordance with the requirements of the legislation.

According to the scientists, the creation and publication of the Register of the Producers of Organic Products is long-awaited in Ukrainian society, and its functioning will ensure the transparency and trust of consumers in organic products as well as will guarantee the identification of its producers [11, p. 103]. Therefore, the urgent approval of the Regulation on the Register of the Producers of Organic Products (Raw Materials) will contribute to solving these problems.

The representatives of agrarian and legal science substantiate other important proposals for improving the legislative regulation of organic production. As M. M. Bakhurynska notes, "to date, the Law has not been fully harmonized with the Council of the European Union (EU) Regulation 834/2007 from June 28, 2007 "On Organic Production and Labeling of Organic Products and On the Repealing of"

the Regulation (EEC) No 2092/91", in particular as part of the control system for the production and circulation of organic products" [1, p. 25; 2, p. 128]. Therefore, one of the areas of the adaptation of national legislation to EU legislation is, in the scholars' opinion, the construction of an effective control system that will not only meet EU regulatory requirements but will also be protected from corruption risks inherent in Ukraine [2, p. 128].

According to V. Yu. Urkevych, "now it is time for the adoption of the corresponding sub-legislative documents, which must create mechanisms for the implementation of the established legal provisions, in particular, the Procedure for assessing the suitability of land (soils) for the production of organic products (raw materials)" [8, p. 70; 25, p. 33]. Also, there are no technical regulations for the production of certain types of organic agricultural products and raw materials, and no typical plan for the transition to organic production, as outlined in the Law [8, p.70], has been developed.

Agricultural and legal science has also made suggestions on the necessity of adopting a normative legal act on the equivalence of Ukrainian standards with international standards in order to introduce a unified approach to the labeling of organic products, which will help to avoid divergences in the industry in the European Union and in Ukraine [10, p. 17].

Current and important is also the proposal of O. V. Hafurova concerning the necessity "of providing measures of state financial support for the production of organic products as well as of providing priority access to it for the producers of such products (especially to farmers and private farms) at the legislative level [7, p. 39]. In the opinion of S. I. Marchenko, the system of measures for state support to the producers of organic agricultural products should cover not only financial support, but also other types of state support (in particular, measures of informational and consultative nature) [9, p. 166].

Some problems of the current legislative regulation of organic production in Ukraine should be resolved with the adoption of the new Law "On Basic Principles and Requirements for Organic Production, Circulation, and Labeling of Organic Products" [3], the draft of which was adopted by the Verkhovna Rada of Ukraine on April 19, 2018 in the first reading [12]. As it is stated in the Explanatory Memorandum to the draft law, its purpose is to improve the principles of legal regulation of organic production, circulation, and labeling of organic products as well as to harmonize Ukrainian legislation with the legislation of the European Union in this area [5]. The bill No. 5448-d "On Basic Principles and Requirements for Organic Production, Circulation and Labeling of Organic Products", in particular, provides for the annual certification of organic production to confirm compliance with the requirements of the legislation in the field of organic production, declaration of volumes of organic products that are put into circulation, and harmonization of the labeling of organic products with the certification body.

3. CONCLUSIONS

Thus, the legislation on the production of organic agricultural products (raw materials) includes a system of normative legal acts of various legal force governing the social relations in the sphere of production and circulation of organic agricultural products (raw materials). The Law of Ukraine "On the Production and Circulation of Organic Agricultural Products and Raw Materials" [21] from September 3, 2013, is of paramount importance.

An important direction in the development of national legislation on organic production is the development and adoption of subordinate legal acts that will determine the mechanism for the implementation of legislative provisions. There is a need to implement the legislative provisions for the development and approval of the Regulation on the Register of the Producers of Organic Products (Raw Materials) as well as compliance with the requirements for openness and accessibility of the Register of the Producers of Organic Products (Raw Materials). One of the major vectors for developing legislation on the production of organic agricultural products and raw materials is its harmonization with the legislation of the European Union and the implementation of state support measures for the producers of organic agricultural products (raw materials).

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Багай Надія. Законодавче регулювання виробництва органічної сільськогосподарської продукції в Україні. *Журнал Прикарпатського університету імені Василя Стефаника*, **5** (2) (2018), 83–90.

У статті здійснено аналіз законодавства про виробництво органічної сільськогосподарської продукції та сировини в Україні. Проаналізовано нормативно-правові акти, що регулюють відносини у сфері виробництва та обігу органічної сільськогосподарської продукції (сировини). Досліджено основні наукові підходи щодо подальшого розвитку національного законодавства про виробництво органічної сільськогосподарської продукції. Сформульовано пропозиції щодо вдосконалення законодавчого регулювання органічного виробництва в Україні та адаптації українського законодавства про виробництво органічної сільськогосподарської продукції (сировини) до законодавства ЄС.

Ключові слова: органічне виробництво, сільськогосподарська продукція, органічна сільськогосподарська продукція, екологізація сільськогосподарського виробництва, аграрне законодавство.

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LEGAL REGULATION OF THE EMERALD NETWORK: NATIONAL AND GLOBAL ASPECTS

OLENA BEVZ

Abstract. The article is devoted to the definition of the legal nature of the Emerald network, as well as to the issues of the formation of the Emerald Network in the context of Ukraine's international obligations. In particular, the history of the appearance of the term "Emerald Network" in international acts, the criteria and the procedure for designating territories of the Emerald Network is investigated. In addition, the article deals with the problems connected with the legal provision of the formation of the Emerald Network in Ukraine. It is emphasized that the adoption of the relevant legislation is foreseen by the international obligations of Ukraine as a Member State of Convention on the Conservation of European Wildlife and Natural Habitats and Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part. The provisions of the draft Law of Ukraine "On the Territories of the Emerald Network" are analyzed.

Keywords: Emerald Network, Areas of Special Conservation Interest, Convention on the Conservation of European Wildlife and Natural Habitats, legal framework.

1. INTRODUCTION

One of the most urgent issues of environmental law of Ukraine in recent years is the implementation of EU legislation. Ukraine is obliged to gradually bring its legislation closer to EU legislation in various spheres.

According to item "f" Article 361 chapter 6 "Environment" of Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part (hereinafter – the "Agreement") cooperation shall aim at preserving, protecting, improving, and rehabilitating the quality of the environment, protecting human health, prudent and rational utilisation of natural resources and promoting measures at international level to deal with regional or global environmental problems, inter alia in the areas of nature protection, including conservation and protection of bio and landscape diversity (eco-networks).

Both ecosystems and processes that affect biodiversity and landscape are usually not confined to state boundaries. Due to this circumstance, measures taken at the local, regional or national level are often inadequate, if not entirely ineffective. An international system for coordinating and supporting initiatives for the conservation of biodiversity and landscapes is necessary [9].

Ecological networks can help to preserve the natural habitat and species in fragmented natural areas and in the anthropogenic landscapes of Europe [9]. Part of the Pan-European Ecological Network is the Emerald Network.

The legislation of Ukraine contains such a term as “ecological network”. Pursuant to the Law of Ukraine “On the ecological network of Ukraine” dated June 24, 2004 ecological network is a unified territorial system created with the purpose of improvement of conditions for forming and renewal of environment, increase of natural resource potential of Ukrainian territory, saving landscape and biological diversity, places of settlement and growth of valuable kinds of flora and fauna, genetic fund, ways of migration of animals through joining territories and objects of nature reserve fund, as well as other territories which are especially valuable for environmental protection and in accordance with laws and international obligations of Ukraine are subject to special protection. According to the Article 5, the structural components of ecological network are: territories and objects of nature reserve fund; lands of water fund, water and marsh grounds, water protective zones; lands of forestry fund; forest shelter belts and other protective plants; health-improving lands; recreational lands; territories which are the places of stay or growth of types of flora and fauna recorded in the Red Book of Ukraine, etc.

But it is important to outline that Ukrainian legislation introduces somewhat different criteria for the formation of the ecological network than those criteria for the Emerald Network formation. In particular, the approach is based not on the criterion of the allocation of habitats as the basis for choosing the constituent elements of the econet, however the ecological network is created on the basis of the territories and objects of the nature reserve fund as the basis of the ecological network with the further involvement of protected areas of another status (water protection, recreation, etc.).

The necessity of the approximation of Ukraine's existing legislation to that of the European Union arouses attention to international acts in this field of study. Simultaneously there is little published data on legal nature of the Emerald Network in Ukrainian environmental law literature [1, 7]. And this is the main aim of the research – to discover the legal nature of the Emerald Network.

2. ANALYSIS AND DISCUSSION

The subject and goal of conduct scientific research oblige to refer to the legal issues of development of such territories as the Emerald Network. Its implementation was launched by the Council of Europe on the basis of the provisions of Convention on the Conservation of European Wildlife and Natural Habitats (hereinafter – the “Bern Convention”). The Bern Convention was open for signature on 19 September 1979 and came into force on 1 June 1982. In 2014, the Bern Convention has been ratified by 51 Contracting Parties.

Since the Berne Convention was ratified by the Law of Ukraine dated on October 29, 1996, the issues of legal regulation of the Emerald Network formation and functioning are relevant for Ukraine. Therefore, the actuality of the issue to determine the legal basis for the Emerald Network formation arose before the signing of the Agreement by Ukraine. Thus, the Strategy for the implementation of the Framework Convention on the Protection and Sustainable Development of the Carpathians (which was adopted and signed by the seven Parties in May 2003 in Kyiv and entered into force in January 2006), approved by the Order of the Cabinet of Ministers of Ukraine dated on January 16, 2007 No. 11-r, provide for in the sphere of international cooperation the encouragement of the execution of international treaties where Ukraine is a party, in particular the requirements of the Berne Convention (the development of the regional network of special conservation areas – the Emerald Network of Europe).

In accordance with Article 4 of the Berne Convention, each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the conservation of the habitats of the wild flora and fauna species, especially those specified in Appendices I and II, and the conservation of endangered natural habitats. The Contracting Parties in their planning and development policies shall have regard to the conservation requirements of the areas protected under the preceding paragraph, so as to avoid or minimise as far as possible any deterioration of such areas. Thus, setting-up the Emerald

Network at national level is considered as one of the main tools for the Contracting Parties to comply with their obligations under the Bern Convention.

The Emerald Network consists of territories that are called Areas of Special Conservation Interest (ASCIs). In June 1989 the Standing Committee to the Bern Convention held an extraordinary meeting exclusively devoted to habitat conservation within the Convention. At the meeting the Committee adopted an interpretative resolution [Resolution No. 1 (1989) on the provisions relating to the conservation of habitats] and three operative recommendations [Recommendations Nos. 14, 15 and 16 (1989)] aimed at the development of a network of areas under the Convention [8, p. 4]. The Recommendation advocates Contracting Parties to take, either by legislation or otherwise, steps to designate areas of special conservation interest to ensure that necessary and appropriate conservation measures are taken for each area situated within their territory or under their responsibility. The Network is to be set up in each Contracting Party or observer state to the Convention. It, thus, involves all the European Union states, some non-Community states and a number of African states.

It is worth mentioning that the European Union, as such, is also a Contracting Party to the Bern Convention. In order to fulfil its obligations arising from the Convention, particularly in respect of habitat protection, it produced Directive 92/43/EC on the conservation of natural habitats and of wild fauna and flora (amended by Directive 97/62/EC, 2006/105/EC and Regulation (EC) 1882/2003) in 1992, and subsequently set up the Natura 2000 network. The Natura 2000 sites are therefore considered as the contribution from the EU member states to the Emerald Network.

It is necessary to outline that till 1996 there was not such a term as “Emerald Network”. In January 1996 a sufficient number of States of Central and Eastern Europe, which were not members of the European Union, became Parties to the Bern Convention and were requesting the development of the network of ASCIs. So the term “Emerald Network” was first used in 1996. The Standing Committee adopted its Resolution No. 3 (1996), in which it resolved to set up a network (Emerald Network) which would include the Areas of Special Conservation Interest designated following its Recommendation No. 16; it furthermore encouraged Contracting Parties and observer states to designate Areas of Special Conservation Interest and to notify them to the Secretariat. Resolution No. 3 (1996) was, in a sense, a second act of birth of the network, after its first creation in 1989. More precisely it was an act of baptism as the network had not been given a name in 1989 and it had proved rather awkward to promote a network under the name of “network to develop Recommendation No. 16 (1989) of the Standing Committee of the Convention on areas of special conservation interest” [3, p. 25]. Nonetheless, the real implementation of the Emerald Network only started in 1998, through the adoption by the Standing Committee of Resolution No. 5 (1998), concerning the rules for the Network of Areas of Special Conservation Interest (Emerald Network).

As the analysis shows, the legal framework of the Emerald Network forms the relevant resolutions and recommendations of the Standing Committee of the Berne Convention: Resolution No. 1 (1989) of the Standing Committee on the provisions relating to the conservation of habitats, Recommendation No. 14 (1989) of the Standing Committee on species habitat conservation and on the conservation of endangered natural habitats, Recommendation No. 15 (1989) of the Standing Committee on the conservation of endangered natural habitat types, Recommendation No. 16 (1989) of the Standing Committee on areas of special conservation interest, adopted by the Standing Committee on 9 June 1989; Resolution No. 3 (1996) of the Standing Committee concerning the setting up of a Pan-European Ecological Network, adopted by the Standing Committee on 26 January 1996; Resolution No. 4 (1996) of the Standing Committee listing endangered natural habitat requiring specific conservation measures, adopted by the Standing Committee on 6 December 1996; Resolution No. 5 (1998) concerning the rules for the Network of Areas of Special Conservation Interest (Emerald Network), adopted by the Standing Committee on 4 December 1998; Resolution No. 6 (1998) of the Standing Committee listing the species requiring specific habitat conservation measures, adopted by the Standing Committee on 4 December 1998; Recommendation No. 157 (2011) on the status of candidate Emerald sites and guidelines on the criteria for their nomination, adopted by the Standing Committee on 2 December 2011; Revised Criteria for assessing the National Lists of proposed Areas of Special Conservation Interest (ASCIs) at

biogeographical level and procedure for examining and approving Emerald candidate sites, adopted on 6 December 2013 by the Standing Committee; Resolution No. 8 (2012) of the Standing Committee on the national designation of adopted Emerald sites and the implementation of management, monitoring and reporting measures, adopted by the Standing Committee on 30 November 2012.

Participation in the Emerald Network is therefore optional, as Contracting Parties and Observer States benefit from the “soft law” approach characteristic of Council of Europe recommendations and resolutions. However, it is important to note that the obligations on the Contracting Parties to protect natural habitats are rigorous requirements clearly set out in the Convention and forming part of binding international law [8, p. 5]. The Standing Committee recommended Contracting Parties to implement their obligations regarding natural habitats through a number of measures, among which the designation of the Areas of Special Conservation Interest (ASCIs) that form the Emerald Network.

The conducted research allows proceeding to the definition of the Areas of Special Conservation Interest. Point 1 of Recommendation No. 16 (1989) defines the Areas of Special Conservation Interest as those designated by states where that area fits one or several of the following conditions:

- a. it contributes substantially to the survival of threatened species, endemic species, or any species listed in Appendices I and II of the convention;
- b. it supports significant numbers of species in an area of high species diversity or supports important populations of one or more species;
- c. it contains an important and/or representative sample of endangered habitat types;
- d. it contains an outstanding example of a particular habitat type or a mosaic of different habitat types;
- e. it represents an important area for one or more migratory species;
- f. it otherwise contributes substantially to the achievement of the objectives of the convention.

As for definition of the Emerald Network, it appears in Article 1 of Resolution No. 5 (1998) concerning the rules for the Network of Areas of Special Conservation Interest (Emerald Network): any area, whether land or sea, where that area fits one or several of the conditions established in Recommendation No. 16 (1989), point 1, may form part of the Emerald Network.

According to Article 2 Areas of Special Conservation Interest (ASCIs) to be included in the Emerald Network shall be designated by the governments. The Standing Committee may advise the government concerned on the advisability of designating one or more ASCIs that are of a particular interest to the Emerald Network. At that the use of the term “governments” in this resolution means the governments of the States Contracting Parties to the Convention, of other Council of Europe States and of other States which are observer States in the Standing Committee of the Convention. As it was mentioned above considering that for Contracting Parties which are Member States of the European Union, Emerald Network sites are those of the Natura 2000 Network the Emerald Network is designated by European states which are not members of the European Union and some African states.

For now it is necessary to determine the criteria and procedure for designating of the Emerald Network.

Resolution No. 3 (1996), Recommendation No. 16 (1989) and Resolution No. 5 (1998) have provided general guidance on how the ASCIs should be designated. They encourage Contracting Parties and observer States to designate ASCIs and to notify them to the Secretariat. Thus, the responsibility for designating ASCIs lies with the government of the States concerned.

In order to ensure a full complementarity and consistency between the EU Natura 2000 and the Emerald networks, the Group of Experts on Protected Areas and Ecological Networks (GoEPAEN) recommended that any evaluation of the proposed Emerald sites should be based on the same rules and procedures as developed for Natura 2000, i.e. using a biogeographic approach. It means that before being officially adopted as Emerald sites, all sites proposed to join the Network are thoroughly assessed at biogeographical level for their sufficiency to achieve the ultimate objective of the Network. This objective is the long term survival of the species and habitats of the Bern Convention requiring specific protection measures [4]. At the same time, in full recognition of the resources and time needed

to implement such a process, the GoEPAEN called for a simplified approach without losing the essence of the evaluation.

After several years of discussion, in 2010, the Standing Committee adopted the “Criteria for assessing the National Lists of proposed ASCIs at biogeographical level and procedure for examining and approving Emerald candidate sites” [8, p. 6]. This document provides the fundamental basis for the identification and scientific evaluation of the sufficiency of the sites proposed by the Contracting Parties for joining the Emerald Network. The document was revised in 2013, in order to include additional criteria for the evaluation of sites proposed for bird species. In the document on the Revised Criteria for assessing the National Lists of proposed Areas of Special Conservation Interest (ASCIs) at biogeographical level and procedure for examining and approving Emerald candidate sites (Adopted on 6 December 2013 by the Standing Committee) for the assessment of proposed ASCIs, the Emerald Network constitution process was described as composed of three different stages or “Phases” of implementation:

- Phase I: Participating countries assess their natural resources and identify species and habitats to be protected according to the relevant resolutions of the Bern Convention listing them [Resolution No. 4 (1996) and Resolution No. 6 (1998)]. They subsequently select potential sites which are suitable for ensuring the long-term survival of the “Emerald” species and habitats and they send a database containing scientific information on the proposed sites to the Bern Convention’s Secretariat. The proposed sites can be officially nominated candidate Emerald sites by the Standing Committee, as provided for in Recommendation No. 157 (2011) on the status of candidate Emerald sites and guidelines on the criteria for their nomination;

- Phase II: An evaluation of the efficiency of the proposed sites is done on a species by species and habitat by habitat base for each biogeographical region. An evaluation of the efficiency of the proposed sites which has to be done on a species by species and habitat by habitat base. Ideally the evaluation would only start if a complete inventory of proposed sites exists for a certain area. Realistically, this would mean that over 80 % of the finally proposed sites would already be available for the evaluation. This exercise is to be conducted in co-operation with the European Environment Agency. Once the scientific value of the proposed sites is assessed, the candidate sites will be submitted to the Standing Committee and will eventually be approved so to formally integrate the Emerald Network. For EU member states an approved Natura 2000 Network of sites will automatically fulfil the parties’ obligations towards the Bern Convention and the Emerald Network;

- Phase III: National designation of the adopted ASCI’s and implementation of management, reporting and monitoring measures, under the responsibility of national authorities.

In order to designate its ASCIs, any government should deposit a Standard Data Form for each individual site proposed with the Secretariat of the Council of Europe, through the Common Data Repository (Reportnet) of the European Environment Agency.

In December 2012, for the first time in the history of the Network, the Standing Committee to the Bern Convention officially adopted as Emerald sites, 37 areas in Switzerland [4]. Since 8 December 2017, five countries, Belarus, Georgia, Norway, Switzerland and Ukraine, have officially adopted Emerald sites on their territories [5]. During the 36th meeting of the Standing Committee of Berne Convention, held on November 15–18, 2016, the lists of the Emerald Network of Europe for Ukraine, Belarus and Switzerland were approved [2]. In particular, the Ukrainian list consists of 271 nature protection objects [5].

Consequently these sites have successfully passed the biogeographical assessment for their sufficiency, as foreseen in Phase II of the Network constitution process. Once the areas proposed are officially adopted as Emerald Network sites, they have to be designated and managed at national level. The national designation and management measures are decided and put in place to contribute to the main objective of the Network and their efficiency will be regularly monitored. They equally continue identifying additional areas suitable to join the Network on their territories.

As stated above the issue of legal regulation of the Emerald Network formation for Ukraine became especially topical after the signing of the Agreement. According to Article 362 of the Agreement the

Parties shall, inter alia implement joint activities at regional and international level, including with regard to multilateral environmental agreements ratified by the Parties and joint activities in the framework of relevant agencies as appropriate. The Parties shall pay special attention to transboundary issues. Gradual approximation of Ukrainian legislation to EU law and policy on environment shall proceed in accordance with Annex XXX to this Agreement (Article 363, item “d”).

In accordance with Annex XXX to Chapter 6 “Environment” Ukraine undertakes to gradually approximate its legislation to the Directive 92/43/EC on the conservation of natural habitats and of wild fauna and flora as amended by Directive 97/62/EC, 2006/105/EC and Regulation (EC) 1882/2003 (hereinafter – the “Directive”) within the stipulated timeframes:

- adoption of national legislation and designation of competent authority/ies. Timetable: these provisions of the Directive shall be implemented within 2 years of the entry into force of this Agreement;

- preparation of inventory of sites, designation of these sites and establishing priorities for their management (including completion of the inventory of potential Emerald sites and establishment of protection and management measures for these sites) (art. 4). Timetable: these provisions of the Directive shall be implemented within 4 years of the entry into force of this Agreement;

- establishment of measures required for the conservation of such sites (art. 6). Timetable: these provisions of the Directive shall be implemented within 4 years of the entry into force of this Agreement;

- establishment of a system to monitor conservation status of habitats and species (art. 11). Timetable: these provisions of the Directive shall be implemented within 2 years of the entry into force of this Agreement;

- establishment of a strict species protection regime for species listed in Annex IV as relevant for Ukraine (art. 12). Timetable: these provisions of the Directive shall be implemented within 2 years of the entry into force of this Agreement.

Although item 256 of the Action Plan on Association Agreement Implementation for the period of 2014–2017, adopted by the Resolution of the Cabinet of Ministers No. 847-p dated September 17, 2014, provides for the development and submission to the Cabinet of Ministers of Ukraine of drafts of normative legal acts to implement the provisions of the Directive with the deadline December 2017, the draft law of Ukraine “On the Areas of the Emerald Network” was submitted for discussion by Ministry of Ecology and Natural Resources of Ukraine only on March 12, 2018 [6].

Thus, the draft law of Ukraine “On the Areas of the Emerald Network” is meant to be the legal basis for the allocation and conservation of the Emerald Network territory within Ukraine in accordance with the requirements of Bern Convention and taking into account the requirements of Directive. It has respect to the following issues: preparation of proposals for designating the Emerald Network, criteria for determining areas for inclusion in the list of proposed areas of the Emerald Network, definition of the Emerald Network areas, National Register of the Emerald Network areas, management plans for the Emerald Network, restrictions of current activities as regards the Emerald Network areas, compensation for losses caused by prohibitions or restrictions on activities in the Emerald Network, monitoring of the environmental conservation status of natural habitats and species of natural flora and fauna within the Emerald Network, reporting measures.

As it was emphasized, the drafting of such legal act should be accompanied by radical changes in legislative approaches. In the Implementation Plan of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, amended by Directives 97/62/EU, 2006/105/EC and Regulation (EC) 2003/1882, is stated that the legislation of Ukraine introduces somewhat different criteria for the formation of the ecological network defined in the Law of Ukraine “On the Ecological Network of Ukraine”, dated June 24, 2004. Hence it is necessary to amend the legislation on the nature reserve fund, the Green Book of Ukraine, the Red Book of Ukraine, land, water, forest legislation, etc. or to develop and approve new legislation on the ecological network and the protection of natural habitats, which would meet the requirements of the Directive, first of all, in terms of criteria for the formation of the ecological network.

3. CONCLUSIONS

To sum up the results of performed analysis, the following conclusions can be drawn up.

Ukraine is one of the five Contracting Parties to the Bern Convention which officially adopted Emerald Network sites on its territory – the so called “Areas of Special Conservation Interest (ASCI)”.

Once ASCIs have been designated by the states, it is considered to be not the end of the Emerald Network, but rather the start, as states are recommended to take a number of steps (by legislation or otherwise), to ensure that ASCIs are properly managed. They are asked in Recommendation No. 16 (1989) to ensure, wherever possible that ASCIs are the subject of an appropriate regime, designed to achieve the conservation of the factors responsible for the designation of the area. It is important to note that the obligations on the Contracting Parties to protect natural habitats are rigorous requirements clearly set out in the Convention and forming part of binding international law.

Based on the analysis, we conclude that for today in Ukraine already exist sites of the Emerald Network, at the same time, their legal regulation is virtually absent.

As follows from the above, Ukraine, as well as other countries, has a task to implement international agreements, including those related to the formation of legislation on the Emerald Network. These issues are particularly relevant for Ukraine in connection with the need to implement the Berne Convention, as well as the fulfilment of Ukraine's obligations under the Agreement.

As explained above, Resolution No. 5 (1998) establishes that for Contracting Parties to the Bern Convention which are member States of the European Union Emerald Network sites are those of the Natura 2000, so that criteria for choice of those areas will be those of the Directive. Therefore the formation of the Emerald Network is the first step in the formation of a common ecological network of Europe. And this, in its turn, is a necessary condition for preserving the biodiversity of not only Ukraine but also Europe.

It should be noted that for the development of the Emerald Network in Ukraine it is necessary to unite efforts not only of specialists in the field of ecology, biology, geography, but also lawyers regarding the creation of the legal basis for its formation and functioning.

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Стаття присвячена визначенню юридичної природи Смарагдової мережі, а також питанням формування Смарагдової мережі в контексті міжнародних зобов'язань України. Зокрема, досліджується історія появи терміну "Смарагдова мережа" в міжнародних актах, критерії і порядок віднесення територій до Смарагдової мережі. Крім того, в статті розглядаються проблеми, пов'язані з правовим забезпеченням формування Смарагдової мережі в Україні. Підкреслюється, що прийняття відповідного законодавства передбачено міжнародними зобов'язаннями України як учасниці Конвенції про охорону дикої флори та фауни і природних середовищ існування в Європі та Угодою про асоціацію між Україною, з однієї сторони, та Європейським Союзом, Європейським співтовариством з атомної енергії і їхніми державами-членами, з іншої сторони. Аналізуються положення проекту Закону України "Про території Смарагдової мережі".

Ключові слова: Смарагдова мережа, території особливого природоохоронного значення, Конвенція про охорону дикої флори та фауни і природних середовищ існування в Європі, правове регулювання.

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THE RIVER BASIN PRINCIPLE OF WATER RESOURCES MANAGEMENT IN THE LEGISLATION OF THE EUROPEAN UNION AND UKRAINE

LESIA DANYLIUK

Abstract. The article studies the notion of the river basin principle of water resources management, its meaning, its legal definition in the EU directives, the particular aspects of its implementation in Ukraine, and its overall importance in terms of water quality and management of water resources, including the marine environment. It is determined that the river basin principle of water resources management is one of the key matters of the EU environmental policy and is a topical issue for Ukraine in the process of European integration. Essentially, the river basin principle of water resources management is defined as integrated management within a river basin district. It is concluded that this principle is one of the main components of integrated management of water resources and is, in fact, the basis of the integrated approach to such management.

Keywords: water resources, management of water resources, integrated management, the river basin principle, the Water Framework Directive, implementation.

1. INTRODUCTION

The signing and implementation of the Association Agreement between the European Union and the European Atomic Energy Community and their member states, of the one part, and Ukraine, of the other part [3] (hereafter *the Agreement*) has marked a new stage in the process of European integration in Ukraine as well as presented our country with new challenges. Needless to say, the Agreement has had an influence on all the spheres of political, economic, and social life of the country and has resulted in outlining the primary objectives of Ukrainian state policy and defining its priorities. Moreover, in order to strengthen cooperation with Europe and become a member state of the European Union (hereafter *the EU*), Ukraine has assumed a great number of responsibilities stated in the Agreement and its Annexes.

One of the important aspects of cooperation between the Parties to the Agreement is the question of the environment. According to Art. 361 of the Agreement, this cooperation is aimed at preserving, protecting, improving, and rehabilitating the quality of the environment, protecting public health, utilizing natural resources in a sustainable way, and promoting measures at international level to resolve regional and global environmental problems. According to Art. 362 of the Agreement, the Parties: a) exchange information and experience; b) conduct joint research and exchange information

about eco-friendly technologies; c) plan to tackle the consequences of natural disasters and other emergencies; d) engage in joint activities at regional and international levels in accordance with multilateral environmental agreements ratified by the Parties and, if necessary, within relevant agencies. The Parties pay particular attention to transboundary issues. Art. 361 of the Agreement also outlines the following lines of environmental cooperation: a) climate change; b) ecological management and ecology-related questions, i.e. education and academic training, access to information on the environment and the decision-making process; c) air quality; d) water quality and management of water resources, including the marine environment; e) waste and resources management; f) environmental protection, including the preservation and protection of biological and landscape diversity (ecological networks); g) industrial pollution and industrial threats; h) chemicals; i) genetically modified organisms, including the ones in the agricultural sector; j) noise pollution; k) civil protection, natural disasters and anthropogenic threats in particular; l) the urban environment; m) ecology-related meetings. It is certain that all of these problems are crucial, which is why their resolution requires mutual efforts and actions on the part of the states. Meanwhile, specific thorough research is needed due to the multifaceted nature of each of the problems and a large number of sub-questions.

This article is aimed at studying the notion of the river basin principle of water resources management, its meaning, its legal definition in the EU agreements, the particular aspects of its implementation in Ukraine, and its overall importance in terms of water quality and management of water resources, including the marine environment.

2. ANALYSIS AND DISCUSSION

Nowadays the general prospects for the development of environmental legislation in Ukraine in the context of European integration is being discussed more often by Ukrainian legal scholars and is the subject of the academic research of V. Y. Andreitsev [1], A. P. Hetman [11], M. V. Krasnova [12], N. R. Malysheva [16] and many others.

A. P. Hetman believes that the national environmental legislation has had a unique opportunity to approximate to the laws and regulations within the EU legal system in accordance with the criteria for the states aiming to join the Union, the establishment of relevant institutions and the implementation of additional measures, necessary for efficient law-making and law enforcement in the ecological sector. The implementation of the EU directives and regulations ensuring the integration of environmental policy into the other sectoral policies will become a prerequisite for developing a precise and transparent mechanism for the realization of sustainable environmental management; preserving and renewing natural resources; conserving the environment; adhering to the norms of environmental safety, and protecting the ecological rights and legal interests of individuals, legal entities, and other subjects of environmental law [11, p. 31–32].

According to N. R. Malysheva, the process of approximating Ukrainian environmental legislation to the EU law involves meeting the criteria at the three interconnected levels: the criteria at the first level comprise the requirements stated in Art. 6 “Environment” of the Chapter 5 “Economic Cooperation and Other Cooperation Policies”; the criteria at the second level are determined by the ecological constituent of the “*acquis communautaire*”, i.e. a compulsory set of requirements of the EU law which must be met by the legal systems of the states aiming to join the European community; the criteria at the third level are constituted by the “*spirit and letter*” of the EU law on the environment. Today in Ukraine the main focus of attention is on the first approximation level, i.e. on making Ukrainian environmental legislation conform to the EU environmental law, whose issues of priority are outlined in Art. 361 of the Agreement. Unfortunately, not all the domains are properly involved in the process of approximating Ukrainian legislation to European ecological directives stated in the Agreement. The most considerable progress has been achieved in the regulation of water resources management with the integrated approach based on the river basin principle having been introduced at legislative level [16, p. 77–78].

We cannot but agree with the above-mentioned statement, since significant amendments and additions have been made to the Water Code of Ukraine [24] (hereafter *the WC of Ukraine*) by the Law of Ukraine No. 1641-VIII of October 4, 2016 [15] with regard to the implementation of integrated approaches to water resources management based on the river basin principle. It is important to add that the river basin principle of water resources management has been studied from the point of view of its different aspects by such Ukrainian legal scholars as A. H. Borovytska [4], A. V. Kulko [13], N. V. Loktieva-Maklashova [14], Ye. P. Suietnov [23], Z. V. Yaremak [25], and others.

First and foremost, it is necessary to emphasize that water is an essential resource for sustainable development. The state of water resources, their amount and quality depend on a set of conditions, including their effective management. Management of water resources is one of the main issues of the EU environmental policy. The principal EU documents on water quality assurance and management of water resources, including the marine environment are as follows: Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (hereafter *the Water Framework Directive*) [8]; Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks [9]; Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy [10]; Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment [5]; Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption [7]; Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources [6].

In the course of efficient management of water resources the principles of its implementation are of particular importance. The Water Framework Directive comprises the main elements of integrated water resources management: the principle of integrated protection of waters (rivers, lakes, coastal waters, and groundwaters); the river basin principle of water resources management; the principle of the active involvement of citizens and public organizations; the principle of continuous improvement of legislation [14, p. 146]. In our opinion, the river basin principle, among the others, needs special study, since the question of water resources management is now a high priority in Ukrainian environmental policy and plays an important role in the process of European integration.

In fact, the shift from the administrative-territorial to the river basin management of water resources envisaged for Ukraine requires the improvement of legislation, first and foremost of the part concerning the introduction of regulations aimed at the practical implementation of the system of integrated water resources management based on the river basin principle, such as: the definition of the main terms, the hydrographic and hydroeconomic zoning of Ukrainian territory, the powers of central and local authorities, etc. [4, p. 89] which are currently stated, for the most part, in the WC of Ukraine.

As stated in Art. 13 of Chapter 1 of the WC of Ukraine, the government control of the utilization and protection of waters and the restoration of water resources are exercised according to the river basin principle within the framework of the state, interstate, regional, and target-oriented programmes of the utilization and protection of waters and the restoration of water resources as well as of the river basin management plans. This being said, the basin management principle consists in complex (integrated) management of water resources within a river basin (Art. 1 of the WC of Ukraine). The river basin district, according to Art. 1 of the Water Framework Directive, is the main unit of river basin management which encompasses the areas of land and water, made up of one or more neighbouring river basins, including their groundwaters and coastal waters. Thus, the river basin district is the main unit of management in the sphere of the utilization and protection of waters and the restoration of water resources, composed of a river basin (neighbouring river basins) and adjacent groundwaters and coastal waters (Art. 1 of the WC of Ukraine).

As stated in Art. 1 of Chapter 3 of the Water Framework Directive, in accordance with the objectives of the Directive, the member states identify individual river basins within their national boundaries and assign them to certain river basin districts. Small river basins can be grouped with bigger ones or join the neighbouring small river basins to form separate river basins, where appropriate. If groundwaters

do not lie entirely within the boundaries of a certain river basin district, they are identified and assigned to the nearest or most appropriate river basin district. Coastal waters are assigned to the nearest or most appropriate river basin district(s). According to Part 2 of Art. 13¹ of the WC of Ukraine, Ukraine has nine river basin districts: the Dnipro river basin district, the Dniester river basin district, the Danube river basin district, the Southern Buh river basin district, the Don river basin district, the Vistula river basin district, the basin district of the Crimean rivers, the basin district of the Black Sea coastal area, the basin district of the Azov Sea coastal area.

In the process of putting into practice the river basin management of water resources, a river basin management plan is an important document which contains an analysis of the river basin condition and an action plan aimed at achieving the objectives set for every river basin district within the prescribed time limit. According to Part 4 of Art. 13 of the Water Framework Directive, a river basin management plan contains information, specified in Annexe VII. Overall, as stated in the Annexe and in Part 2 of Art. 13² of the WC of Ukraine, the main points of river basin management plans are: 1) a general description of the groundwaters and coastal waters of a river basin district; 2) the definition of the major anthropogenic influences on the amount and quality of surface waters and groundwaters, including point and nonpoint sources of pollution; 3) the designation of zones (areas) for protection and their mapping; 4) the mapping of monitoring networks and the results of monitoring programmes for surface waters (ecological and chemical monitoring), groundwaters (chemical and quantitative), zones (areas) to be protected; 5) a list of objectives for surface waters, groundwaters, and zones (areas) to be protected and their deadlines; 6) an economic analysis of water use; 7) a performance review of programmes and events, including the ways of reaching the stated objectives; 8) a complete list of programmes (plans) for a river basin district or a sub-basin, their content and problems that need to be solved; 9) a report on informing the public on the matter and the public discussion of the project on a river basin management plan; 10) a list of relevant authorities; 11) the procedure for information acquisition (including the initial information) on the condition of surface waters and groundwaters. In Ukraine river basin management plans are ratified by the Cabinet of Ministers of Ukraine every six months (Part 3 of Art. 13² of the WC of Ukraine).

The development of the first river basin management plans for every river basin district in Ukraine has to be accomplished within the period of the implementation of the Nationwide Programme of Water Industry Development and Ecological Restoration of the Dnipro River Basin District for the period until 2021, ratified by the Law of Ukraine No. 4836-VI of May 24, 2012 [22].

Moreover, Art. 13³ of the WC of Ukraine declares the formation of advisory bodies (i.e. river basin councils operating within the limits of a river basin district) to the State Agency of Water Resources of Ukraine in order to ensure the sustainable use and protection of waters, the restoration of water resources, and their integrated management. River basin councils are formed by the State Agency of Water Resources of Ukraine to make proposals and reach an accommodation between enterprises, institutions, and organizations in the matter of the utilization and protection of waters and the restoration of water resources within a river basin district. Decisions of river basin councils are taken into consideration in the course of developing river basin management plans and introducing measures for the sustainable use and protection of waters and the restoration of water resources. River basin councils are comprised of representatives of central and local executive authorities, local self-government bodies, other interested organizations, institutions, enterprises as well as members of the public.

The principle objectives of river basin councils also include: ensuring integrated management of water resources within a river basin; reaching an accommodation and action coordination between the interested parties concerning water resources management within a river basin district; fostering cooperation between central and local executive bodies, local self-government bodies, enterprises, institutions, organizations, international organizations and experts (by consent) to reach the "good" ecological and chemical condition of surface waters, the "good" chemical and quantitative condition of groundwaters as well as the "good" ecological potential of artificial and fundamentally altered bodies of surface waters within a river basin district; making proposals for a river basin management plan;

ensuring the implementation of a river basin management plan along with state, target-oriented, sectoral, interstate, regional, and local ecological programmes and projects on river basins; developing and implementing technical assistance programmes and projects; attracting investments to introduce a set of measures aimed at improving the ecological condition of a river basin [18].

According to Annexe XXX to Chapter 6 “Environment” of Title V “Economic and Sector Cooperation” of the Agreement, Ukraine undertakes to gradually approximate its legislation to the terms of the Water Framework Directive within the following time limit: 1) within three years of the entry into force of the Agreement: the adoption of national legislation and the designation of competent authority/authorities; legislating on the definition of the unit of the hydrographic zoning of Ukraine; the development of the regulation on river basin management including its functions stated in Art. 3 of the Water Framework Directive; 2) within six years of the entry into force of the Agreement: the identification of river basin districts and the establishment of management mechanisms for international rivers, lakes, and coastal waters (Art. 3); analysis of the characteristics of river basin districts (Art. 5); introducing programmes for monitoring water quality (Art. 8); 3) within ten years of the entry into force of the Agreement: the preparation of river basin management plans, public consultation, and the publication of these plans (Art. 13 and Art. 14) [2, p. 37–38].

In order to ensure that Ukraine will fulfill its obligations, the Cabinet of Ministers of Ukraine ratified a set of measures aimed at implementing the terms of the Agreement [20; 19]. The first plan was developed for the years 2014–2017 and addressed the entire Agreement, whereas the second plan addressed only Chapter 5 of the Agreement and defined the time limits for the years 2017–2019. However, on March 17, 2018, the resolution of the Cabinet of Ministers of Ukraine No. 1106 of October 25, 2017 “On Implementation of the Association Agreement between the European Union and the European Atomic Energy Community and their member states, of the one part, and Ukraine, of the other part” came into effect [21] declaring the two above-mentioned regulations null and void. This resolution instead ratified a set of measures to implement the Association Agreement between the European Union and the European Atomic Energy Community and their member states, of the one part, and Ukraine, of the other part.

The resolution defined the following objectives for Ukraine (in the part on the implementation of the terms of the Water Framework Directive): 1) introducing legislation on the system of river basin management of water resources; 2) introducing programmes for monitoring the condition of river basins.

The following measures were outlined to achieve the first objective until March 20, 2018: 1) the development of a draft regulation on the formulation and development plan for programmes of monitoring surface waters and groundwaters; 2) the discussion of the draft regulation with the EU experts; 3) the adoption of the regulation; 4) the improvement of the workings of the existing basin and regional departments of water resources; 5) the development and adoption of the regulation on river basin management of water resources. The measures set to accomplish the second objective until October 31, 2020, are as follows: 1) formulating and adopting the procedure of the identification and classification of surface waters and groundwaters; 2) the identification of river basin districts and the establishment of management mechanisms for international rivers, lakes, and coastal waters; 3) the development and adoption of the procedure for measuring the ecological and chemical condition of waters; 4) analysis of the characteristics of river basin districts; 5) introducing programmes for monitoring the quality of surface waters and groundwaters.

In order to support Ukraine’s aspirations and contribute to the proper accomplishment of its objectives regarding the adoption of the river basin principle of water resources management, the EU has recently launched the EUWI+ project aimed at fostering the reformation of water policies in the six countries of the Eastern Partnership: Azerbaijan, Armenia, Belarus, Georgia, Moldova, and Ukraine.

Its general goal is to improve the strategy of water resources management in the above-mentioned countries, with special regard to transboundary river basins. More specifically, it is aimed at approximating the water policies and strategies of these countries to the terms of the Water Framework Directive, multilateral environmental agreements, and the principles of integrated management of

water resources. The project contains three components: 1) improving the legal and regulatory systems of the countries (including conducting National dialogues on water policy, increasing and strengthening workforce capacity, reforming legislation and administration); 2) the development and implementation of river basin management plans; 3) a systematic analysis of the status of the project implementation and its results, communication, informing the interested parties of the project progress, engaging the public in solving the problems of water resources management. The main objectives of the project for the year 2018 are as follows: 1) contributing to the development of the National Water Strategy of Ukraine and its Implementation Plan; 2) cooperation with the Ministry of Ecology and Natural Resources of Ukraine and other beneficiary organizations regarding the improvement of the legal and institutional systems of Ukraine which will allow to employ the Water Framework Directive and other international strategies of integrated management of water resources; 3) conducting the National Dialogue on water policy; 4) cooperation with the Ministry of Ecology and Natural Resources of Ukraine regarding the provision of new equipment for laboratories and conducting necessary training sessions; 5) the beginning of the development of a river basin management plan in the part on the characteristics of the Dnipro river basin district (the Dnipro river basin is chosen as a pilot one); 6) the identification of the bodies of surface waters and groundwaters according to the order of the Ministry of Ecology and Natural Resources of Ukraine on the identification of the bodies of surface waters and groundwaters; 7) the development of the strategy for engaging the interested parties and the public in formulating and introducing river basin management plans and their implementation plans; 8) the organization of the International Dnipro River Day in cooperation with the Ministry of Ecology and Natural Resources of Ukraine and the State Agency of Water Resources of Ukraine [17].

3. CONCLUSIONS

Therefore, the river basin principle of water resources management is defined as integrated management within a river basin district. This principle is one of the main components of integrated management of water resources and is, in fact, the basis of the integrated approach to such management.

The river basin principle of water resources management is one of the key matters of the EU environmental policy and is a topical issue for Ukraine in the process of European integration, since proper legislation and a gradual implementation of efficient management policy influences the condition of water resources, their amount and quality.

At present, the process of approximation of Ukrainian legislation to European legislation is in the active phase. However, today we can already assert that Ukraine has put much effort into legislating on integrated approaches to the river basin principle of water resources management. Meanwhile, the problems of the practical application of this principle in the course of water resources management still remain pressing issues.

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Данилюк Леся. Басейновий принцип управління водними ресурсами у законодавстві Європейського Союзу та України. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 99–106.

У статті досліджується поняття басейнового принципу управління водними ресурсами, його зміст, нормативно-правове закріплення в актах ЄС, особливості впровадження у законодавстві України та загалом його значення в контексті питання якості води та управління водними ресурсами, включаючи морське середовище. З'ясовано, що управління водними ресурсами за басейновим принципом належить до ключових питань діяльності ЄС в галузі охорони довкілля та має актуальне значення для України у процесі євроінтеграції. За своєю суттю басейновий принцип управління водними ресурсами передбачає комплексне управління в межах району річкового басейну. Встановлено, що цей принцип є одним з основних елементів інтегрованого управління водними ресурсами і, що фактично, саме на ньому базується інтегрований підхід до відповідного управління.

Ключові слова: водні ресурси, управління водними ресурсами, інтегроване управління, басейновий принцип, Водна Рамкова Директива, імплементація.

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PROTECTION OF SPACE ENVIRONMENT IN THE LIGHT OF PERSPECTIVE CHALLENGES OF “SPACE WARS”

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Abstract. In article it is analyzed action in the space of the principle of prohibition of the use of force and threats (*jus contra bellum*). Also it is researched application of Geneva Law to space conflicts (*jus in bello*) and its correlations with another hard and soft norms of international law in the light of protection of space environment such as Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, Declaration of the United Nations Conference on the Human Environment 1972, Rio Declaration on Environment and Development 1992 etc. Beside this it is used practice of International Court of Justice for argumentation of positions and conclusions. Since space objects management is done remotely with help of software, author draw parallels between legal regulation of international conflicts in outer space and cyber space. Furthermore, it is researched specific features of application the principle of proportionality in international space armed conflicts with the aim of protection environment of space and Earth.

Keywords: space, war, prohibition use of force and threats, *jus contra bellum*, *jus in bello*, proportionality, humanitarian law, MILAMOS, protection of environment, armed conflict, space debris.

1. INTRODUCTION

Space is becoming an increasingly valuable natural environment, which is perceived by space entities as resource. World history shows intensity of the attack on the resource is directly proportional to its values and erosion of its legal status. At present it is obvious strengthening of military and political tension between leading space-faring nations. It is reflected in provisions of resolution draft “Space as a driver of sustainable development”, which is prepared for fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space, namely “All Member States, in particular those with major space capabilities, should contribute actively to the prevention of an arms race in outer space, with a view to promoting and strengthening international cooperation in the exploration and use of outer space for peaceful purpose” [11].

Unfortunately practice shows reverse trends, which is accompanied by active growth of military potential to “space wars” [7]. Whereas actual relations generate legal norms, it is not strange that sources of legal regulation of “space wars” are preparing very rapidly. Most important of such drafts is Manual on International Law Applicable to Military Uses of Outer Space (MILAMOS), which is

currently being developed by the University of Adelaide, McGill University and University of Exeter. Its developers are convinced that principle of peaceful usage of space by all states, which is fixed in The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (OST) [23], “peaceful” is to be equated with non-aggressive, but it does not otherwise prohibit militarization of space. That is why space, similar to ground, water and air, is an environment for international military conflicts [21; p. 2].

Given this, it is necessary to analyze the principle of prohibition of the use of force and threats application in space (*jus contra bellum*). Also it is expedient to research application of Geneva and Hague Law during space conflicts (*jus in bello*) and its correlations with other hard and soft norms of international law in the light of protection of environment. Since space objects management is done remotely with help of software, parallels should be made between legal regulation of international conflicts in outer space and cyber space. The last one is encouraged by Manual on the International Law Applicable to Cyber Warfare (Tallinn Manual), prepared by NATO in 2017. Author considers as expedient to research such legal sources in light of protection of outer space as natural environment and environment of Earth from the outcomes of armed conflicts with applying of space technologies.

2. ANALYSIS AND DISCUSSION

Jus contra bellum

The boundary between legal regimes *jus contra bellum* and *jus in bello* is compliance with or violation of principle of prohibition of use force and threats, which is one of the major principle for ensuring of peaceful coexistence of international community (p. 4, art. 2 of UN Charter) [25]. Clear prohibition left place for numerous of questions in international law doctrine, which are aggravated against of background of special regime of outer space and space activity. Let’s pay attention the most significant of it.

Features of actors

Prohibition of use of force and threats is enforced in international relationships, namely between states and it is not applied to private entities. However, world tendencies of exploration and use of outer space show increasing of amount of private actors of space activity, which is encouraged by states by the means of public-private partnership¹. Also they develop and protect of their interests with help of powerful multifunctional unions². It is necessary to made clear teleological division between state entities with military purpose and private entities with commercial aims. But it does not exclude private actors from participation in space armed conflicts. Nowadays, private entities are the owners of powerful security systems for “space wars”, which provide early detection of preparation to and start of attack, communication and retransmission of information and supervision. On the other hand, according to Article 8 OST, State Party on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such objects. So, it is possible to change purpose of space objects from commercial into military under the influence of administrative resource of the state. In such circumstances there is not clear if prohibition of the use of force extend to the operators of space objects in view of their non-state nature.

However, decisions of International Court of Justice in cases of “Nicaragua v USA” [3] and “Congo v Uganda”[2] points out that the use of force by non-state bodies is a violation of the relevant prohibition only if state take significant part in such use of force. In this context Article 6 of OST about responsibility of states for its national space activity in connection [23] with above mentioned Article 8 of OST allow asserts that prohibition of use force and threats is applied to all space activity participants (public and private) because they are on the jurisdiction and control of the state, which bear

¹ For example, public-private commercial push by NASA has been underway since the establishment of the Commercial Orbital Transportation Services (COTS) program in 2006.

² The Space Data Association (SDA) is an organization that brings together satellite operators who value controlled, reliable and efficient data-sharing critical to the safety and integrity of the space environment and the RF spectrum. The SDA membership includes the world’s major satellite communications companies.

responsibility for their space activity. Given this, regime of international armed conflicts can only appear in outer space. At the same time, non-international armed conflicts can start only if there is attack on and control of ground-based segment of space activity.

Content of principle of prohibition of use force and threats

Prohibition of use force and threats is very discursive in international law because it is related to divisions according to degrees of the intensity, the target orientations, the purposes and other circumstances. Part 5 Article 2 of UN Charter defines three objects, using force to which is prohibited. There are territorial integrity, political independence and the aims of UN (according to Article 1 of UN Charter, they are: maintenance of peace and security, friendly relations between nations and international cooperation) [25]. Most serious and dangerous form of unlawful use of force is aggression. According to United Nations General Assembly (UNGA) resolution 3314 (XXIX) of 14.12.1974 aggression is attack on the sovereignty, territory or use of it for an attack, as well as an attack on land, sea or air forces [8]. Also according to Article 49 of Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977, attacks means acts of violence against the adversary, whether in offence or in defence on the ground, air and sea [18]. Norms of such international acts show that act of violence in the outer space is not considered as attack and attack on the space forces is not considered as aggression. It can be explained of lack technical possibilities to conduct comprehensive armed conflicts in space, which exist during the adoption of such international acts. As follows, key provisions of international law that limited action of principle of prohibition of use force and threats by means of objective and functional criterions, can be applied to space armed conflicts only conditionally, since none of the objects of force, except the aims of the United Nations, is not valid for the prevention of the use of force in space.

Jurisdiction of state of registry spread on space objects, it is not mean that such objects are the sovereign territory of such states. On this base, external influence on the space object should not be considered as a territorial intervention, and hence the use of force in the context of Part 2 of Article 4 of the UN Charter [25]. Such conclusion is based on division of contents sovereignty and jurisdiction, which exist in international law doctrine. Ian Brownlie defines their correlation as a whole and a part, that is, sovereignty provides a normal volume of state power, a typical manifestation of legal competence, and jurisdiction is turned out through the specific rights of the state or their limited volume [1; p. 106].

Complex analysis norms of UN Charter and UNGA resolution 3314 (XXIX) of 14.12.1974 show that force and threats of it are expressed in usage of armed forces only. Article 4 of OST obliges states to undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner [23]. At the same time, security and percussive segments of armament are permissive under the international law [15]. Also it is noticeable that space debris belongs to percussive segments if it was launched into orbit deliberately. However, use of armed forces for decommissioning of space objects is not limited to direct impact on them in outer space. Ground-based segment is the most important for manage of space objects by means of telematics. So, it is necessary to distinguish one more non-kinetic kind of weapon, which is not prohibited by OST. But cyber-attack should be qualified as use of force when space objects are operated by telematics.

It is necessary to analyze of lawful grounds of use of force. There are self-defence, the consent of the affected State and the decision of the UN Security Council [14; p. 829]. First and last grounds are fixed in Articles 51, 39, 41 and 42 UN Charter as the common mechanism for responding to an armed attack [25]. However, the attempt to implement the right of self-defence into the norms of international space law has become only a subject of discussion that slowed the adoption of the International Code of Conduct in Space [10]. So, such ground is not recognized by international community. In this context it is needed to mention that Guidelines for the long-term sustainability of outer space activities fixed that defence or national security implications, should be fully compatible with preserving outer space for peaceful exploration and use [12]. Also such Guidelines define giving consent of the state on the external influence on the space objects under her jurisdiction and control as legal mechanism of

providing of active space debris removal. Thus, this ground is most perspective for legitimating the usage of force in outer space. An above-mentioned show, use of armed force in outer space is not prohibited according to nature of the action and the objects for which this action is directed by current international law. However, experts convinced that customary law rules governing the conduct of hostilities are applicable in all domains of warfare, i.e., land, air, sea as well as outer-space [22]. In our opinion, reason of this is consequences, namely damage to civilian populations and civilian objects, among which a special place must be occupied by the environment that creates the conditions for their preservation.

Jus in bello

Usage of force in space is due to its natural features. Any, even targeted destruction of space objects will inevitably lead to littering of near-Earth space by myriads of space debris. It may stay in space different intervals of times, depending on orbit of its location, but all this time are equally longer in comparison with human life. Such situation will interfere with functioning of any space object that will be located in the corresponding orbits, regardless of their participation in armed conflicts. Furthermore, fall of such objects will threaten life and health of people on the Earth. The same effect will cause contamination of near-Earth space with nuclear energy sources due to such destruction. All of this, except for direct harm to objects of legal protection of the environment, will cause deactivation of weather monitoring and emergency management systems of a nature like United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER). So, preserving of neutrality during “space wars” seems unlikely. In this context it is necessary to parallel with international conflicts within the cybernetic space, where the high level of electronic interconnection between civilian and military objects causes a situation where an attack on any node of the system is an attack on the system as a whole [19; p. 200-201]. However, unlike consequences of cyber-attack, which can stay in cyber space, armed conflicts in outer space and with usage of ground-based and space-based technologies directly or indirectly will harm the natural environment of near-Earth space and Earth as well as sustainable development of mankind as a whole [19]. On this reason it is expedient pay special attention to means of protection environment during preparing of rules of international armed conflicts with the use of space and space technologies.

The “soft” norms on international environmental law, which can apply during armed conflicts, are: principle 26 of Declaration of the United Nations Conference on the Human Environment 1972, which proclaims that man and his environment must be spared the effects of nuclear weapons and all other means of mass destruction [6]; Article 20 of World Charter for Nature 1982, which stands that military activities damaging to nature shall be avoided [27] and principle 24 of Rio Declaration on Environment and Development 1992, which determines that warfare is inherently destructive of sustainable development, because states shall therefore respect international law providing protection for the environment in times of armed conflict and co-operate in its further development, as necessary [24].

The norm of international space law, which limits the destructive impact on the environment during space activities, is Article 9 of OST, which obliges States Parties to the Treaty shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose [23]. Furthermore, Article 1 of Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) constitutes: “State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party. Also they are not to assist encourage or induce any State, group of States or international organization to engage in such activities”. Article II of this Convention clarify that environmental modification must be deliberated and spread on outer space [5].

Beside this, rules of international armed conflicts, enshrined in Protocol I, oblige to protect the objects necessary for the survival of the population (Article 54), the environment from wide, long-term and serious harm (Article 55), as well as to prevent attacks on installations and structures, containing

dangerous forces (Article 56), notwithstanding the fact that in the doctrine of international law, large-scale ambient air pollution is not recognized as a violation of the prohibition of the use of force [18].

The participants in the process of preparing MILAMOS rightly point out that such wide range of sources international law need to conduct reconciling of legal regimes. Mechanisms of such reconciling were developed by International Law Commission in the Draft articles on the effects of armed conflicts on treaties. This act establishes such hierarchy of legal force: norm of humanitarian law as *lex specialis* (Article 2), treaties, which operates on the base of their subject matter (Article 7), including international environmental protection (item. g of annex), treaties, which itself contains provisions on its operation in in situations of armed conflicts (Article. 4), another treaties [9]. So, all mentioned sources of environment protection should operate during international armed conflicts with usage of space-based and ground-based space technologies. Also it should be noted that Article 9 of OST is environmentally friendly, and therefore should be applied preferentially, despite the fact that it is neither humanitarian nor ecological in its essence. Such conclusion can be confirmed by advisory opinion of International Court of Justice in case "Legality of the Threat or Use of Nuclear Weapons" of 08.07.1996. The Court argued that it was not treaties, but obligations stemming from these treaties were intended to be obligations of total restraint during military conflict. However, Court does not consider that the treaties in question could have intended to deprive a State of the exercise of its right of self-defence under international law because of its obligations to protect the environment. Respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality [4]. So, let's consider the action of these principles during international armed conflicts in outer space and on the use of space-based ground-based systems.

The principle of military necessity is due to the desire to achieve the sole legitimate purpose of armed conflict, namely weakening of the military resistance of the enemy and the principle of proportionality is defined as a complex compromise between the protection of civilians and objects and military necessity [14; p. 877-878]. According to items 4 and 5 of Article 55 of Protocol I, actions that violate these principles are defined as attacks, during which military objects, civilians or civilian objects are attacked without distinguishing between them, which results in the civilian casualties, injuries and damage to civilian objects, or both together, which are excessive in relation to the specific and direct military advantage, which is supposed to achieve in this way [18].

Disabling of space objects remotely by means of telematics can cause significant damage to the civilian population if such object would belongs to dual-purpose objects and serves not only for military purposes, but also for the provision of emergency situations, civilian navigation. The loss of such means by the civilian population of the belligerent side will result in the deprivation of his life and health, not mentioning the loss of crop due to the lack of accurate meteorological information. All this is not incompatible with the principle of proportionality and violation of Article 54 Protocol I. If we draw a parallel with the outline of the proportionality of cybernetic attacks that do not violate the principle of proportionality, we can observe consequences of disrupting space objects that are associated with household inconveniences [13], such as the temporary lack of Internet coverage. But even this should be assessed on a case-by-case basis, because if rescue services did not work as a result of this, causing significant death or injury to people, this could also be the subject of an assessment of the violation of the principle of proportionality.

As was mentioned, the accuracy of the damage to space objects does not guarantee the avoidance of damage to civilian objects and persons who are in space. Furthermore, the unpredictability of movement trajectory of space debris, which is created as a result of such destruction, and a long period of its existence in orbit, makes such a method of armed conflict absolutely non-selective. This means that piece of space debris can affect a military or civil object of any, even non-defensive country, in an armed conflict or much later after its end. Such features make space object an installation that contains dangerous forces in the sense of Article 56 Protocol I, even when it does not have nuclear power sources. At the same time, in international practice, there are no known cases of extending this norm to installations other than the dikes, dams and nuclear plants, which are defined in this Article. This raises the problem of its application during international armed conflicts in space or using space technology.

The assessment of compliance with the principle of proportionality between the military necessity of operations in outer space or the use of space technology and the preservation of the natural environment should be made taking into account the interpretation of the last one in the advisory opinion of the International Court of Justice in case "Legality of the Threat or Use of Nuclear Weapons" of 08.07.1996. Court proclaims that environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment [4].

Article 55 of Protocol I and Article 1 of ENMOD Convention are fix three criterions that help to determine the proportionality of the adverse environmental impact during an armed conflict widespread, long-lasting or severe effect. As rightly notes Manoj Kumar Sinha, it is clear that the thresholds in the two instruments are framed with similar but not identical wording. The threshold in ENMOD is defined with disjunctive 'or' while in Additional Protocol I the adjective is cumulative 'and', that is why can be inferred that the ENMOD threshold is lower than that of Additional Protocol I [16]. All three criterions are estimated, so they should be established in a specific case and rely on the practice in this area. United Nations Environment Programme summarized this practice and gave an interpretation of these criteria: "Widespread" encompasses an area on the scale of several hundred square kilometers; "Long-term" is a period of months, or approximately a season; and "Severe" involves serious or significant disruption or harm to human life, natural economic resources or other assets [17]. In the event destruction of space objects, their fragments or released nuclear power sources will be distributed far beyond the boundaries of several hundred square meters, which will spread both outer space and Earth. Moreover, damage by cyber means or highly specific directed energy weapon with saving integrity of space objects [26] does not guarantee avoid of intentional or accidental collisions with neutral or hostile space objects with tragic consequences for long-term sustainability of space. It is worth mentioning only such a civil case as collision Cosmos 2251 and Iridium 33, in order to imagine what the consequences might be if the space objects would be out of order massively during armed conflicts. In this case, the time of their stay in orbit will reach tens and hundreds of years, and the consequences will be manifested in damage to other space objects, regardless of purpose and affiliation, peoples in space and on the Earth. Thus, according to the general rule, any failure of the space object will carry the risks that damage the natural environment of space and Earth, which violates the norm of international humanitarian law, enshrined in Article 55 of Protocol I.

3. CONCLUSIONS

The study of the principle of prohibition of use of force and threats in outer space and using space technology, as well as its application to protect the natural environment of space and Earth, made it possible to draw the following conclusions:

- Armed conflict in the near-Earth space in accordance with humanitarian law can be defined as an international armed conflict;
- The rules of international law that define the content and objects of the use of force or its threats that qualify as a prohibition do not contain such a direct prohibition for international armed conflicts in outer space;
- The most safe and peaceful basis for the use of force is the permission of the State exercising jurisdiction and control over the space object to allow external influence on such an object by means that can be qualified as weapons. Specifically, it is indicated that it is relevant for the implementation of projects for the active removal of space debris;
- The protection of near-Earth space and the Earth's environment during "space wars" is ensured by a number of international humanitarian, military, space and environmental laws that must operate in a comprehensive manner.

The principle of proportionality during international armed conflicts in outer space or the use of space technology in the context of the impact on the environment of space and Earth is very difficult to achieve without excessive harm to space environment, which is conditioned by the specific natural properties of the environment in which such armed conflicts occur.

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Гурова Анна Охорона природнього космічного середовища в світлі викликів “космічних воєн”. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 107–114.

В статті проаналізовано особливості дії принципу незастосування сили і погрози силою в космічному просторі. Досліджується широкий спектр міжнародних актів, які можна застосувати для охорони космічного простору як природного середовища, від загроз, які несуть в собі міжнародні збройні конфлікти, зокрема норми міжнародного екологічного, космічного та гуманітарного права. Проведено паралелі з урегулюванням збройних конфліктів в кіберпросторі. Значна увага приділена дослідженню особливостей дотримання принципу пропорційності під час збройних конфліктів в космічному просторі з метою його охорони як цінного природного середовища.

Ключові слова: космос, війна, заборона застосування сили і загрози силою, *jus contra bellum*, *jus in bello*, MILAMOS, пропорційність, гуманітарне право, охорона навколишнього середовища, збройний конфлікт, космічне сміття.

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CONCEPT AND FEATURES OF LEGAL REGIME OF LAND FOR DOMESTIC WASTE LANDFILLS

TETYANA KOVALCHUK

Abstract. The article is devoted to the concept and legal features of legal regime of solid domestic waste landfills, including legal relationship in the field of land remediation of solid domestic waste landfills after their termination. Basing on analysis of the special literature and the current legislation of Ukraine it is proposed to make amendments to the current Land Code of Ukraine, which enables to realize the goals and tasks of the modern state, regional, local, and objective environmental policy in practice.

Keywords: environmental policy, solid domestic waste landfills, land remediation of solid domestic waste landfills, legal regulation.

1. INTRODUCTION

Implementation of Ukrainian environmental policy in the field of domestic waste management has been reflected, in particular, in the National Strategy for Waste Management in Ukraine until 2030, approved by the Decree of the Cabinet of Ministers of Ukraine dated November 8, 2017 No. 820-p (hereinafter referred to as the National Strategy). This policy-legal document states that modern methods of household waste management in Ukraine are targeted at landfill dumping. Thus, about 94 percent of the generated household waste is located on landfills and landfills, 5,470 units of which were generated in 2016 in Ukraine. At the same time, 1646 units (30 per cent) from the mentioned 5,470 units do not meet environmental safety standards. The implementation measures of the National Strategy include the creation and operation of new regional landfills in accordance with the requirements of Council Directive 1999/31 / EC dated April 26, 1999. "On Disposal of Waste" (from 5 units in 2018-2019 to 50 units in 2024-2030 years) on the one hand; on the other hand, the termination and reclamation of landfills that are irrelevant to the requirements of environmental safety. Therefore, doctrinal studies of legal regulation concerning the assignment of land plots for solid waste landfills, their use for intended purpose, and features of their reclamation are of current interest.

The legal regulation of the use and protection of solid waste landfills is complex insofar it is an integral part of legal regulation of special non-agricultural land use and protection, as well as due to dangerous status of solid domestic waste landfill. Proper legal regulation and implementation of norms in the field of solid domestic waste landfill use and protection is one of the guarantees of citizens' right to safe and healthy living environment.

2. ANALYSIS AND DISCUSSION

The legal regulation of the establishment and operation of solid domestic waste landfills, their remediation after termination is inextricably linked to the legal regulation of land use and protection. Land parcels are specially assigned to these purposes. Therefore, legal regime of such land parcels is an integral part of the legal regime of solid domestic waste landfills.

There is no separate legal regulation of land relations regarding solid domestic waste landfills. Though art. 19 (1) of Land Code of Ukraine dated 25.10.2001 (hereinafter referred to as the LCU) differentiates lands of industry, transport, communications, energy, defense and for other purpose that are territorial basis for business constructions. According to art. 65 of the LCU lands of industry, transport, communications, energy, defense and for other purpose are granted in the established manner to enterprises, institutions and organizations to perform the respective activities. Since the list of such land plots is not exhaustive, it may be supplemented.

In course of land and environmental legal doctrine study of legal regime of special non-agricultural land use and legal regulation of household waste management was carried out at the level of textbooks, manuals, comments to the LCU, articles and other scientific publications by such scholars as Andreytsev V.I., Balyuk G.I., Vyvcharenko O.A., Hetman A.P., Zuev V.A., Kovalenko T.O., Kovalchuk T.G., Kulinich P.F., Krasnova Yu.A., Marusenko R.I., Marchenko S.I., Miroshnychenko A.M., Overkovska T.K., Pashchenko O.M., Nosik V.V., Sarkisova T.B., Slepchenko A.A., Tretyak T.O., Shulga M.V., Frolov M.O. and other scholars.

Thus, Andreytsev V.I. proposed to consolidate the legal regimes of actually existing, but not legally defined lands and, in particular, lands of increased danger while studying problems of land legislation codification [1, p. 437]. The possibility of assigning land allocated for solid domestic waste landfills to land plots "for other purpose" was considered by Miroshnychenko A.M. and Marusenko R.I. [4, p.177]. Consequently, considering legislative and doctrinal legal approaches, land parcels of solid domestic waste landfills can be attributed to lands "for other purpose" within such a category as lands of industry, transport, communications, energy, defense and for other purpose.

Land law doctrine such a category as lands of industry, transport, communications, energy, defense and for other purpose is indicated as special non-agricultural lands having some common features of their legal regime [1, p. 369–374; 2, p. 413–417; 6, p. 326–329; 5, p. 337–339; 7, p. 338–341; 3, p. 403–404]. Considering different approaches of scholars, we distinguish the following general features of lands of industry, transport, communications, energy, defense and for other purpose: 1) the use of these lands as a spatial operational basis for construction of buildings, structures and other objects in various sectors of the economy; 2) standardization of land parcels sizes determined either on the basis of the norms (state building codes, building regulations, etc.) approved in accordance with the established procedure or the project documentation, which is also developed in accordance with the relevant norms; 3) location mainly outside the settlements; 4) the possibility of being owned by state, municipal and private entities; 5) implementation of internal zoning of special non-agricultural land plots; 6) imposition of limitation, sanitary protection zones and other zones around the objects located on these lands in order to ensure safety of population and create safe conditions for exploitation of such objects; 7) the multiplicity of departmental internal sector management in the field of use and protection of such lands; 8) placement, design, construction and commissioning of new and reconstructed buildings and facilities shall be carried out in compliance with the environmental, sanitary and technical requirements for the protection of such lands; 9) responsibility for violation of legal regime of lands of industry, transport, communications, energy, defense and for other purpose is determined by the norms of the LCU, special legislation regulating these activities. Composition of such offenses is provided in the Code of Ukraine on Administrative Offenses dated 07.12.1984, the Criminal Code Ukraine from 05.04.2001 and other legislative acts.

Taking into account the general features of "lands of industry, transport, communications, energy, defense and for other purpose" we may define certain special features of the legal regime of lands for solid domestic waste (hereinafter referred to as SDW) landfills:

1. The legal basis for use and protection of lands for SWL comprises norms of the Constitution of Ukraine dated 28.06.1996, the Law of Ukraine "On Environmental Protection" dated 25.06.1991, "On Land Conservation" dated June 19, 2003, "On Waste" dated 05.03.1998, "On Licensing Types of Economic Activity" dated 02.03.2015, "On Natural Monopolies" dated 20.04.2000, "On State Regulation in the Field of Utilities" dated 09.07.2010, "On Housing and Communal Services" dated 09.11.2017, "On the Improvement of Human Settlements" dated 06.09.2005, "On Ensuring Sanitary and Epidemiological Well-Being of the Population" dated 24.02.1994, "On Environmental Impact Assessment" dated 23.05.2017, Licensing Terms for Domestic Waste Disposal Activity, approved by the decision of the National Commission on State Regulation in the Field of Energy and Utilities dated 04.04.2017 No. 467, Procedure for Keeping the Register of Waste Disposal Sites, approved by the Cabinet of Ministers of Ukraine from 03.08.1998 № 1216; Rules for Operation of Municipal Waste Landfills, approved by the Order of the Ministry of Housing and Communal Services of Ukraine dated 01.12.2010 No. 435; state construction norms SCN V.2.4-2-2005 "Solid Domestic Waste Landfills. Fundamentals of Design", approved by the order of the State Construction Committee of Ukraine dated 17.06.2005, No. 101 (hereinafter referred to as SCN V.2.4-2-2005 "SDW Landfills"), SCN V.2.4-2-2005. Amendment No. 1 "SDW Landfills. Fundamentals of Design", approved by the order of the Ministry of Regional Development, Construction and Housing and Utilities of Ukraine dated 06.06.2016 No. 139 (hereinafter referred to as SCN V.2.4-2-2005 Change No. 1 "SDW Landfills"), etc.

2. Decisions on allocation of land parcels for construction of SDW Landfill are taken by municipal bodies.

3. The site for the placement of solid waste landfills should be selected on a territorial basis in accordance with the scheme of sanitary cleaning of the city or region and a project of district planning or general layout of settlement. In case of SDW landfill design, in particular, decisions providing for the minimum alienation of land and other natural resources and the obligatory return of temporarily alienated lands for further economic use should be provided as well as development of materials for environmental impact assessment in accordance with the procedure in accordance with the Law of Ukraine "On Environmental Impact Assessment" and other subordinate acts; engineering measures that ensure the stability of the landfill as a building, its durability and environmental safety; safety requirements for people's life and health. The project should provide for remediation of land plots that may be provided for placement of landfills.

4. For placement of SDW landfills non-agricultural land parcels that are unsuitable for agriculture of degraded quality and not occupied by greenery (especially forests of the 1st group) are provided along with land plots where it is possible to take measures and implement engineering decisions that exclude pollution of the environment, the development of dangerous geological processes or other negative processes and phenomena; land areas characterized by natural protection of groundwater from pollution; land plots with consideration of wind pattern in relation to residential districts, recreation areas and other places of mass residence outside the sanitary protection zone.

5. Establishment of an exclusive list of land plots where the placement of SDW landfills is allowed: a) on earthen soils, provided that the earthen soil properties are completely eliminated; b) in potentially flooded territories, provided the drainage is constructed with the arrangement of the anti-filtration screen in accordance with pp. 3.22, 3.22 of SCN V.2.4-2-2005 "SDW Landfills" in the basis and on the slopes of the landfill and disinfection of water in the event of an emergency; c) in Zone 3 of the sanitary protection zone of water intakes with available natural protection (containing sufficiently strong and sustained water-resistant rocks in the lithological section) with the installation in the bowl of a reliable screen in accordance with pp. 3.22, 3.22 of SCN V.2.4-2-2005 "SDW Landfills"; d) in seismic areas for compliance with the relevant regulatory requirements of SCN V.1.1-12-2006 "Construction in Seismic Areas of Ukraine"; e) on areas distant from tectonic faults and active zones of geodynamic tension, which are detected by means of engineering surveys.

6. Establishing a specific distance between individual objects and SDW landfill: 15 km from the airports; 3 km from the border of a resort city, open water reservoirs of economic purpose, objects used for cultural purposes, resorts, resting places for migratory birds, seaside; 1 km from the border of cities;

0,5 km from residential and public buildings (sanitary protection zone); 0.2 km from agricultural land and from the road and rail network of the general network; 0,050 km from the border of the forest and forest plantations not intended for recreation purposes.

7. Determination of an exclusive list of land plots where the placement of SDW landfills is prohibited: a) in areas of occurrence of minerals and territories with mining operations without the consent of the state mining supervisory authorities; b) in hazardous zones of dumps of different mines or concentrating factories breeds; c) in zones of active karst; d) in zones of development of tectonic faults, landslides, mudflows, snow avalanches, flooding and other dangerous geological processes, as well as in areas of seasonal flooding; in wetlands; in the areas of replenishment and exit to groundwater surface; e) in zones of formation and use of mineral waters; on the territories of zones 1, 2 of the sanitary protection zone of water intakes of drinking and mineral waters; e) in the protection zones of reservoirs; e) in the zones of sanitary protection of resorts and reserves; g) on lands, seized or designated for the use of forests, forest parks, other green plantations, using protective functions and are places of mass recreation of the population.

8. Internal zoning of lands for SDW landfills. The main elements of the landfill are: 1) an access road connecting the public road with the storage area; 2) SDW storage area, which occupies, as a rule, 85-95% of the total area of SDW landfill and which is divided into queues of operation, taking into account the provision of waste acceptance in each queue for 3-5 years; 3) the economic zone of SDW landfill that consists of zones for industrial and administrative purposes, which are separated by a band of not less than 25 m in width; 4) engineering structures and communications

9. Limitation of the territory of SDW landfill by a hilly ditch to prevent the outflow of contaminated surface water beyond boundaries of the landfill.

10. Establishment of sanitary protection zone at distance of 50, 100, 200 and 500 meters around lands for SDW landfills and conducting soil research at least twice a year, both on the territory of SDW landfills and within the sanitary protection zone.

11. Inclusion of all environmental and sanitary measures that are carried out during the year in the Passport of waste disposal site in accordance with the Procedure for Keeping the Register of Waste Disposal Sites.

12. The multiplicity of management in the field of SDW landfills use and protection is the Ministry of Ecology and Natural Resources of Ukraine, the Ministry of Housing and Communal Services of Ukraine, National Commission on State Regulation in the Field of Energy and Utilities, the State Ecological Inspection of Ukraine, the State Service Ukraine for Geodesy, Cartography & Cadastre, etc.

13. Remediation of land after termination of SDW landfill in accordance with the developed project.

This feature of legal regime of lands for SDW landfills shall be analyzed in more detailed way, as according to the National Strategy in Ukraine 1646 landfills (30 percent) do not comply with environmental safety standards, therefore, are worth of termination with subsequent land remediation.

According to Article 46 (1) of Law of Ukraine "On Waste" it is provided that, while carrying out economic activities related to storage, processing, utilization and disposal of waste, it is ensured, in particular, firstly, removal of the fertile soil layer, its storage and use for land remediation ...; and secondly, remediation of land plots after the elimination of waste management facilities.

Today the main normative acts concerning the land remediation of closed SDW landfills are SCN V.2.4-2-2005 "SDW Landfills" and SCN V.2.4-2-2005 Change No. 1 "SDW Landfills". It is worth pointing out that changes to state construction norms regarding land remediation of landfills were introduced due to international and national experience gained during their validity for transforming the land occupied by SDW landfills into an optimally organized and environmentally balanced stable landscape after their remediation.

For different climatic zones of Ukraine, according to Table 3.4. SCN V.2.4-2-2005 "SDW Landfills" in the new edition, the following terms of remediation of closed SDW landfills are recommended depending on the type of remediation: perennial grass seed - the southern region - 1 year, northern region - 2 years; planting shrubs, seedlings of ornamental trees (except fruit trees), trees with a superficial root system (except fruit) - 2 years irrespectively of region. Comparing the previous version

of Table 3.4 with the new edition it is expedient to note that removal from the table of such a type of remediation as the creation of gardens is a positive measure.

A land remediation project should include either agricultural or forestry area of remediation after termination of SDW landfill and completion of collection and utilization processes of biogas. The method of construction is possible after 25-30 years after remediation in the absence of filtrate. The method of construction is exercised only after the removal of all the landfill soil and implementation of appropriate sanitary-epidemiological studies.

For implementation of land remediation project for SDW landfill the main source data include the area where the landfill is located (land, field, yard, quarry); departmental affiliation of adjoining lands; assigned use of this territory; distance from the place of plant soil loading to the closed SDW landfill, km; self-growth of SDW landfill, %; kind of plants, shrubs, trees; density of grass, %; age of trees, years.

Remediation of land after termination of SDW landfill is carried out in technical and biological stages. The processes of technical stage of remediation include stabilization, settling and terracing, the construction of a degassing system, the creation of a rehabilitation multifunctional coating, the transfer of the site for the biological stage of reclamation.

The protective (permanent) screen of SDW landfill surface is arranged after its termination and the end of SDW landfill body's settling, that is, achieving a stable state. According to para. 3.113. SCN V.2.4-2-2005 "SDW Landfills" the protective screen is arranged on top of technological screen that was constructed during the operation of SDW landfill and usually consists of different layers. According to the previous wording of this paragraph, for example, the reclamation layer should have been at least 1 m thick, including a layer of fertile soil 30 ... 50 cm thick. The new wording of this paragraph stipulates that the reclamation layer must be at least 0,5 m thick, including a layer of fertile soil of a thickness of not less than 30 cm.

After the technical stage of remediation, land parcel for SDW landfill is transmitted for the biological stage of remediation. This stage lasts 4 years and includes the following works: selection of assortment of perennial herbs, preparation of soil, sowing and care of crops. After 4 years after the grass sowing, the territory of reclaimed land for landfills is transmitted to the appropriate department for the next intended use in agricultural, forestry or other areas.

According to SCN V.2.4-2-2005 Change No. 1 "SDW Landfills" SCN V.2.4-2-2005 "SDW Landfills" were supplemented by new addenda including:

Appendix K "Form of Sanitary-Technical Passport of Solid Waste Landfill" (hereinafter referred to as Sanitary-Technical Passport), which, in particular, provides for "Data on the Land Plot" comprising data on the allocation of land, its area, the smallest distances from the boundaries of the city, residential and public buildings, agricultural lands, forest plantations or forest areas, as well as special conditions for proximity to spa areas, protected areas, resting places for migratory birds, seaside, etc. (clause 5 of the sanitary and technical passport); "System of Indicators of Landfill Impact on the Environment" comprising data on landfill protective zone and system of monitoring its environmental impact, describing the means of control, methods, sampling modes, controlled indicators (para. 15 of the Sanitary-Technical Passport); Appendix M "Norms for Seeding Perennial Herbs", where the seed rates - (kg / ha) depend on the type of perennial grasses;

Appendix N "Norms of Fertilizing during Remediation", where the rules for the introduction of the active substance (kg / ha) depend on the type of mineral fertilizers (nitrogen, phosphorus, potassium, wood ash).

The abovementioned features reveal special legal regime of lands under SDW landfills, that is the basis for their separation via introducing amendments to Art.19 (1, g) 65 of the LCU, as well as a separate new article to the LCU.

At the legislative level, there is no definition of land parcels for SDW landfills. Taking into account the definition of landfill in the Rules for Operation of Municipal Waste Landfills, the following definition may be proposed: land parcels for SDW landfills include land provided for placement and operation of engineering structures associated with a single technological process, which are intended

for disposal of domestic wastes and must prevent the negative impact on the environment and comply with sanitary, epidemiological and environmental standards.

Art. 65 (2) of the LCU defines that the procedure for using lands of industry, transport, communications, energy, defense and for other purpose is provided by law. As in fact ways to use special non-agricultural lands are provided by both laws and secondary legislation it is necessary to introduce amendments to Art. 65 (2) of the LCU, stipulating that the procedure for using lands of industry, transport, communications, energy, defense, domestic waste landfills and for other purpose is provided by law. Summarizing the study some conclusions may be drawn.

3. CONCLUSIONS

Having analyzed doctrinal approaches and legal norms features of legal regime of lands for solid domestic waste landfills and peculiarities of their remediation are indicated. Analysis of enacted state construction norms SCN V.2.4-2-2005 Change No. 1 "SDW Landfills", approved by the Ministry of Regional Development, Construction and Housing dated 06.06.2016 №138 provides that their implementation regarding remediation of lands under landfills will lead to their transformation in course of remediation to optimally organized and environmentally balanced sustainable landscape.

The study of general and special features of legal regime of lands for solid waste landfills provides an opportunity for doctrinal substantiation of their legalization by introducing amendments to the Land Code of Ukraine. We suggest introducing amendments to Art. 19 of the Land Code of Ukraine and lay down Art. 19 (1, g) in the following wording: "lands of industry, transport, communications, energy, defense, domestic waste landfills and for other purpose".

The same amendments shall be introduced to Art. 65 of the Land Code of Ukraine, laying it down in the following wording:

"Article 65. Definition of lands of industry, transport, communications, energy, defense, domestic waste landfills and for other purpose.

1. Lands of industry, transport, communications, energy, defense, domestic waste landfills and for other purpose are granted in the established manner to enterprises, institutions and organizations to perform the respective activities.

2. The procedure for using lands of industry, transport, communications, energy, defense, domestic waste landfills and for other purpose is provided by law".

The suggested definition of lands for solid domestic waste landfills shall be legalized as well via introducing new article 77-1 to the Land Code of Ukraine in the following wording:

"Article 77-1. Lands for Solid Domestic Waste Landfills

Land parcels for solid domestic waste landfills include land provided for placement and operation of engineering structures associated with a single technological process, which are intended for disposal of domestic wastes and must prevent the negative impact on the environment and comply with sanitary, epidemiological and environmental standards".

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Ковальчук Тетяна. Поняття та особливості правового режиму полігонів твердих побутових відходів. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 115–121.

У статті досліджено поняття та юридичні ознаки правового режиму земель полігонів твердих побутових відходів, у тому числі правовідносини у сфері рекультивациі земель полігонів твердих побутових відходів після закриття таких полігонів. На підставі аналізу спеціальної літератури та чинного законодавства України запропоновано внести доповнення до чинного Земельного кодексу України, що дає можливість на практиці реалізувати цілі і завдання сучасної державної, регіональної, місцевої, об'єктної екологічної політики.

Ключові слова: екологічна політика, землі полігонів твердих побутових відходів, рекультивациа земель полігонів твердих побутових відходів, правове регулювання.

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LEGAL ENVIRONMENTAL CONSTRAINTS: GENERAL THEORETICAL ASPECT

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Abstract. The article studies the conceptual basis and the general essential characteristics of public environmental requirements and constraints, focusing on the notion of legal environmental constraints as specific sectoral imperative means of regulating environmental safety enforcement, on their meaning, system, and representation in the national legislation. It is concluded that legal environmental constraints are stated and specified in regulatory acts of different legal force, different sectoral affiliation, and that the specific legislation on public environmental constraints is quite multifaceted. The article proves the necessity to systematize and unify the existing environmental requirements and proscriptions as well as to generalize the experience of their practical application in order to achieve ecologically significant aims. The research supports the proposal regarding the necessity to carry out the reform of the codification of the environmental law in the sphere of environmental safety enforcement as well as to legislate on environmental requirements and constraints by including them in a systematic way in the future code of environmental law, i.e. the Environmental Code of Ukraine.

Keywords: legal environmental constraints, environmental requirements and proscriptions, the ecological function of the state, public ecological interests, the ecological imperative, environmental safety enforcement.

1. INTRODUCTION

The resources of the planet, its terrestrial biosphere are limited and have clearly defined parameters and quantities whereas the world's population and its material needs are increasing. In the meantime, the adverse anthropogenic impact on the environment is becoming more evident; we are witnessing the increasing pollution of the air, internal waters, and seas as well as soil depletion and degradation, deforestation, the depletion of mineral and biological resources, etc. [29, p. 56]. By issuing the Decree No. 5 of January 12, 2015, the President of Ukraine ratified the Sustainable Development Strategy "Ukraine – 2020" aimed at establishing European standards of living and enhancing the prestige of Ukraine on the international arena [20]. The Strategy states the need to maintain steady economic growth in a sustainable way. Such a formulation is too vague and broad; research papers emphasize that environmental issues are not much discussed in this document. As a matter of fact, the environmental index is not included in the strategic indices of the Sustainable Development Strategy implementation. Instead, they include the number of big-screen films to be released in 2020, and the

number of medals to be won in the 2020 Summer Olympics. Thus, Ukraine virtually disregards the environmental factor in defining its priorities for sustainable development which is most likely to magnify adverse effects on the environment in the future [9, p. 83]. The 21st century is called the century of environmental protection; therefore, the incorporation of ecological imperatives into legal regulations governing different aspects of social life has to be made a priority in the policies of the new century states.

Nowadays, the anthropogenic impact on the environment can be considered critical, directly threatening the life of billions of people. Our physical existence is entirely dependent on the state of the environment; therefore, it is not a local, but a complex global problem. Today's life with its challenges require a thorough revision and reforming of the current laws and regulations on the sustainable development of the state, the preservation of the Ukrainian nation's gene pool, and the prospects for economic and social development. The reason for this lies in the immense complexity of the mechanisms underlying the operation of nature; in each separate case the impact on natural systems may be different since the nature of environmental changes depends not only on a type of influence, but on the properties of natural systems as well. Despite a frequent revision and the rapid development of legal regulations on ecology, we nonetheless consider that a thorough and gradual approach to ecologizing the national legislation will bring positive results to be reflected in newly developed and amended rules of law-making concerning ecology and economy. The priority is to achieve a balance between ecological and economic interests, to reconcile them. According to O. S. Kolbasov, material wealth and sustainable natural environment have to balance out in the system of human values whereas environmental law has to play a crucial historical role in opposing any other sphere of law keeping guard over material wealth and the authority associated with it [13, p. 90].

As the researchers of the Organization for Economic Cooperation and Development concluded, more drastic measures of environmental regulation do not have an adverse impact on economic growth. Stricter environmental requirements may have a positive economic effect, for instance, due to bigger investments in resource and energy efficient technologies. In this regard, it is important to raise the question of putting into practice the sustainable development strategy, particularly by means of complying with the existing environmental constraints (which might be difficult, especially at the early stages of their full-fledged implementation) and their possible research-backed tightening. This article is aimed at analyzing the issue of legal environmental constraints, the corresponding environmental requirements and proscriptions, their definition, meaning, systems, and their representation in the national legislation.

2. ANALYSIS AND DISCUSSION

One of the specific social functions of law is its restricting function that consists in imposing limits, "boundaries" on certain relations or preventing them from expanding [23, p. 99]. The legal constraint is defined as legal control over unlawful activity enabling the satisfaction of the interests of the affected party and social interests in protection and defence; these are legally set limits to the activity of a legal entity; the elimination of certain possibilities in the person's activity [15, p. 91]. Speaking in more general terms, the problem of legal constraints is the problem of the limits of individual freedom in society since each person's freedom stops at the point where another person's freedom begins [5, p. 53].

According to the Constitution of Ukraine and the sectoral legislation, the existence of legal constraints is one of the necessary prerequisites for protecting the rights and interests of legal entities. Legal science and practice have various means and methods of right restriction imposed by the state or set in accordance with moral standards, customs, etc. to maintain law and order [1, p. 6].

Research on environmental law, aimed at developing important theoretical approaches to the meaning of legal environmental constraints, is represented by the research papers of A. P. Hetman, N. R. Kobetska, V. V. Kostytskiy, M. V. Krasnova, M. I. Vasylieva, and others. Environmental constraints in the context of sustainable social and economic development are studied by economic

scholars (Yu. M. Derevianko, Y. V. Zhyzhytova and others). Nevertheless, the current theory on environmental law does not contain comprehensive studies on environmental constraints.

Legal environmental constraints are specific sectoral legal means of regulating the matters in the sphere of ecology and natural resources management. They include environmental proscriptions and requirements for economic activity, the restricted ownership and use of objects of nature; functional and territorial constraints on the use of water resources, based on the principles of the prevention of environmental harm and sustainable natural resource management; constraints on the public ownership of objects of nature and the establishment of public easements [27, p. 61–62].

Legal environmental constraints can be studied both in narrow and broad terms: as a synthetic means of legal regulation, mostly composed of proscriptions and obligations; and as a generic term containing constraints and different requirements for legal entities of environmental law, ultimately limiting their economic freedom [27, p. 62].

First and foremost, it should be pointed out that the main restricting environmental factor is the total limitedness of natural resources due to their natural exhaustibility and non-renewability which is a definite cause of the rising cost of natural resources and restricted access to their use. Secondly, environmental quality estimation can also be included in the system of environmental constraints; it is a degree of correspondence of natural and man-made conditions with human needs and the needs of other living organisms. A specific system of environmental standards, regulations, and constraints has been developed throughout many years and is aimed at ensuring a sustainable environmental state and regulating the use of natural resources. Environmental quality estimation is used to study the indices of the impact of industrial and economic activity on the human being, territorial ecosystems, and their components. A system of environmental standards include: standards of environmental safety, restricting standards of emissions and waste disposal, standards regulating natural resource withdrawal and management, economic environmental standards, technological environmental standards [6, p. 77–78].

The factors influencing the establishment of environmental constraints are of object- and subject-oriented nature. Its object-oriented nature reveals itself in the total limitedness of natural resources caused by their natural properties (constant resource depletion, quality deterioration, the increasing complexity of extraction) which is the main restricting environmental factor. Its subject-oriented nature lies in the ecological function of the state, its regulatory influence. Studying the meaning of the economic function of the state in the light of modern globalization processes, A. P. Hetman emphasizes its main designated purpose: to provide research-based correspondence between economic and ecological interests of society in order to develop a mechanism for environmental safety implementation, sustainable natural resource management, protection of citizens' constitutional environmental rights (the right to life- and health-friendly environment, the right to receive information on ecology and compensation for ecological damage, etc.) [10, p. 149]. In order to explain the ecological function of the state, V. V. Kostytskiy introduces the notion of the Moral and Ethical Ecological Imperative as a criterion of development and the basis of such interaction between nature and society that allows not only to preserve natural wealth for the current and future generations but to provide a congenial environment for living as well [4, p. 419]. The Ecological Imperative is defined as an urgent need to obey the laws of nature and unquestioningly accept the requirements and constraints stated by these laws in all spheres of life [7]. In general terms, it is compliance with the current and future environmental regulations and requirements, constraints and proscriptions. In the long term, the human relationship with nature will largely depend upon the level of environmental legal conscience and culture as well as on an active public stance on environmental issues.

Legal environmental constraints are contained in the constitutional provisions on the use of natural resources as the basis of the nation's life and activity and on the ecological limits of ownership rights [24, p. 156]. Thus, basic legal environmental constraints are stated in Art. 13 of the Constitution of Ukraine, according to which the land, the mineral resources, the atmosphere, the water, and other natural resources within Ukrainian territory, the natural resources of its continental shelf and its exclusive economic (sea) zone are objects of the right of ownership of the people of Ukraine. The

ownership of natural resources of the people of Ukraine is understood as a type of public ownership, i.e. the permissible relations of ownership of certain objects for the purpose of satisfying the public ecological interests of Ukrainian society (nation), exercised directly by the people of Ukraine or on their behalf by the central and local authorities within the ambit defined by the Constitution of Ukraine [22, p. 7].

Legal environmental constraints are aimed, first and foremost, at protecting public ecological interests, i.e. societal interests in ensuring environmental quality. It reflects the functional nature of environmental constraints, their designated purpose. The basis of the legal environmental mechanism has to be formed by public ecological interest [11, p. 11]. Therefore, in legal literature environmental requirements, proscriptions, and constraints are defined as public legal environmental constraints (M. I. Vasylieva). N. R. Kobetska supports the statement about the precedence of public ecological interest in formulating the aims, principles, and means of the legal regulation of natural resources management [12, p. 14]. The public ecological interests of all society are to take clear shape and acquire definite legal meaning by means of legislating on principles, priorities, proscriptions, and constraints aimed at enforcing environmental safety [16, p. 263]. Meanwhile, according to M. I. Vasylieva, the subjective idea of the people about the quality of life does not include to the necessary extent the significance of the ecological component; therefore, Ukrainian society does not demand of the state to prioritize the development of legal environmental constraints and environmental legislation altogether. In other words, the state policy is environmentally-oriented to the extent to which it is dictated by public interests [28, p. 86]. In the future, the ecological strategy has to be based on the dual process of legal conscience formation having at its core the ecological imperative and ecological conscience comprising traditional legal values.

The current legislation allows and even includes certain types of negative impacts on the environment resulting from economic activity and the use of natural resources. Nevertheless, such activity must be guided by restricting principles.

Legal environmental constraints and requirements, including those concerning economic activity, are contained in different sectoral regulatory acts. Thus, among the general principles of economic activity in Ukraine, Art. 6 of the Economic Code of Ukraine states the principle of environmental protection of the population. According to Art. 153 of the Code, the subjects of economic activity are obliged to take measures in a timely manner to prevent degradation, contamination, and depletion of natural resources and deterioration of their quality in the process of economic activity [8]. These regulations are of declarative nature and do not contain mechanisms for implementing the stated environmental requirements. It is environmental legislation that specifies environmental proscriptions and requirements for economic activity.

Negative impacts on the environment are commonly associated with the notion of environmentally damaging activity. There is no statutory definition of this notion yet. The Law of Ukraine "On Environmental Impact Assessment" defines the related notion of "environmental impact" as any consequences of planned activity on the environment, including consequences for human life safety and health, flora, fauna, biodiversity, soil, air, water, climate, landscape, natural areas and objects, historical monuments, and other material objects or for these factors regarded collectively along with consequences for objects of cultural heritage or social and economic circumstances resulting from the effect on these factors (Art. 1 of the Law) [18].

The legal aspects of environmentally damaging activity in Ukraine are studied in the PhD thesis of L. O. Bodnar [3]. Referring to the classification of O. O. Pohribniy who divides environmentally damaging activity constraints into administrative and economic, L. O. Bodnar made an attempt to analyze the current legislation on environmentally damaging activity roughly systematizing it according to administrative and economic measures aimed at restricting environmentally damaging activity. The scholar suggested the following system of the current administrative constraints on environmentally damaging activity: 1) direct proscriptions on environmentally damaging activity; 2) regulatory constraints: ecological regulation, restriction, standardization, and certification; 3) preventative constraints: permissible system and environmental licensing, compliance, approval,

ecological expert evaluation and Environmental Impact Assessment (EIA); 4) information record constraints: a record of persons engaged in environmentally damaging activity and sources of environmental danger, environmental statistics, environmental certification, environmental product declaration and labelling; 5) supervisory constraints: environmental monitoring, control, and audit. Economic measures aimed at limiting environmentally damaging activity include: ecological fiscal expansion (ecological benefits in general taxation legislation), ecological taxation (ecological tax payment), ecological insurance [3, p. 8–9]. The proposed system of restricting measures have important regulatory significance.

The legal aspects of diminishing the level of environmental danger caused by economic activity are studied in the PhD thesis of N. V. Barbashova. On the basis of the research findings, the scholar singled out three main regulatory sections in the Ukrainian legislation governing environmental safety enforcement in the process of economic activity: standardization, regulation and control of environmental pollution; the legal economic mechanism for natural resources management; ecological expert evaluation [2, p. 8].

According to A. K. Sokolova, the system of environmental requirements include: (1) environmental requirements (which should be considered general); (2) resource-related – pertaining to land, water, flora, etc. (they are principal for a certain object of nature); each main group contains specific requirements, brought to the fore when the use, protection, and restoration of a certain category of objects of nature [25, p. 129–130].

General and specific environmental requirements are stated in Chapter XI of the Law of Ukraine “On Environmental Protection” [19] which specifies the measures aimed at enforcing environmental safety. The main principle governing the regulations stated in this chapter is the principle of preventing environmental degradation and any danger to human health. The second group of general environmental requirements comprising requirements for users of natural resources are contained in the chapters of the codes and laws on natural resource management entitled “Water Conservation”, “Forest Conservation”, “Conservation of Mineral Resources”. As a rule, they address the subjects of economic activity who are not direct users of natural resources but engage in industrial and economic activity that might adversely affect the state of objects of nature and their resources [12, p. 80–81]. Environmental regulations aimed at enforcing environmental safety can be applied to all kinds of economic activity, associated with the use of energy and physical resources [2, p. 11]. Despite general requirements in the sphere of environmental protection, there are specific requirements for the location, layout, construction, renovation, opening, and use of enterprises, buildings, and other facilities (Art. 51–59 of the Law of Ukraine “On Environmental Protection”) which are specified in the corresponding regulatory acts, chapters, and articles regulating certain types of environmentally damaging activity. There is a system of requirements for the facilities of power and petroleum industries, agricultural facilities, military and defense facilities; environmental requirements that have to be complied with in the process of the production and use of means of transport and other mobile units, in handling chemical substances and waste, etc. V. V. Kruhlov proposes a rather disputable idea that the legal regulation of environmental protection activity in industry has to be aimed at achieving two goals: the prevention of new sources of pollution in the process of industrial construction, gradual restriction and, eventually, total elimination of the existing sources of pollution [14, p. 14]. As a matter of fact, total elimination of any negative impacts on the environment is impossible. The effect of environmental constraints is manifested in additional expenses, losses or lost financial advantage. It causes a decrease in economic performance. Therefore, it is advisable to raise the question of the application of specific organizational schemes and mechanisms for economy management in order to achieve a balance between ecological and economic interests.

It has to be emphasized that according to P. 3 of Art. 51 of the Law of Ukraine “On Environmental Protection”, projects of economic or any other type of activity have to contain an assessment report presenting its impact on the environment and human health. The revised List of Activities and Facilities that Pose High Environmental Danger was adopted by the Resolution of the Cabinet of Ministers of Ukraine No. 808 of August 28, 2013 [17]. The list was compiled in order to approximate those activities

and facilities, which require obligatory assessment of their impact on the environment in Ukraine, to the list of such objects contained in the Directive 2011/92/EU of the European Parliament and of the Council of December 13, 2011 on the assessment of the effects of certain public and private projects on the environment and in order to fulfill the requirements of the Aarhus Convention and the Espoo Convention.

Environmental Impact Assessment (EIA) is a complex preventative and restrictive process aimed at establishing the nature, intensity, and hazard level of any kind of planned economic activity on the environment and human health. The Procedure for Developing Environmental Impact Assessment Materials as a part of project documentation on new construction, extension, renovation, and technical re-equipment of industrial and public facilities as well as the major requirements for the content of these materials are specified in the State Building Code A.2.2-1-2003 "Construction Planning. Environmental Impact Assessment (EIA) Materials in Planning and Construction of Enterprises, Houses, and Buildings" [26].

The Ukrainian legal system has a large number of regulatory acts on environmentally damaging activity; nevertheless, these acts are not combined into a system and are often irreconcilable, contradict one another, contain essential gaps, are developed according to different strategies for regulating environmentally damaging activity [3, p. 8]. Legal environmental constraints are stated and specified in regulatory acts of different legal force, different sectoral affiliation; the specific legislation on public environmental constraints is quite multifaceted. The situation is paradoxical: for the most part, environmental principles and mechanisms are present, although "scattered" in different research studies [21, p. 33] and in different sectors of legislation.

Since Ukraine has chosen the European course of development, it has to comply with the environmental protection standards of the member states of the European Union. The problem of a thorough balanced approach to optimizing the legislation on environmental safety enforcement in compliance with European requirements and standards is now becoming more urgent. In the meantime, national peculiarities and the specific priorities of the state should be taken into consideration; environmental requirements have to be determined by the current degree of environmental protection. As H. V. Anisimova rightly pointed out, one of the means of such optimization is to carry out the reform of the codification of the environmental law in the sphere of environmental safety enforcement; although it will not be easy, it will give the opportunity to adopt a modern, in terms of quality and methodology, regulatory act with totally new or revised regulations necessary for creating a modern legal environmental framework [4, p. 490], with special significance given to an organized system of environmental requirements and constraints. To conclude, these requirements might be contained in the following chapters: 1) constraints, proscriptions, and requirements for specific types of environmentally damaging economic activity; 2) constraints and requirements for the safe use of natural resources; 3) legal mechanisms for enforcing environmental safety.

3. CONCLUSIONS

Legal environmental constraints are specific sectoral imperative means of regulating environmental safety enforcement in the course of activity of potentially environmentally damaging nature and consists in legislating in a systematic way on environmental measures, requirements, proscriptions, sanctions and mechanisms of their implementation and application.

The primary goal is to systematize and unify the existing environmental requirements and proscriptions as well as to generalize the experience of their practical application in order to achieve ecologically significant aims.

Regulatory acts containing environmental requirements and constraints have to be developed and included in a systematic way in the future code of environmental law. The conceptual basis and the general essential characteristics of public environmental requirements and constraints at least have to

be manifested in the Environmental Code of Ukraine, the adoption of which is supported practically by all the leading Ukrainian scholars in the sphere of environmental law.

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У статті досліджуються концептуальні засади та загальні сутнісні характеристики екологічних вимог і обмежень, а саме поняття еколого-правових обмежень як специфічного галузевого імперативного способу регулювання відносин щодо забезпечення екологічної безпеки, їх зміст, система, стан нормативно-правового закріплення. Встановлено, що еколого-правові обмеження фіксуються та деталізуються в актах різної юридичної сили, різної галузевої приналежності, спеціальне законодавство про публічні екологічні обмеження є досить розгалуженим. Доведено необхідність систематизації та уніфікації існуючих екологічних вимог і заборон, а також узагальнення досвіду їх практичного впровадження з метою досягнення екологічно-значимих цілей. Підтримується пропозиція щодо необхідності проведення кодифікації-реформи екологічного законодавства у сфері забезпечення екологічної безпеки, в тому числі фіксації екологічних вимог і обмеження через системне викладення їх у майбутньому кодифікованому акті екологічного законодавства, яким повинен стати Екологічний кодекс України.

Ключові слова: еколого-правові обмеження, екологічні вимоги і заборони, екологічна функція держави, публічні екологічні інтереси, екологічний імператив, забезпечення екологічної безпеки.

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THE LEGAL REGULATION OF NEIGHBOURLY WATER USE IN UKRAINE: DEVELOPMENT PROSPECTS

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Abstract. The article is devoted to some questions of the legal adjusting of neighbourliness relations. Neighbourly water use should be defined as the use of water resources aimed at meeting the needs of owners or tenants of neighbouring land parcels. The regulation of neighbourly water use has historically been an inseparable part of neighbour law. Regulations of this kind were contained in many historically significant Ukrainian legal documents, including “The Statutes of the Grand Duchy of Lithuania”. Currently, the regulation of the use of water resources mainly comes under the sphere of public law. Consequently, the current Land Code of Ukraine does not contain regulations of this kind. Nevertheless, a study of international legislation and regulation policies on neighbourly relations emphasizes the necessity to legislate on the private aspects of neighbourly water use. The findings of the study has made it possible to formulate the proposals aimed at improving the current legislation on this issue.

Keywords: neighbour relations, good neighbourliness, neighbour law, neighbourly water use, water use relations.

1. INTRODUCTION

The Regulation on good neighbourliness in land matters is contained in Chapter 17 of the current Land Code of Ukraine [10] and constitutes a separate body of land law. Examining the enshrinement of good neighbourly relations in the current international legislation is important for studying the theoretical basis of their legal regulation as well as their improvement.

The legislation on good neighbourliness (neighbour law) is aimed at resolving possible disputes associated with the exercise of the right to neighbouring real estate units. The use of one real estate unit inevitably involves other real estate units which affects their owners' interests. In this regard, it is necessary to legislate on such neighbour influences, one of them being the use of water resources. For instance, the owner of a land parcel can divert surface water runoff towards other land parcels, dam natural streams, dewater lakes and swamps, install water drainage systems leading to the neighbouring property, etc. Therefore, the regulation of neighbourly water use has historically been an inseparable part of neighbour law.

Currently, the regulation of the use of water resources mainly comes under the sphere of public law. According to the Italian lawyer U. Mattei, legal relations concerning water use extend the scope of private law and are the object of administrative regulation. Nevertheless, the right of property in these

relations are of particular importance, since owners of land parcels adjacent to bodies of water come within the purview of the legislation on the use of these waters. Furthermore, water flow often goes through several land parcels owned by different people engaging them in the issues of water use. Thus, the activity of the owner of a waterside land parcel situated above the stream inevitably affects the land parcel situated below the stream. Consequently, it becomes important to legislate on neighbour relations in the sphere of water use [14, p. 186–187].

The absence of any regulations on this issue in the current Land Code of Ukraine caused lack of particular research interest in studying neighbourly water use by Ukrainian legal scholars. It should be noted, however, that the legal regulation of neighbourly water use was studied from a historical perspective by B. Y. Tyshchuk, V. Ye. Rybanyk, R. M. Lashchenko, and others.

This article is aimed at studying the regulations on neighbourly water use in the current international legislation, drawing conclusions, and outlining proposals for introducing similar regulations into Ukrainian legislation.

2. ANALYSIS AND DISCUSSION

Neighbour relations are the relations arising between owners and tenants of neighbouring land parcels in connection with land use. Taking into account this definition as well as the legal definition of “water use” (given in Art. 1 of the Water Code of Ukraine [19]), neighbourly water use should be defined as the use of water resources (bodies of water) aimed at meeting the needs of owners and tenants of neighbouring land parcels.

Neighbourly water use is a fairly traditional aspect in governing neighbour relations. Regulations of this kind were contained in “The Statute of the Grand Duchy of Lithuania” (1588) (Items 20-21 of Title 9, Items 3-4 of Title 10) [1], “The Rights Whereby Malo-Russians Litigate” (1743) (Chapter 18) [1], and other historical legal documents. For instance, Chapter 18 of “The Rights Whereby Malo-Russians Litigate” (1743) contained the regulations governing the neighbourly use of rivers, dam construction, the use of water infrastructure and the maintenance of water mills [1, p. 631–635].

From the perspective of modern law, these laws seem to be old-fashioned, since nowadays the regulation of water use has come within the purview of public law. Thus, with regard to water fund lands, the mode of limited domestic use is established (Art. 86-88 of the Water Code of Ukraine [19]).

The current Land Code of Ukraine does not contain regulations on good neighbourly relations. However, they are contained in the legislation of many other countries (the Republic of Moldova, the Netherlands, the People’s Republic of China, France, Japan, and other countries) and govern the private aspects of neighbourly water use.

In this regard, it is necessary to understand clearly the sphere of application of these regulations. Currently, they mainly concern surface waters and small bodies of water (primarily landlocked bodies of water) which can be considered as a constituent part of a land parcel. In the meantime, large bodies of water, especially the so-called “dynamic” ones (rivers, streams) are considered, as a rule, as belonging in the public domain and extending the scope of private matters. National legislation, depending on the importance of water bodies and the lay of the land, can differently define the degree of the inclusion of water use relations in the sphere of private law [14, p. 186–187]. For instance, the Civil Code of Germany [13] does not contain regulations governing neighbourly water use, since in this country the use of water resources is governed by the specific legislation applying the legal mechanism of permission. Landowners are deprived of the right to manage water resources and allowed only the limited use of them for their needs without reducing water quality. In those cases when there is a possibility for developing the legislation on water use following from the rights of the property owner to the free use of water resources, the necessity to consider the interests of all water users limits the entitlements of the owner of the upstream land parcel [14, p. 188–189].

In the countries that have regulations governing the private aspects of neighbourly water use, legislators either confined themselves to formulating the main principles governing this issue (Art. 86 of the Law of the PRC “On the estate rights”) [12] or outlined general rules concerning the prohibition

of water resources manipulation adversely affecting the neighbouring property (Art. 177 of the Civil Code of Georgia [3], Art. 198 of the Civil Code of Turkmenistan [3], Art. 170 of the Civil Code of the Republic of Azerbaijan [4], Art. 163 of the Law of Estonia “On the estate right” [15]). There are also examples of the extended regulation of this kind of neighbour relations (Art. 382-385 of the Civil Code of the Republic of Moldova [5], Art. 1094-1096 of “The Civil Law of the Republic of Latvia” [7]).

The key points of the legal governance of these neighbour relations are reflected in the Regulation of Art. 163 of the Law of Estonia “On the estate right” [11]: the property owner is not entitled to obstruct access to the land parcel or impede the natural flow of rain, thawed, spring, ground or any other type of water coming naturally from the upstream land parcel; it is prohibited to reduce natural water quality, divert or impede its natural runoff to the detriment of the neighbour, whereas any impediment to natural water flow, needed for the downstream land parcel is only possible to the extent to which it is necessary for the upstream land parcel; for the purpose of land drainage the owner of the downstream area is obliged to allow the diversion of natural water to their land parcel at no additional charge if it flew and soaked into it earlier; if this diversion is damaging, the owner of the lower area is entitled to request that the owner of the upper land parcel extend a drain through the downstream land parcel at his own cost.

In the relevant literature on this topic, there are classifications of regulations on neighbour relations concerning water use. For instance, the Civil Code of Japan contains the following types of regulations: regulations on water runoff, on water drainage, on the use of running water [17, p. 183]. In French legal literature neighbouring easements concerning water use are divided into those governing: water runoff, the encumbrances laid upon the owner of the downstream land parcel in connection with the activity of the owner of the upper area, irrigation and drainage procedures [14, p. 58–59]. Moldovan legislation contains general and specific regulations on water use [9, p. 143].

However, such classifications are applicable only to particular national legislation; they reflect the contents and the peculiarities of their governance of neighbourly water use. For instance, in Moldovan legislation neighbourly water use is governed by the six articles of the Civil Code of Moldova (Art. 381–386); in Georgian and Romanian – by one article of their National Civil Codes (Art. 198 of the Civil Code of Turkmenistan, Art. 177 of the Civil Code of Georgia).

In this regard, this article offers a review of international regulations on neighbourly water use in terms of their wide acceptance, beginning with the most widespread.

1) The regulation on water runoff. It applies to water runoff flowing naturally without human interference. These regulations are contained in almost all international legislation governing neighbourly water use. Moreover, the legislation on neighbourly water use in certain countries is limited to these regulations (for instance, Turkmen and Georgian).

The most general regulation on this issue is the one prohibiting to divert natural water flow causing damage to owners of neighbouring land parcels. To provide an example, the regulation of Art. 170.3 of the Civil Code of Azerbaijan declares that “no person is entitled to divert natural water flow to the detriment of his neighbour”.

The regulation of this kind must apply to all the cases of natural water movement. The French lawyer G. de la Morandiere notes that this regulation does not apply to water drainage related to the household activity of the owner of the upstream land parcel [15, p. 58]. Estonian legislation contains certain clarifications on this issue, i.e. it is applied to rain, thawed, spring, ground or any other type of natural water runoff (P. 1-2 of Art. 163 of the Law of Estonia “On the estate right”).

The regulation prohibiting the diversion of natural water flow to the detriment of one’s neighbour underlies the legal governance of neighbourly water use. The regulations on natural water runoff that ensue from it are as follows:

- an obligation not to impede natural water flow coming from the neighbouring land parcel.

Thus, in accordance with P. 2 of Art. 381 of the Civil Code of the Republic of Moldova, the owner of the downstream land parcel is not entitled to cause any impediment to natural water flow coming from the upstream land parcel. The regulation that is analogous in content to the above-mentioned one is

contained in Art. 38 of the Civil Code of the Netherlands: no person is entitled to impede natural water flow coming from the upstream land parcel to the downstream land parcel [6, p. 253].

This regulation does not entail any compensation to be paid in case of any inconvenience or damage caused by the movement of natural water flow to the neighbouring property. It is reflected in Azerbaijani legislation: the owner of the downstream land parcel is not entitled to demand compensation for the water runoff from the upstream land parcel if it came naturally to his area before (P. 3 of Art. 170 of the Civil Code of the Republic of Azerbaijan) [4].

It has to be said that despite their logic and clarity, these regulations are not enshrined in Ukrainian legislation. It, therefore, leads to disputes that cannot be settled unequivocally.

In certain cases, there are more detailed regulations on this issue. For instance, Japanese legislation states that if the owner of the upstream land parcel disrupts natural water runoff, he shall be obliged to carry out repair work on the downstream land parcel at his own expense [17, p. 183]. According to Azerbaijani legislation, the person affected by the damage from the upstream water runoff is entitled to demand that the owner of the upstream land parcel construct a ditch through the downstream land parcel at his own expense (Art. 170.3. of the Civil Code of the Republic of Azerbaijan). Being more specific, however, these regulations do not alter the essence of the general regulation:

- *the prohibition to unduly impede natural water runoff to the downstream land parcel.* For instance, according to Art. 163 of the Law of Estonia "On the estate right", P. 3 of Art. 689 of the Civil Code of Switzerland [18], Art. 170.3 of the Civil Code of the Republic of Azerbaijan, any impediment to natural water flow, needed for the downstream land parcel is only possible to the extent to which it is necessary for the upstream land parcel;

- *the prohibition to alter or divert water runoff causing its reduction on neighbouring land parcels.* Regulations of this kind are contained in Art. 177 of the Civil Code of Georgia, Art. 198 of the Civil Code of Turkmenistan, etc. They have to be considered as the elaborations of the above-mentioned regulation;

- *the prohibition to reduce the quality of water flowing to the neighbouring land parcel.* Regulations of this kind are contained in Moldovian and Azerbaijani legislation (P. 1. of Art. 381 of the Civil Code of the Republic of Moldova, Art. 170.4 of the Civil Code of the Republic of Azerbaijan). The fact that such regulations are enshrined in civil law is disputable, since water conservation matters are mandatorily governed by environmental law, including the issues of water quality maintenance and responsibility for water pollution.

2) The Regulation on water drainage. It applies to the artificial removal of water by landowners. According to Art. 640 of the Civil Code of France, water is drained "due to human activity" [16].

To provide an example, the regulation in Moldovian legislation declares that the owner of the downstream land parcel is prohibited from obstructing water drainage arranged by the owner of the upstream land parcel due to his household work if water is drained into a ditch or a watercourse provided that there is not a country estate or a cemetery situated on it (P. 1, 3 of Art. 382 of the Civil Code of the Republic of Moldova); the interested party is obliged to provide a water drainage system that will cause the least damage to the neighbouring land parcel and pay adequate compensation in advance (P. 2 of Art. 382 of the Civil Code of the Republic of Moldova).

In some legislation the construction of water drainage systems is related to certain types of work on a land parcel: in Swiss and Estonian legislation – to land drainage (Art. 690 of the Civil Code of Switzerland, P. 3 of Art. 163 of the Law of Estonia "On the estate right"); in French legislation – to surface drilling and underground work causing water to appear on the surface (P. 4 of Art. 641 of the Civil Code of France). The most general approach can be found in Moldovian legislation: water drainage systems are established due to underground work, marshy land drainage, the use of water for household, agricultural, and industrial purposes (P. 1 of Art. 382 of the Republic of Moldova).

In some cases, the possibility to arrange water drainage to the neighbouring land parcel depends on certain conditions. For instance, in Swiss and Estonian legislation water drainage is allowed if it has been established before, and in case it causes damage to the neighbouring land parcel, the guilty party is obliged to construct a drain through this area at his own expense; compensation is not to be paid in

this case (Art. 690 of the Civil Code of Switzerland, P. 3 of Art. 163 of the Law of Estonia “On the estate right”).

It has to be noted that certain legislation containing regulations on neighbour relations concerning natural water runoff do not contain regulations on water drainage (Georgia, the Republic of Azerbaijan, Turkmenistan, and other countries). The possible reason for this may be the fact that the diversion of water to the neighbouring land parcel is governed by easement law, known since Roman times. Therefore, legislators in these countries refused to legislate on matters concerning the diversion of water to the neighbouring property within “neighbour law” and resolved to apply regulations on land easements.

3) **The Regulation on water distribution.** Certain international legislation also govern the issue of water abstraction for a land parcel. For instance, regulations of this kind are contained in Art. 383 “Water Abstraction” and Art. 384 “Surplus of Water” of the Civil Code of the Republic of Moldova, Art. 40 of Title 5 of the Civil Code of the Netherlands, Art. 643 of the Civil Code of France.

Thus, according to Art. 385 of the Civil Code of the Republic of Moldova, the landowner who has a water surplus for daily needs is obliged to give water to other owners who need it with compensation to be paid by them. Regulations of similar kind are contained in Art. 643 of the Civil Code of France. According to Dutch legislation, the landowner is entitled to use running water and water for public use to satisfy his needs if he does not commit a delict by inflicting damage on other landowners (Art. 40 of Title 5 of the Civil Code of the Netherlands).

Such regulations on water distribution, however, are not widely spread and reflect, for the most part, the peculiarities of certain legislation caused by local conditions and traditions.

Ukrainian legislation contains a few regulations on water use. For instance, according to Art. 80 of the Water Code of Ukraine, in order to conserve the water of minor rivers it is prohibited: to alter the relief of a river basin; to damage drying river beds, streams and watercourses; to straighten river beds, deepen river bottoms below their natural level or dam up rivers without constructing watercourses; to carry out work having an adverse effect on river water and its quality, etc. The construction of reservoirs or hydraulic structures on rivers and in river basins influencing the natural flow of surface waters and the state of groundwaters is allowed only with special permission (P. 2 of Art. 82 of the Water Code of Ukraine).

However, it has to be taken into account that these regulations are aimed, first and foremost, at conserving water resources rather than governing neighbour relations. According to U. Mattei, if water flow has essential significance, the general tendency for civil law systems is to shift to the administrative regulation of water resources; consequently, the role of the operation of courts and the guarantee of property rights is minimized and are on the periphery of water law [14, p. 189-190]. Ukrainian legislation also contains regulations prohibiting to divert water runoffs from roofs to the neighbouring property but they belong to construction regulations (item 5.25* SBN 360-92 „Town-planning. Planning and building of city and rural settlements”) [8]. Therefore, there exists a necessity to make amendments to the regulations on neighbour relations in Ukrainian legislation.

3. CONCLUSIONS

Neighbourly water use should be defined as the use of water resources aimed at meeting the needs of owners or tenants of neighbouring land parcels. Currently, the regulation of the use of water resources mainly comes under the sphere of public law. Nevertheless, a study of international legislation and regulation policies on neighbourly relations emphasizes the necessity to legislate on the private aspects of neighbourly water use. They mainly concern the prohibition to divert natural water flow if it violates the rights or legal interests of owners or tenants of the neighbouring property.

The study has made it possible to formulate the amendments that need to be introduced into Chapter 17 of the Land Code of Ukraine.

“Neighbourly Water Use

1. The owner or tenant of the downstream land parcel is obliged to allow natural water runoff from the upstream land parcel to pass through his area without hindrance.
2. It is prohibited to divert or impede natural water runoff if it causes damage to the owner or tenant of the downstream land parcel.
3. Impediment to natural water runoff or any reduction of it needed for the downstream land parcel is only possible to the extent to which it is necessary for satisfying the justified needs of the owner or tenant of the upstream land parcel.
4. It is prohibited to impede water drainage from the upstream land parcel caused by the household activity of its owner or tenant (land drainage, underground work, etc.) on condition that water is drained into a ditch or a natural watercourse, unless otherwise required by law”.

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Мироненко Ігор. Правове регулювання сусідського водокористування в Україні: перспективи розвитку. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 130–136.

У статті розглянуто окремі питання правового регулювання відносин добросусідства. Під сусідським водокористуванням слід розуміти використання вод для задоволення потреб власників чи землекористувачів сусідніх земельних ділянок. Його регулювання здавна було частиною законодавства щодо регламентації сусідських відносин. Положення з даного питання містилися в багатьох пам'ятках українського права, включаючи „Литовські статути”. На сьогодні в нашій державі використання водних ресурсів регламентується в межах публічного права. Внаслідок цього в чинному Земельному кодексі України відповідні положення відсутні. Однак вивчення зарубіжного законодавства та практики правового регулювання вказує на необхідність регламентації приватних аспектів відносин щодо сусідського водокористування. За результатами дослідження сформульовано пропозиції щодо вдосконалення чинного законодавства з даного питання.

Ключові слова: сусідські відносини, добросусідство, право сусідства, сусідське водокористування, водні відносини.

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CARBON TAX PERSPECTIVES IN UKRAINE: LEGAL REGULATION AND COMPARISON OF THE NATIONAL AND EUROPEAN EXPERIENCE OF IMPLEMENTATION

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Abstract. Environmental tax in general is one of the state's instruments in environmental protection and financing of the environmental protection measures. The purpose of the tax is to encourage business entities to reduce emissions / discharges of pollutants into the air / water bodies, to establish direct dependence of the amount of tax deductions on the degree of negative impact on the environment, mobilization of funds to budgets of different levels in order to finance the costs of protection and rational use of natural resources. This article examines and compares with Ukraine and EU countries the experience, rates and background policies of the carbon taxation. The carbon tax as an environmental tax with a significant effect on economic and legal incentives for business entities and state authorities to fulfill the policy of energy efficiency, energy saving and energy transition to renewable energy sources what is coincided with the mitigation of greenhouse gas emissions and achievement of National Determined Contributions according to the Paris Agreement and Kyoto Protocol. The main issue is that rate of carbon tax, used nowadays in Ukraine is not being sufficient to provide the energy transition of country economy to the less consuming model according the examples from Germany, Netherlands, Finland and other countries of Europe. Interconnected linkage between carbon tax, energy and climate policy is proven in the article along with mechanisms of economic, political and environmental peculiarities and benefits of the carbon taxation regulation improvement in national legislation.

Keywords: carbon tax, energy saving, renewable energy sources, Nationally Determined Contributions (NDC), Emissions Trading System (ETS).

1. INTRODUCTION

Carbon tax and environmental taxation system in general used to be considered as a part of the mechanism of the economic and legal incentives to increase by sufficient funding of the energy efficiency measures and renewable energy use in industry and industrial production. Therefore carbon is directly interconnected with the mitigation of the emissions of the greenhouse gases and is an effective tool to measure the negative impact from CO₂, creating the positive impact on decreasing the CO₂ emissions in the country and increasing the energy efficiency in economic industries and individual energy supply.

At the same time, the research, made in 1990-s [1; p. 279] proves, that energy-saving or inter-fuel substitution processes, that result from the introduction of environmental taxation, stabilize emissions

at the 1988 level only in the electricity generation sector, and only if high tax rates are assumed (\$100/ton.C). By contrast, total emissions (all sectors and all fuels) keep growing, and the implementation of a tax of \$100/ton. According to a new study published by Yale scientists in *Environmental Research Letters* [2], for example, Americans are willing to pay a carbon tax that would increase their household energy bills by \$15 per month, or about 15%, on average. But the USA is only about to develop the concept and legislation on carbon taxation, as it's been politicized.

Given that in 18 countries of the world carbon tax strengthens the economic motivation of the companies to energy efficiency and renewable energy use transition. In Denmark what worth mentioning is the existing mechanism of agreements between companies and Danish Energy Agency [3; p. 3]. The Danish Energy Model has shown that through persistent and active energy policy with ambitious renewable energy goals, enhance energy efficiency and support for technical innovation and industrial development, it is possible to sustain significant economic growth and a high standard of living, while reducing fossil fuel dependency and mitigating climate change.

In order to secure 100% renewable energy in 2050 the Danish government has developed several energy policy milestones in the years 2020, 2030 and 2035. Half of the traditional consumptions of electricity is covered by wind power till 2020. Coal is phased out from Danish power plants. Oil burners phased out till 2030 [3; p. 5]. Carbon tax will fill the financial funds and creates the range of economic incentives.

2. ANALYSIS AND DISCUSSION

Scientific discussion about environmental taxation was a focus point for a lot of distinguished national researchers Kostytsky V.V., Malysheva N.R., Hetman A.P., Kobetska N.R., Erofeev M.I., Snyutka N.G., Yastrubsky M.Y. Matchievych T.O. [4–9].

Environmental tax in general is one of the state's instruments in environmental protection. The purpose of the tax is to encourage business entities to reduce emissions / discharges of pollutants into the air / water objects, to establish direct dependence of the amount of tax deductions on the degree of negative impact on the environment, mobilization of funds to budgets of different levels in order to finance the costs of protection and rational use of natural resources.

According to clause 14.1.57 of 14.1 of Article 14 of the Tax Code of Ukraine [10], environmental tax is a national mandatory payment, which is charged, in particular, from actual volumes of emissions into the air, pollutants, discharged into water objects. In Ukraine some steps towards the carbon taxing were made in a year, and existing rates of the tax for the atmospheric air contamination were specified in new amounts since 01.01.2018 and increased by 11.2% compared with the same rates in force in 2017. Thus, the rates of the tax on emissions into the air of certain pollutants by stationary sources of pollution from 01.01.2018 saved the same magnitude (paragraph 243.1 of Article 243 of the Tax Code of Ukraine) [11]. In 2011, the Tax Code introduced a section on environmental tax [5; p.4]. Thus, it was planned to stimulate manufacturers to introduce energy-saving technologies, and to raise funds for environmental protection measures. But the rates of this tax, which are insignificantly increasing every year, in fact on the level of inflation, are not responding the expectations in comparison with other countries. So, the environmental, especially carbon tax, tax does not fulfill its basic functions.

During the period of 2015-2017 the rates of environmental tax on atmospheric emissions and pollution discharges into water bodies increased in 2016 (by 26.7 percent) and in 2017 (by 12.0 percent). However, with an increase in the amount of pollutant emissions into the air by 8.4 percent in 2016 compared with 2015, the tax revenues increased 2.5 times; in 2017, revenues decreased by 17.3 percent [12; p. 5]. The lack of a proper accounting system for business entities that have received permits for the emission of pollutants into the air, proper interaction and the exchange of information between public authorities connected to the proper control over the environmental tax, effective measures of state control over the issues of air protection and water use allowed taxpayers to avoid paying environmental tax to the budget over reported years. Ukraine now has a tax for carbon dioxide emissions, and the tax rate has been increased since 1.01.2018 from 0.37 UAH / t to 0.41 UAH (item

243.4 of Article 243 of the Tax Code). This amount is obviously economically insufficient and comparison made with the EU countries underlines the fact, that this price is not targeted to make a significant impact on energy efficiency and reduction of greenhouse gas emissions.

Hence, carbon tax regulation has a twenty eight years long history in European countries as Finland (1990), Sweden (1990), Norway (1991) and Denmark (1992) have been frontrunners in launching specific CO₂- taxes to curb CO₂ emissions (Andersen, 2004). Netherlands (1996) and Slovenia (1997) established the policy trend a few years later, and towards the close of the 1990s two of the largest EU economies, Germany (1998) and UK (2000) introduced carbon-energy taxation policies too, adding more weight to the approach. While UK introduced a specific climate change levy on fossil fuels, Germany increased more broadly its energy taxes as part of a so-called 'ecological tax reform'.

Worth mentioning, that carbon taxes are in place in 14 countries in Europe, complementing emissions trading schemes for power plants and large industrial installations. Nordic countries pioneered carbon taxes 25 years ago, while France and Portugal most recently did so. Carbon taxes have been leveraged by linking their introduction to other issues and often through a 'roundtable' method of policy-making enabling agreement on exemptions and compensations. Distributional questions are a key to the introduction of carbon taxes, although they are less regressive than many other taxes [13]. The ultimate goal of the carbon taxes is creating the economically grounded pathway for transforming energy and transport systems. In the world carbon tax is used to avoid damaging economic growth and at the same time, creating new financial supportive mechanisms for the mitigation of the emissions, new energy saving technologies, transition of workers towards the renewable energy industry instead of coal mines development and investing. Concerns over climate change coincided with policies in these countries aiming at reducing income taxes and by addressing these two issues in combination a series of tax shifting packages were created, which have been in the main revenue-neutral [13].

The Ukrainian economy remains one of the worst energy efficient in the world because of depreciation of funds, old equipment and inefficient housing and communal services. Over the past 20 years, the world's major economies have dramatically reduced their energy consumption but in Ukraine, as of 2017, the energy intensity of the Ukrainian economy remains on the same level. Thus, according to the annual report Global Energy Statistical Yearbook 2017, the Ukrainian economy remains the second most energy-consuming in the world with an index of 0.318 kg NES/\$ 2005 [14]. The carbon intensity of the country's GDP (Gross Domestic Product) in 2014 was almost 2.8 times higher than in OECD - countries and 2,4 higher than in Visegrad Group-countries. And it was 3,8 times higher compared with the EU-28 countries [15].

At the same time, Ukraine is Annex I Party to United Nation Framework Convention on Climate Change (1996), Annex B Party to the Kyoto Protocol (2004) (Second Commitment Period of the Kyoto Protocol is under ratification process), Party to Paris Agreement (19, 2016) and is responsible for a Nationally Determined Contribution (NDC) that presents national policy targets on climate mitigation, reduction of GHG emissions and adaptation to impacts of climate change. Ukraine defines NDC in 2030 will not exceed 60% of 1990 greenhouse gas emissions level. According to the numerous researches of the National Academy of Science of Ukraine, in 2016 68% of emissions were caused by the energy sector, therefore the energy saving, energy efficiency, wide use of the renewable energy is an effective tool to decrease the CO₂ emissions and achieve NDC till 2030. Ukraine has been expensively developing the new energy legislation, started from 2015. The main Laws in this area are:

- The Law of Ukraine "On Electricity Market";
- The Law of Ukraine "On Electricity";
- The Law of Ukraine "On Alternative Energy Sources";
- The Law of Ukraine "On alternative fuels";
- The Law of Ukraine "On principles of functioning electricity market of Ukraine";
- The Law of Ukraine "On energy saving";
- The Law of Ukraine "On Architectural Activity";

- The Law of Ukraine “On regulation of urban development“;
- The Law of Ukraine “On the energy efficiency of buildings“.

Ukraine also establishes the range of national strategies, specifically regulating the basis of the energy policy, use and management for a next decades. After the adoption of the Energy Strategy of Ukraine till 2035 in 2017, was declared to develop the interconnected regulatory documents. Part of secondary legislation of the National Commission Carrying Out State Regulation in the Fields of Energy and Utilities is been provided in accordance to the following range:

- Code of Transmission System;
- Code of Distribution Systems;
- Code of Commercial Recording of Electricity;
- Rules for the Retail Electricity Market;
- Market Rules;
- Market Rules for “Day-Ahead” and Diurnal Market.

Also, amendments to the model Power Purchase Agreement (so-called “PPA”) were adopted, which was a necessary document for attracting potential investments into the industry. At the same time, there is a general revival of the energy sector and its development taking place.

New Energy Strategy of Ukraine till 2035, adopted by the Order of the Cabinet of Ministers “On approval of the Energy Strategy of Ukraine till 2035 “Safety, efficiency, competitiveness” on August 18, 2017, No.605-p [16], highlights the significant reformation of the energy companies in accordance to Ukrainian commitments in Energy Community Treaty (EnCT): increasing of the gas production, reducing the energy consumption and gross domestic product (GDP), further development of renewable energy sources. The process of energy system reformation is divided into three time bound periods – energy sector reforms on the basis of EU legislation implementation; optimization and innovative development of the energy infrastructure EU-Ukraine energy markets integration; ensuring sustainable energy development adjusting the energy policy in line with the European and global tendencies.

Step 1. Energy sector reforms on the basis of EU legislation implementation (2020):

- Completion of the implementation of the 3rd EU Energy Package; modern energy markets formation;
- Institutional reforming of the state energy companies and integration to ENTSO-G¹;
- Increasing the domestic natural gas production;
- Progressive decreasing of GDP energy intensity;
- Increasing of the RES share and investments in regard to Emissions Reduction National Action Plan.

Step 2. Optimization and innovative development of the energy infrastructure EU-Ukraine energy markets integration (2025):

- Integration to ENTSO-E²;
- Modernisation of the energy grids infrastructure, smart-grids implementation;
- Development of heating infrastructure depending on local resources and regional specifics;
- Country’s achievement to self-provision with natural gas from domestic production;
- Follow-up increasing of the RES share and investments in regard to Emissions Reduction National Action Plan.

Step 3. Ensuring sustainable energy development adjusting the energy policy in line with the European and global tendencies:

¹ The role of ENTSOG (the European Network of Transmission System Operators for Gas) is to facilitate and enhance cooperation between national gas transmission system operators (TSOs) across Europe in order to ensure the development of a pan-European transmission system in line with European Union energy goals. Available at: <https://www.entsog.eu>

² The European Network of Transmission System Operators for Electricity, which united in July 2009 the electrical networks of the ATSOI, BALTSO, ETSO, NORDEL, UCTE and UKTSOA networks. Available at: <https://www.entsoe.eu>

- Innovative development and CHP plants and NPP construction instead of disposal or obsolete units;
- Extensive implementation of smart-grids and client-oriented networks;
- Adaptation of the gas transportation system to the actual demands of the all-European gas market;
- Increasing domestic natural gas production;
- Follow-up increasing of the RES share up to 25% of GES and investments to further emissions reduction.

Energy taxes and carbon prices on every step of the Strategy implementation could raise significant additional revenue as a fraction of GDP, about ~1%, impose economic costs which are no higher than and may be lower than other forms of taxation (such as income and value added tax) and offer additional environmental benefits, create adverse effects on poor households and energy-intensive trade-exposed firms which are politically acutely difficult but can be largely mitigated as been proven in the appropriate research [17]. This research illustrated that:

- highest rate in Portugal (87 €/tCO₂ at PPP exchange rates³);
- lowest rate in Poland and France (both 58 €/tCO₂ at PPP exchange rates);
- at market exchange rates, Italy highest (78 €/tCO₂), Poland lowest (35 €/tCO₂), and France in midfield (66 €/tCO₂);
- within France, some energy use is not taxed at all (e.g. residential use of natural gas), while some other use is taxed at 30 €/tCO₂ (residential use of electricity), €37/tCO₂ (LPG used for transport) or 258 €/tCO₂ (petrol);
- this variation is shown in energy tax curves.

The Law of Ukraine On the Energy Saving [18] in clause L of the article 3 defines the stimulating the implementation of energy efficiency and energy saving measures, including the programs of the Energy Efficiency Fund as one of the key priorities of the state energy efficiency policy. The funds of Energy Efficiency Fund are used for the financial support of the measures for rational use and economy of fuel and energy resources, including research and development of the project and constructor work in the energy saving field, shared participation in the implementation of programs of structural adjustment of the economy, targeted at energy saving, development and implementation of energy saving technologies and equipment, provision of credit privileges and subsidies for the development and implementation of energy saving activities and programs. The costs of Energy Efficiency Fund are also used for the development of unconventional energy sources, alternative types of fuel production, holding of the state energy expertise and audit, organization of training and retraining of personnel, development of energy standards, norms and technical regulation, participation in providing the enterprises with supportive tools for accounting, controlling and management energy use.

The National Energy Efficiency Action Plan of Ukraine until 2020 [19] is mostly focused on the process of implementation of the Directive 2006/32/EC on energy end-use efficiency and energy services; Directive 2010/31/EC on the energy performance of buildings; Directive 2010/30/EC on labeling of energy products. Recently, the State Agency on Energy Efficiency and Energy Saving of Ukraine came out with the initiative to develop a special legislation for a carbon tax to charge and fill the special state fund that should support energy efficiency in national industries. On the 6 of June, 2018, on the Cabinet of Ministers meeting The Action Plan on Energy Strategy 2035 was adopted. It foresees ambitious energy transition goals and success indicators in energy efficiency, energy saving and renewable energy transition.

Strategy of Low Carbon development is a key element for transformation of the energy consumption, energy saving and renewable energy development which generalize and empowers the

³ Purchasing power parity (PPP) is an economic theory that compares different countries' currencies through a "basket of goods" approach. According to this concept, two currencies are in equilibrium or at par when a basket of goods (taking into account the exchange rate) is priced the same in both countries Available at: <https://www.investopedia.com/updates/purchasing-power-parity-ppp/>

provisions of the energy legislation and CO₂ regulation legislation. Low-carbon Development - is a long-term socio - economic development of the country, resulting in enhanced welfare while reducing long-term greenhouse gas emissions (GHG emissions are balanced by their absorption and/or capture) [15; p. 1]. Ukrainian Low Carbon Strategy on the national level is an instrument of legal regulation, public administration and climatically responsible behavior of business and citizens and maintains the global goal of stabilizing greenhouse gases concentrations in accordance with the scenario of maintaining the global average temperature below 2°C on preindustrial level.

As a result of the analysis of these legislative acts we can remind that new energy policy of Ukraine establishes quite ambitious goals: reducing the energy intensity of the economy twice by 2030, increasing the Ukrainian production of both traditional and alternative sources of energy.

3. CONCLUSIONS

I. Proved, that current ecological tax does not stimulate emission reductions for two main reasons: low tax rate and lack of accrual methodology. The reform of the taxation of emissions should eliminate both causes. Quality reporting and monitoring of emissions are a prerequisite for the reform of the carbon tax. The transparency and efficiency of the use of the tax for the direct reduction of emissions is determined by monitoring methods and emission calculations. The Ministry of Environment and Natural Resources of Ukraine currently develops a system for reporting and verification of monitoring. The introduction of high-risk to the completion of the IPM implementation is associated with the risks of manipulations when calculating emission volumes for tax purposes.

II. The issue of emission reductions must be solved in a sustainable systematic way. In the EU, the Emissions Trading System (ETS for large pollutants) and carbon tax (CT for other categories of pollutants) are separate and independent environmental policy measures. If the tax does not agree with the ETS, it will complicate the introduction of the latter. Both instruments must be implemented in parallel and, necessarily, coordinated among themselves. Clear outline is to be provided by each executive authority regarding the implementation of these instruments, and the final price of emission allowances per tonne should commensurate with the size of the carbon tax.

III. The implementation of a carbon tax and Emissions Trading System should be the result of economic analysis, and not exclusively based on the political decisions. Solid research and simulation of the joint effect of STS and carbon tax on the economy is to be an environmental policy concern and, most importantly, has to impact on the reduction of greenhouse gas emissions, as this is the main objective of the introduction of both instruments. The carbon tax rate should effectively encourage industrial enterprises to reduce emissions. The carbon tax is an effective emission reduction tool, but only in the case of an appropriate tax rate. The rate depends on many factors, but it must necessarily be economically based and rationally justified. The carbon tax rate in EU countries ranges from 6 to 130 euros per tonne, and an average of 15-20 euros. According to the experience of European countries in which the carbon tax was introduced in the early 1990s, the carbon tax is an effective tool for reducing emissions at a rate of 50-100 dollars [1; p.279].

IV. The important step for the improvement of the carbon taxation is the divesting from the budget subsidies as a tools of constant fossil fuel industry support. Currently the subsidies, envisioned for national coal industry for financial year 2018 from the state budget of Ukraine are 2 billion hryvnas (UAH). This is a about a half of the planned income from the carbon tax (4,7 billion hryvnas) which is expected by The State Agency of the Energy Efficiency to be charged in 2018 as a carbon tax.

V. The emergence of another State Fund for carbon tax is associated with corruption risks. In Ukraine, there are currently State Fund for the Protection of the Environment (within the State Budget) and special environmental funds at the local level and an Energy Efficiency Fund, described on above.

The distribution of funds collected from an additional tax through a separate fund requires transparency and effective procedures, but at the meantime Ukraine has a predominantly negative experience of public funds. Thus, the results of the research of International Charity NGO Environment.People. Law demonstrates that the system of distribution of funds is opaque and contains

corruption risks, measures financed from environmental funds are not always targeted to environmental problems solving, and sometimes even environmentally harmful. Hence, the idea of creation of a separate fund to use revenues from the new carbon tax is inappropriate [21]. Instead, it is necessary to ensure and deliver the reform of the modern system of environmental funds in order to ensure the efficient use of revenues from all environmental taxes. The introduction of a high, economically grounded carbon tax level, capable of performing both fiscal and security functions, will stimulate the development of biofuels, alternative energy and other climate solutions further implementation.

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Романко Світлана. Перспективи вуглецевого податку в Україні: правове регулювання та порівняльна характеристика національного та європейського досвіду впровадження. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 137–144.

Екологічний податок в цілому є одним із державних інструментів захисту навколишнього середовища та фінансування природоохоронних заходів. Метою податку є заохочення суб'єктів господарювання зменшувати викиди / скиди забруднюючих речовин у повітря / водні об'єкти, встановити пряму залежність суми податкових відрахувань від ступеня негативного впливу на навколишнє середовище, залучення коштів до бюджетів різних рівнів для фінансування витрат на охорону та раціональне використання природних ресурсів. У цій статті розглядаються та порівнюються з Україною та країнами ЄС досвід, нормативи та фонові стратегії оподаткування вуглецю. Вуглецевий податок розглядається у статті як екологічний податок, що суттєво впливає на економічні та юридичні стимули для суб'єктів господарювання та державних органів для здійснення політики енергоефективності, енергозбереження та переходу енергії на відновлювальні джерела енергії для пом'якшення викидів парникових газів та досягнення національно визначених внесків відповідно до Паризької угоди та Кіотського протоколу. Головне питання полягає в тому, що рівень вуглецевого податку, який сьогодні використовується в Україні, недостатній для забезпечення енергетичного переходу економіки країни до моделі менш екстенсивного споживання енергії та викопного палива за прикладами Німеччини, Нідерландів, Фінляндії та інших країн Європи. Встановлено взаємозв'язок між вуглецевим податком, енергетикою та кліматичною політикою, а також механізмами економічних, політичних та екологічних особливостей та переваг удосконалення регулювання згаданого податкового режиму в національному законодавстві.

Ключові слова: вуглецевий податок, енергозбереження, відновлювані джерела енергії, національно визначені внески, торгівля викидами (ETS).

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CLIMATE CHANGE AS A THREAT TO ENVIRONMENTAL SAFETY: INTERNATIONAL LEGAL REGULATION

TETIANA SHARAIEVSKA

Abstract. The article is devoted to the study of international legal regulation of environmental safety with regard to climate change. It is established that indicated problem is common to the entire mankind and requires effective and advancing response and determines the need to replenish national legislation with international and European ecologico-legal models for regulation of environmental relations. It is analysed that modern development of legislation of Ukraine in the field of environmental safety should be carried out considering the processes of globalization. The conclusion is drawn that deepening of cooperation between the countries worldwide for overcoming the negative impact of climate change on mankind and environment as a whole assumes important significance.

Keywords: climate, environmental safety, international legal regulation, legal protection of atmospheric air, legal protection of ozone layer, international environmental law, environmental legislation of the European Union.

1. INTRODUCTION

The Law of Ukraine "On Main Principles (Strategy) of National Ecological Policy of Ukraine until 2020" dated December 21, 2010 [9] contains the main tasks for improving environmental situation and increasing the level of environmental safety. In particular, attention has been focused on fundamentals of the state policy to adapt to climate change, development and phased implementation of the national plan of actions on climate change mitigation and prevention of anthropogenic effect on climate change for the period up to year 2030 (Objective 2). For the purpose of implementation of international cooperation for environmental protection and ensuring environmental safety on appropriate level, the need to prevent global climate change and expand cooperation for avoidance of transboundary pollution of natural environment is determined (Cl. 4.12).

The above-mentioned provides for broad cooperation between different countries worldwide with respect to these problems to ensure proper level of environmental safety, prevention of threats and search for ways to overcome them, mitigation of risks due to climate change. To date, international community recognizes that climate change is a common concern for mankind, which determines the need for effective and advancing response based on the best available scientific knowledge.

According to Paris climate Agreement dated December 12, 2015 (city of Paris, France; ratified by the Law of Ukraine dated July 14, 2016) [10], adaptation to climate change is the global challenge that

appears before all at local, sub-national, national, regional and international levels, and is a key component and makes contribution to the long-term global response to climate change in order to protect people, means of subsistence and ecosystems (Cl. 2 Art. 7). In this regard, importance of international cooperation and support for efforts to adapt to climate change assumes importance (Cl. 6 Art. 7), and the need to prevent, minimize and resolve issues of losses and damages associated with adverse effects of climate change, including extreme weather events and phenomena, which slowly occur, as well as the role of sustainable development in reducing the risk of losses and damages, is determined (Cl. 1 Art. 8).

The aforementioned results in the necessity of scientific inquiries for solving the mentioned problems, for analysis and research of international legal documents in order to improve national legislation and improve cooperation between countries worldwide for prevention of the negative effects of climate change.

The legal problems concerning settlement of issues related to environmental safety in connection with climate change have become the subject of scientific inquiries by many scientists, including: V.I. Andreitseva, H.I. Baliuk, Iu.L. Vlasenko, T.H. Kovalchuk, M.V. Krasnova, Iu.A. Krasnova, N.R. Malysheva, E.V. Pozniak, K.A. Prokhorenko, R.V. Rybachek, O.V. Ilina, Iu.S. Shemshuchenko, O.A. Shompol, et al. However, despite significant number of publications herein and given the modern process of adaptation of national legislation to the laws of European Union, international legal approaches to formation of modern holistic legal models to ensure the environmental safety in connection with climate change requires for more in-depth study.

The purpose of this article is to study ecologico-legal relations with respect to peculiarities of ensuring environmental safety in connection with climate change and development of international legal cooperation in the field specified.

2. ANALYSIS AND DISCUSSION

To date, relations in the field of ensuring environmental safety in connection with climate change assume the more relevance prompting further development of their proper regulation. In particular, scientists unanimously call permanent and global climate changes to be one of the reasons of emergency environmental situations occurring both in Ukraine and in other countries worldwide. People must exert maximum efforts to halt and prevent the negative impact of their activities on environment. In this respect, legal regulation of relations concerning protection of climate as one of the main natural resources cannot be limited only to the national level, and should be ensured by international legal community.

It is established in Constitution of Ukraine [11] that applicable international treaties, consent to obligation of which is provided by the Supreme Council of Ukraine, constitutes a part of national legislation (Art. 9), that is prerequisite for broader involvement in national legislation of international regulations, including for settlement of ecologico-legal relations.

For example, most countries agreed that the Earth's climate change and its adverse effects are a common concern for mankind. The sense of worry about the fact that human activity resulted in a substantial increase of concentration of greenhouse gases in atmosphere, and that it may adversely affect natural ecosystems and mankind, was a prerequisite for signing of the United Nations Framework Convention on Climate Change dated May 09, 1992, (city of New York, USA; ratified by the Law of Ukraine dated October 29, 1996) [12]. It testifies decisiveness of international community to protect climate system for the benefit of present and future generations.

For this purpose, all parties agreed to promote and cooperate in carrying out scientific, technological, technical, socio-economic and other researches, systematic observations and creation of data banks related to climate system and intended for deepening of knowledge, as well as reducing or eliminating the uncertainties that remained about the causes, effects, extent, and timing of climate change and concerning economic and social consequences of various response strategies. The parties also undertake to promote and cooperate in full, open and prompt exchange of relevant scientific,

technological, technical, socio-economic and legal information related to climate system and climate change as well as to the economic and social consequences of various response strategies (Art. 4).

The necessity and importance of prevention of climate change is also confirmed by Kyoto Protocol to the above Convention dated December 11, 1997 (city of Kyoto, Japan; ratified by the Law of Ukraine dated February 4, 2004) [13]. While contributing to performance of the commitments to achieve sustainable development, the parties have signed up to cooperate in scientific and technological researches and promote maintenance and development of systematic observation complexes and accumulation of archival data for reduction of the uncertainties associated with climate system, adverse effects of climate change, as well as the economic and social consequences of various response strategies (Art. 10).

At the same time, provisions of the above mentioned Paris climate Agreement dated December 12, 2015 [10], which was adopted at XXI Conference of Parties of the United Nations Framework Convention on Climate Change, are especially relevant for us today. This Agreement, which strengthens implementation of the United Nations Framework Convention on Climate Change, including its purpose, is aimed at strengthening of global response to threat of climate change in the context of sustainable development and efforts to eradicate poverty, including by: containment of the growth of global average temperatures less than 2 C above pre-industrial levels and exerting efforts to limit temperature increase up to 1.5 C above pre-industrial levels recognizing that it will significantly reduce the risks and impacts of climate change; enhancing the ability to adapt to adverse effects of climate change, as well as promotion of resistance to climate change and low-carbonic development in a way that does not compromise food production; ensuring consistency in financial flows with low-carbonic and climate change-resistant development directions (Art. 2).

However, it is feared that indicated Agreement as the previous ones on climate protection will not have the expected result and performance. That is why it is important that all parties to this Agreement, as well as countries that have not yet joined it, realize the need and importance of implementation of and compliance with its provisions.

Climate protection is closely linked with the problem of ozone layer protection, which became the most important within environmental safety system. In particular, the state of ozone layer is affected by combination of factors, where results of anthropogenic activity occupy independent place. Scientists deem harmful emissions into atmosphere of contaminated air resulted from industrial and economic activities that have a big anthropogenic-destroying significance and natural disasters to be the main causes of negative changes in ozone layer. Deterioration of the state of ozone layer is associated with that millions of tons of various chemical compounds, polluting substances of organic origin, dust, salts of heavy metals are discharged in atmosphere [1, p. 4–5].

In this regard, the question of ozone layer protection is thrown into sharper relief before international community. For example, our state has acceded to Vienna Convention for the Protection of the Ozone Layer dated March 22, 1985 (city of Vienna, Austria; came into effect for Ukraine on September 22, 1988) [8]. As the potentially damaging impact of changes of ozone layer's status on human health and environment, as well as the need to conduct further researches and systematic observations to obtain additional scientific information on ozone layer and about the possible negative consequences of change in its status are realized, the need occurred for agreements on cooperation between the states so to understand and assess more deeply the impact of human activities on ozone layer and the effects of changing its condition to human health and environment.

In accordance with this Convention, parties undertake to promote implementation of and implement common or mutually complementary programs, systematic observations of ozone layer's status and other relevant parameters (Art. 3), including the need to take into account works and studies carried out both in international and national organizations, and, in particular, the World Plan of Actions Concerning Ozone Layer of the United Nations Environment Programme.

In Montreal Protocol on Substances That Deplete the Ozone Layer dated September 16, 1987, (city of Montreal, Canada; entered into force for Ukraine on January 01, 1989) [7] signed before Vienna Convention for the Protection of the Ozone Layer, the parties of this Convention decided to take into

account importance of promoting international cooperation, including researches, developments concerning regulation and reduction of emissions of substances that deplete ozone layer. In particular, the parties cooperate in accordance with their national laws, rules and practices taking into account the needs of developing countries, in order to promote, directly or through competent international authorities, advancement of researches, development and information exchange (Art. 9).

As noted above, the problem of climate protection is comprehensive, which determines the need to also consider questions concerning protection of atmospheric air, since climate is influenced by various factors leading to its changes. So, atmospheric air – a vital component of natural environment featuring a natural mixture of gases evolved during evolution of the Earth – is identified as one of natural resources, which is subject to special protection. Oxygen, which is necessary for existence of humans and other living organisms, is an important element of atmospheric air. Air envelope protects the Earth from harmful cosmic influences and conducts solar energy. "Resource ability" of atmospheric air is identified, inter alia, with possibility of its use in economy (for example, in energy sector), as well as air space for aviation and other needs [5, p. 42].

In this regard, according to environmental lawyers, such protection of atmospheric air to which the problem of global climate change is linked is one of the main tasks of international ecological safety [3, p. 181]. Other scientists point out that problem of fluctuations and climate change, which results from the natural processes caused by interaction between atmosphere, ocean, land surface and biota, as well as by influence of people's economic activity on climate, first of all emissions of greenhouse gases, such as carbon dioxide and methane, assumed a global significance [2, p. 229].

To date, relations in the field of atmospheric air protection from various types of pollution assume the more relevance prompting further development of their proper regulation. When solving modern complex environmental problems caused by increasing degradation of environment and irrational use of natural resources, the role of environmental policy and laws in the field of ensuring effective protection of atmospheric air [16, p. 3], which has a direct impact on regulation of climate protection.

It is stipulated in Law of Ukraine "On the Protection Atmospheric Air" as amended by the Law of Ukraine dated June 21, 2001 [14] that Ukraine takes part in international cooperation for atmospheric air protection in accordance with the laws of Ukraine. If international treaty of Ukraine, consent to obligation of which is provided by the Supreme Council of Ukraine, stipulates another provisions than those provided by this Act, provisions of international treaty shall apply. In this regard, international legal cooperation between Ukraine and countries worldwide, European Union countries concerning protection of atmospheric air against transboundary pollution, which differs significantly from other natural resources, because it is constantly in motion and is considered as international universal natural resource, becomes critical [17, p. 392].

For example, international relations for protection of atmospheric air against emissions of pollutants has been regulated by the Convention on Long-range Transboundary Air Pollution dated November 13, 1979 (city of Geneva, Switzerland; came into force for Ukraine on March 16, 1983) [7], which determines the general principles of cooperation between member states on combating air pollution, in particular in the field of exchange of information, advice, research work and monitoring by means of which the parties implement the strategy as a means to combat pollutants emissions. In this regard, according to the provisions of Art. 6 of this Convention, each party agrees to develop the best policy to combat air pollution.

At the same time, international legal regulation of relations in the field of atmospheric air protection is regulated not only by the said Convention, but also a number of Protocols hereto which significantly complement its content. First of all, it is Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) dated September 28, 1984 (city of Geneva, Switzerland; came into force for Ukraine on January 28, 1988) [7], which approved the system of financing of this program given the positive results of its implementation and for its development. The said Protocol is aimed at limitation of emissions of heavy metals caused by anthropogenic activities subject to transboundary atmospheric transfer over long distances, and which, in all probability, can make a significant negative impact on human health or

environment. According to Art. 6 of the Protocol, this objective is achieved by encouraging parties to carry out researches, developments and cooperation in areas relating to the subject matter of the parties' agreement.

However, it should be noted that most Protocols to this Convention are not ratified or signed by Ukraine, so to date they are some types of models of legal regulation of atmosphere protection relations for our state. Current situation in national legislation requires for attention, since the issues that assumed further settlement in these protocols take place in Convention provisions. In particular, it is Protocol concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes adopted on November 18, 1991 (city of Geneva, Switzerland), Protocol on Further Reduction of Sulphur Emissions dated June 14, 1994 (city of Oslo, Norway), Protocol on Heavy Metals dated June 24, 1998 (city of Aarhus, Denmark), Protocol on Persistent Organic Pollutants dated June 24, 1998 (city of Aarhus, Denmark) and Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone dated November 30, 1999 (city of Gothenburg, Sweden).

Thus, having ratified the Convention on Long-range Transboundary Air Pollution, Ukraine recognized the need to resolve issues stipulated in it. Our state undertakes to fully comply with the provisions of this international document, implement its norms that confirm feasibility of acceding to the above Protocols.

The provisions of sources of environmental laws of European Community in the study area are also relevant for our country to date resulting in the expedience of their consideration. In particular, it is stipulated in Association Agreement between the European Union and the European Atomic Energy Community and their member states, of the one part, and Ukraine, of the other part (ratified by the Law of Ukraine dated September 16, 2014) [15] that its signatory parties shall develop and strengthen cooperation on environmental protection and, thus, contribute to achievement of the long-term goals of sustainable development and green economy. Such cooperation is aimed at conservation, protection, improvement and restoration of environmental quality in various areas, including on atmospheric air quality and climate protection (Articles 360–361).

For example, Regulation (EC) № 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete ozone layer [6], in Article 16, stipulates the licensing system regarding controlled substances, which includes the permit to export controlled substances in order to improve monitoring and control of trade and creation of conditions for exchange of information between the Parties.

The detailed measurements of the smallest solid particles for better understanding of impact of these particles and development of appropriate strategies in rural areas are noted in Directive № 2008/50/EC of the European Parliament and of the Council of 21 May, 2008 on ambient air quality and cleaner air for Europe [6]. Such measures should comply with the means envisaged by the Cooperation Programme for Monitoring and Evaluation of Long-Range Transfer of Pollutants in Europe founded by the Convention on Transboundary Air Pollution.

Therefore, by signing Ukraine-European Union Association Agreement, our state must take into account EU laws, including those concerning regulation of environmental relations. Particularly, pursuant to Annex XXX of Chapter 6 "Natural Environment" of the said Agreement, Ukraine undertakes to gradually bring its legislation, including on the quality of air, to legislation of the European Union in the prescribed time. The normative legal documents stipulated by this Agreement shall regulate relations for protection of atmospheric air, ozone layer and shall not allow worsening of their properties that contributes to protection of climate in general.

3. CONCLUSIONS

So, it is obvious today that modern European integration processes taking place in Ukraine require for implementation and recognition of international laws for regulation of relations in various spheres of public life, including environmental ones with respect to ensuring environmental safety, in particular, due to the threat of climate change. The modern development of ecologico-legal relations is

carried out in consideration of globalization. Therefore, epicenter of regulation of these relations increasingly transfers from local and regional to the global level and influence of international environmental laws on the national legal systems increases [4, p. 58].

Thus, improvement of national legislation must be carried out taking into account the European and international legal approaches that meet statutory environmental policy of Ukraine and stipulates the need for approximation of legislation of our country to legislation of the European Union. It will also enhance the abilities of our state to cope with and prevent natural disasters caused by climate change owing to the establishment of effective cooperation with European Community countries and the other member states within international cooperation.

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Шараєвська Тетяна. Зміна клімату як загроза екологічній безпеці: міжнародно-правове регулювання. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 145–151.

Стаття присвячена дослідженню міжнародно-правового регулювання відносин у сфері забезпечення екологічної безпеки у зв'язку зі зміною клімату. Визначено, що зазначена проблема є спільною для усього людства, яка потребує ефективного й поступального реагування та обумовлює необхідність поповнювати національне законодавство міжнародними і європейськими еколого-правовими моделями щодо регулювання екологічних правовідносин. Проаналізовано, що сучасний розвиток законодавства України в сфері забезпечення екологічної безпеки повинен здійснюватися у напрямку врахування глобалізаційних процесів. Зроблено висновок про те, що важливого значення набуває поглиблення співробітництва країн світу щодо подолання негативного впливу зміни клімату на людство і довкілля в цілому.

Ключові слова: клімат, екологічна безпека, міжнародно-правове регулювання, правова охорона атмосферного повітря, правова охорона озонового шару, міжнародне екологічне право, екологічне законодавство Європейського Союзу.

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LEGAL REGULATION OF ENVIRONMENTAL IMPACT ASSESSMENT IN UKRAINE: CURRENT STATE

NAZAR SHPARYK

Abstract. The article analyzes the main provisions of the new Law of Ukraine “On Environmental Impact Assessment”. The terminology, procedure and mechanisms for environmental impact assessment are described. The possible problems that the parties will face in practice undergoing an environmental impact assessment procedure are reflected. The advantages and disadvantages of the new Law are highlighted and possible problems in the implementation of the norms of the Law are analyzed.

Keywords: Environmental Impact Assessment, European Union Directive, the Ukraine–European Union Association Agreement, proposed activities, environmental review, public consultations.

1. INTRODUCTION

On December 18, 2017 the Law of Ukraine “On Environmental Impact Assessment”, which introduced a European model of environmental assessment in Ukraine, came into force. It replaced the outdated post-Soviet institution of state environmental review, which was regulated by legislation, adopted back in 1995.

If the state environmental review could be carried out at the stage of implementation of decisions that have the potential to affect the environment negatively, then the environmental impact assessment is conducted at the planning stage of activities with the purpose of prevention of damage to the environment and *before* making a decision on carrying on economic activities. This is the essential and main difference between these two procedures.

The new law is aimed at establishing the legal and organizational framework for conducting Environmental Impact Assessment (hereinafter referred to as EIA) in accordance with the provisions of Directive 2011/92/EU of the European Parliament and of the Council of December 13, 2011 on the assessment of the effects of certain public and private projects on the environment, which establishes the rules for conducting an environmental impact assessment procedure, and concerns the assessment of the environmental impacts of public and private projects that are likely to have significant effects on the environment.

Also, the adoption of legislation on Strategic Environmental Assessment is an important aspect of the introduction of basic approaches to the legal regulation of environmental requirements in the sphere of state planning and economic activities in Ukraine and the fulfillment of the obligations

stipulated in the Ukraine–European Union Association Agreement. As of March 20, 2018, the corresponding bill No. 6106 of February 21, 2017 was adopted, but at the time of publication of the article it was not signed by the President of Ukraine. The document is based on Directive 2001/42/EU of the European Parliament and of the Council of June 27, 2001 on the assessment of the effects of certain plans and programmes on the environment. The SEA procedure is applied to a wide range of state plans and programmes, for example, in the field of land use, transport, energy, waste, agriculture, etc. Its implementation will create more opportunities for comprehensive monitoring, determining possible significant environmental impact and reasonable alternatives to the proposed plan or programme.

Analysis of the latest scientific research and materials shows that the scientific and practical discussions on the introduction of an environmental impact assessment following the model of the EU Directive have become particularly relevant after the adoption of the Law of Ukraine “On the Regulation of Urban Development Activities” of February 17, 2011 No. 3038-VI, according to which it was simplified the procedure for obtaining permits for construction and excluded construction projects for objects that pose an increased environmental hazard from the list of objects of state environmental review, and, as a result, project impact assessment system on the environment changed significantly.

In fact, as a result of these changes, the institution of environmental review was practically abolished (leveled) in Ukraine, but the environmental assessment procedure, which remained in the State Building Standards, differs significantly from the European standard of EIA.

Some comparison aspects of the environmental review in Ukraine and the environmental impact assessment following the model of the European Union have been the subject of scientific and analytical research and are covered, in particular, in the works of such scientists and analysts as A. O. Andrusevych [1], Ye. Yendroshka, D. Skrylnikov, Ye. Alekseeva [3], T.O. Tretiak [4] and others.

2. ANALYSIS AND DISCUSSION

For a more detailed clarification of the quality and effectiveness of the introduced law, it is necessary to analyze its main approaches, terminology, procedure and mechanisms for conducting EIA. The legislator has kept the right track and took Directive 2011/92/EU of the European Parliament and of the Council of December 13, 2011 only as a basis, and adapted the remaining procedures to his vision and realities. For example, Directive [2] defines the following basic concepts: “projects and programmes”, “Environmental Impact Assessment”, “environmental status report”, “the community”. On the other hand, in the Law of Ukraine on Environmental Impact Assessment, the following definitions of concepts are presented at the legislative level: “impact on the environment”, “public”, “proposed activity”, “competent local authority” and “competent central authority”.

The community and the public in these two documents are clarified in almost identical style as one or more natural or legal persons and their associations, organisations or groups. It is important that in the definition there is no link to the locality, therefore a citizen or a public organization, irrespective of the place of residence or place of its main activity, has the right to submit any comments or suggestions it considers relevant to the proposed activity without the need to substantiate them. Also, a person does not need to be a legal entity to make comments, citizens can self-organize into groups and do not undergo additional legal registration for taking part in solving ecologically significant issues related to the discussion of EIA.

This definition meets the requirements of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) and provides additional mechanisms and guarantees for public participation in decision-making, which is one of the most important innovations of the adopted law.

The proposed economic activity is the basis for the implementation of EIA, if the relevant type of this activity and objects that may have a significant impact on the environment are specified in the list in Art. 3 of the Law of Ukraine “On Environmental Impact Assessment”.

The proposed activity is understood as a proposed economic activity, which includes construction, reconstruction, technical upgrading, expansion, conversion, elimination (dismantling) of objects, other

intervention into the environment. Proposed activity shall not include reconstruction, technical upgrading, capital repairs, expansion, conversion of objects, other intervention into the environment which are not likely to cause a significant impact on the environment *pursuant to the criteria* approved by the Cabinet of Ministers of Ukraine in the Resolution No. 1010 of December 13, 2017 “On Approval of Criteria for determining proposed activity that is not subject to environmental impact assessment and criteria for determining extensions and changes in activities and objects that are not subject to environmental impact assessment”.

Such a proposed activity shall be made subject to the environmental impact assessment *before the decision* on carrying out the proposed activity *is made*. This significant innovation is coherent and appropriate from the point of view of taking into account the interests of the public and the environment, but it can create for the developer many additional risks and expenses that need to be taken into consideration, since without a positive conclusion on the EIA, it is forbidden to start the proposed activity, and authorized bodies can refuse issuing permits for these grounds.

For example, if a construction company plans to build a residential area (a complex of blocks of flats) within a settlement (where the connection to centralised water supply and/or sanitation systems is not envisioned), then such proposed activity is subject to the EIA procedure in accordance with Para. 10, Part 3, Art. 3 of the Law of Ukraine “On Environmental Impact Assessment”.

Let us assume that the developer wins the right to purchase or rent a land plot of communal property on a competitive basis in the form of an auction in accordance with the rules of the Land Code of Ukraine. He/She calculates his/her own profit, construction costs, studies the infrastructure, the needs of investors, the object attractiveness, concludes contracts for the development of the construction project, seeks partners, contractors and so on. But *before making a decision* to conduct this proposed activity, the developer must obtain a positive conclusion on the results of the EIA. In other words, he/she has already spent a certain part of the funds and time for the implementation of the business project, but until the positive conclusion is obtained from experts, state authorities and the public, the construction of a multi-apartment residential building remains questionable, because there is no guarantee that the entrepreneur will receive a positive opinion on the EIA.

On the other side, this process is difficult for entrepreneurs who build something new. Other enterprises can plan their business development in advance. For instance, the operating pig farming enterprise plans to increase its production capacity next year, so it wants to build additional premises to keep more pigs. In this case, consideration of the impact on the environment before the construction starts seems quite rational and necessary. Moreover, such ambitions of the pig farming enterprise can seriously affect the living conditions in a particular locality of people living nearby. Therefore, the human right to respect for his/her personal and family life, his/her home, as provided in Art. 8 of the Convention for the Protection of Human Rights and Fundamental Freedoms, and the consideration of environmental impact clearly prevail over the interests of business in the above situation.

The developer should independently determine when for its proposed activity the period “*before decision-making* whether to execute such activity” begins with the purpose to incur the least expenses and consider all alternative construction options, production technologies, etc. or get preliminary positive conclusions about the impact on the environment.

The essential point to remember is that the commencement of the proposed activity referred to in the list of the Law of Ukraine “On Environmental Impact Assessment” prior to the environmental impact assessment thereof and prior to granting the decision on carrying out the proposed activity thereto is prohibited. Moreover, conducting proposed activity that is subject to the EIA without such an assessment may become a reason for termination of the enterprise or its individual production facilities (sections) and equipment.

It can be stated that prior to the adoption of the Law of Ukraine “On Environmental Impact Assessment”, it was much easier for business entities in Ukraine to start proposed activity first, and only then to bring it into line with the requirements of the state, the interests of public and the environment in accordance with European standards. However, activity related to environmental impacts should take into account any effects on safety of livelihoods of people and their health, flora,

fauna, biodiversity, soil, air, water, climate, landscape, natural areas and objects, historical monuments and other material assets or for the totality of these factors, as well as the effects on cultural heritage or socio-economic conditions resulting from alterations to those factors.

The scope of application of the EIA covers the explicit list of the types of the proposed activity and objects likely to cause a significant impact on the environment and subject to the environmental impact assessment, which are provided directly in the law. This list is divided into two categories.

The first category of the types of the proposed activity and objects likely to cause a significant impact on the environment and subject to the environmental impact assessment shall include the following (in the scientific article the list is given in a generalized form):

- crude-oil refineries and natural gas processing plants, installations for the gasification and liquefaction of coal or bituminous shale;
- thermal power stations (TPP, CHP) and other installations for production of electricity, nuclear power stations and other nuclear reactors;
- installations designed for the production or enrichment of nuclear fuel, installations designed for the processing of irradiated nuclear fuel and high-level radioactive waste, installations designed for the final disposal of radioactive waste, storage or processing of irradiated nuclear fuel or radioactive waste in a different site than the production site;
- chemical production including production of basic chemical substances, biochemical, biotechnical, pharmaceutical production using chemical or biological processes, production of plant health products, regulators of plants growth, mineral fertilizers, paint, varnishes and other chemicals;
- construction of airports and airfields with a basic runway length of 2 100 m or more; highways; national and local motorways for common use of four or more lanes, or realignment and/or widening of an existing road of two lanes or less so as to provide four or more lanes, where such new road or realigned and/or widened section of road would be 10 km or more in a continuous length;
- operations in the sphere of hazardous, non-hazardous and other waste management;
- operations related to groundwater, dams, water reservoirs and other objects designed for the maintenance and permanent storage of water;
- extraction of petroleum and natural gas on the continental shelf, pipelines for the transport of gas, oil or chemicals;
- quarries and open-cast mining, the processing or enrichment thereof onsite where the surface of the site exceeds 25 hectares, or peat extraction, where the surface of the site exceeds 150 hectares;
- waste-water treatment plants with a capacity exceeding 150 000 population equivalent;
- installations for the intensive rearing of poultry (with more than 60 000 places), including broilers (with more than 85 000 places), pigs (3 000 places for pigs over 30 kg or 900 places for sows);
- all non-selective or gradual logging of main use and non-selective sanitary logging on the territory exceeding 1 hectare; all non-selective sanitary logging in the territory and objects of the nature-reserve fund.

The list of the first category determines the complexity of activities and large dimensions of the impact on the environment, natural resources or on human life and health. For these objects, the conclusions are issued by the central executive authority that ensures the formation and implementation of the state policy in the sphere of environmental protection, i.e. the Ministry of Ecology and Natural Resources of Ukraine (hereinafter - the Ministry of Environment).

In addition to the list of the first category of activity, a notification on the proposed activity should be sent to the Ministry of Environment, if the proposed activity:

- 1) is likely to cause a significant transboundary impact;
- 2) is likely to cause impact on the environment of two and more regions (the Autonomous Republic of the Crimea) or the customer of which is the regional, Kyiv or Sevastopol city state administrations;
- 3) concerns the exclusion zone or the absolute (obligatory) resettlement zone of the territory affected by radionuclide contamination as a result of Chornobyl catastrophe, and/or the decision on adopting (approving) of which is taken by the Cabinet of Ministers of Ukraine;
- 4) will be financed with foreign loans under state guarantees.

The developer shall possess the right to independently submit the notification on the proposed activity subject to the environmental impact assessment directly to the Ministry of Environment with a view to obtain its environmental impact assessment conclusion, which gives the enterprise additional guarantees and a reputation for the conduction of the proposed activity.

In all other cases, the enterprise informs about the proposed activity the competent local authority at the place of carrying out of such activity, i.e. regional, Kyiv and Sevastopol city state administrations (relevant unit on ecology and natural resources), state executive authority of the Autonomous Republic of the Crimea on ecology and natural resources.

In particular, the competent local authority is responsible for the EIA procedure for the second category of proposed activity and objects, which include, inter alia:

- deep drilling;
- activity related to agriculture, forestry and water management, for instance: re-cultivation and melioration of lands; afforestation (except for the reforestation); conversion of farming lands into another type of land use and conversion of particularly valuable lands into another type of land use; installations for the rearing of: poultry (40 000 places and more); pigs (1 000 places and more, for sows – 500 places and more); cattle and livestock (1 000 places and more); rabbits and other fur animals (2 000 heads and more); installations for the industrial recovery, disposal of animal carcasses and/or stockbreeding waste;
- activity related to extractive industry;
- activity related to energy industry: storage and processing of hydrocarbon raw materials; hydro power plants on rivers regardless of their capacity; hydro accumulating power plants (HAPP); wind farms, wind power plants with two or more turbines or constructions higher than 50 meters;
- production and processing of metals;
- activity related to chemical or food industry;
- infrastructure projects: development of industrial parks; construction of residential areas (complexes of blocks of flats) and shopping or amusement centres outside of settlements covering the area of more than 1,5 hectares, or within settlements where the connection to centralised water supply and/or sanitation systems is not envisioned; construction of cinema complexes with more than 6 screens; construction (equipment) of car parks covering the area of no less than 1 ha and with the capacity of more than 100 vehicles; construction of airports and airfields with a basic runway length of up to 2 100 metres; construction of railway stations, railways and facilities; construction of tramways, suspended lines and funiculars or similar lines of a particular type, used for passenger transport; construction of underground and ground metro lines as unified complexes, including depot maintenance complexes of buildings;
- tourism and leisure: ski runs, ski lifts, cable cars and associated facility complexes covering the area of 5 hectares and more; yacht clubs, yacht and boat parking; holiday villages and hotel complexes outside of settlements depending on the number of rooms, area and location; holiday villages and hotel complexes in the territory and objects of the nature-reserve fund or in the protection zones thereof; declaring natural territories to be resorts; permanent campsites and caravan sites; golf clubs; thematic entertainment parks.

The list of types of proposed activity and objects, which may have a significant impact on the environment and are subject to environmental impact assessment, is explicit and defined in Part 2 and 3 of the Article 3 of the Law of Ukraine “On Environmental Impact Assessment”. It is also a great advantage that this list is approved in the law, but not in any other normative legal act, considering that this corresponds to the principle of legal certainty and the possibility to foresee legal consequences for the subjects on which this law applies.

However, a proposed activity (defined in the Art. 3 of the Law of Ukraine “On Environmental Impact Assessment”), having as its sole purpose the national defence, the response to civil emergencies, the response to the consequences of the anti-terrorist operation on the anti-terrorist operation territory during the anti-terrorist operation period shall not be made subject to the EIC procedure, namely activity related to:

1) the construction of military and defense objects, which will be used exclusively to ensure the defense of the state and to which the legislation on state secrets applies;

2) restoration of some building parts with the aim of eliminating the consequences of emergency situations and restoring the functioning of objects designed to provide life-sustaining activity of the population without changing their geometric dimensions;

3) restoration of some building parts with the aim of eliminating the consequences of antiterrorist operation and restoring the functioning of objects designed to provide life-sustaining activity of the population without changing their geometric dimensions on the anti-terrorist operation territory during the anti-terrorist operation period in accordance with the list approved by the Decree of the Cabinet of Ministers of Ukraine of December 2, 2015 No. 1275.

In general, the EIA procedure involves undergoing of several stages, i.e.:

1) planning of economic activity subject to environmental impact assessment;

2) taking a decision by a developer to commence the EIA procedure in accordance with the law;

3) the preparation and submission to the competent authorities of a *notification* on the proposed activity subject to EIA;

4) the preparation by a developer of an *environmental impact assessment report*;

5) the carrying out of *public consultations*;

6) *the examination by the competent authority of the information* presented in the environmental impact assessment report, any supplementary information provided by the developer, as well as information received from the members of the public through the public consultations, through the transboundary impact assessment, other information;

7) providing the reasoned environmental impact assessment *conclusion* by the competent authority, which takes into account the results of the examination;

8) *the taking into account of the environmental impact assessment conclusion in the decision* on carrying out the proposed activity;

9) *actual carrying out of the proposed activity* (for example, commencement of construction, reconstruction, dismantling of objects, etc.).

The environmental impact assessment shall be carried out in compliance with the requirements of the environmental legislation, taking into account the environmental situation in the location of the proposed activity, environmental risks and forecasts, prospects for the socio-economic development of the region, capacity and types of cumulative impact (direct and indirect) on the environment, including taking into account the impact of existing objects, proposed activity and objects for which the decision on carrying out the proposed activity has been obtained or for which such a decision is under consideration.

Unquestionably, one of the key stages of the new EIA procedure is the consideration of public opinion and position.

Transparency of EIA is ensured via the timely, adequate and effective informing of the public. All EIA documents (notifications, notices, reports etc.) are made public by posting thereof on the official Internet website of the competent authority. In addition, a Single Environmental Impact Assessment Registry has been launched for the proper implementation of the Law of Ukraine "On Environmental Impact Assessment". This Registry is an automated information system for the collection, processing, review, accumulation, systematization, storage and provision of access to information and documents of the EIA. In this Register, virtually all documents related to the undergoing of the EIA procedure are retained. One of the biggest advantages of this platform is that the Register will limit the contact of the official with the business entity, that is especially important in the context of combating corruption manifestations and improving the investment climate in Ukraine. Decree of the Cabinet of Ministers of Ukraine of December 13, 2017 № 1026 approved the procedure for maintaining a Single Environmental Impact Assessment Registry.

The notification on the proposed activity subject to the EIA, the notice on the commencement of public consultations on the environmental impact assessment report shall be made public by the developer no later than 3 working days of the submission thereof to the competent authority *by*

publishing in the printed mass media (at least two) identified by the developer, the territory of dissemination of which covers the administrative-territorial units likely to be affected by the proposed activity, as well as placed on the *notice boards* of the local self-governance authorities or *in other public places* in the location of the proposed activity or *shall be made public by any other means* that guarantees the informing of the inhabitants of the relevant administrative-territorial unit in the location of the planned object or the relevant community likely to be affected by the proposed activity and other stakeholders.

In order to notify the residents of the respective territory about the proposed activity, the developer independently chooses a public place in the local area. This can be, for example, public transport stops, cultural centres, even supermarkets or other places of public gathering (especially if the locality is small). The main goal is to ensure maximum awareness of the public for successful public consultations on the proposed activity, which will guarantee a reduction of the risks of further appeal against EIA conclusions.

Also, there may be practical problems with the choice of local printed mass media, because if a proposed activity is going to be carried out in a small village, it is not always possible to find two publications that have the resources to publish all the information. However, the developer independently chooses the media. In addition, since the law provides for the publication a large amount of information on the proposed activity, this can be expensive, and sometimes the mass media need to issue a special edition with information about the proposed activity of the enterprise. Nowadays the proposals not to detail all aspects of the proposed activity in the media, but only to inform about the place of familiarization with the EIA report and the timing of the consultations, are discussed.

A detailed mechanism for carrying out public hearings is regulated by the Decree of the Cabinet of Ministers of December 13, 2017 No. 989 "On Approval of the Procedure for Carrying out Public Hearings in EIA Process". In particular, the authorized body is responsible for carrying out public hearings in the process of public consultations on the proposed activity by:

- disclosure of the notice on the commencement of public consultations on the EIA report, and, if necessary, notice of carrying out public rehearing;
- carrying out of public consultations;
- consideration, full accept, partial accept or reasonable rejection of comments and suggestions from the public received during the public hearings;
- preparation and disclosure of the report on public consultations, which should be added to the Single Environmental Impact Assessment Registry.

To simplify the work, the authorized body is given the right to involve *public hearings organizer* into carrying out public consultations. This person is determined once a year on a competitive basis and works under the contract, taking into account the requirements of the Law of Ukraine "On Public Procurement" (official public portal Prozorro). Public hearings organizer may be a legal entity or an individual entrepreneur with at least two years-experience in the field of environmental protection and the human and technical resources necessary to ensure the conduct of public hearings in the relevant region or regions. Their functions are mainly focused on material, technical, organizational and administrative carrying out of public hearings (location, audio or video recording, registration of participants, etc.).

The presence of both public hearings organizer and developer is obligatory at public hearings. Otherwise, hearings are considered to have failed. Meanwhile, in the event that representatives of the public fail to attend public hearings, a relevant act is drawn up, and the hearings are deemed to be held.

In general, public consultations in the process of the EIA is carried out with a view to identify, collect and take into account comments and suggestions from the public to the proposed activity. Public consultations on the proposed activity shall commence on the date of the official disclosure of the notice on the commencement of such consultations and *shall not be shorter than 25 working days and longer than 35 working days*. The developer shall bear the costs related to the public consultations.

After the completion of public consultations, when reviewing EIA report and preparing EIA conclusion, the authorized body shall consider, accept or reasonably reject all comments and suggestions received during public hearings and during the entire public consultations period. That is, the authorities take responsibility for the acceptance or rejection of all ideas, without exception, that were expressed at public hearings, regardless of their reasonability or proficiency. For example, if an individual person expresses an unwillingness of certain enterprise's construction or development near his/her village, as far as he/she considers it inappropriate for any reason, then the authorized bodies have to give substantiated response to the individual person's remark.

The competent authority shall grant the EIA conclusion by which, on the basis of the environmental impact assessment of the proposed activity, in particular the size and scale of the effects thereof (area and population likely to be affected), type (where present – transboundary), intensity and complexity, probability, expected start, duration, frequency and irreversibility of effects (including the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects), the measures envisaged to preclude, prevent, avoid, reduce, offset effects on the environment, *it shall ascertain the admissibility or justify the inadmissibility of the proposed activity and determine the environmental conditions for carrying out thereof.*

The EIA conclusion and the environmental conditions for carrying out of the proposed activity are binding for implementation. This document is taken into account in taking the decision on carrying out the proposed activity and may form the grounds for refusal of the decision on carrying out the proposed activity.

In the EIA conclusion the competent authority shall:

- 1) determine the type, main features and location of the proposed activity;
- 2) ascertain the admissibility or justify the inadmissibility of the proposed activity;
- 3) establish conditions for the use of the territory and natural resources during the preparatory and construction works and in carrying out the proposed activity;
- 4) establish conditions for environmental protection and ensuring environmental safety during the preparatory and construction works and in carrying out the proposed activity;
- 5) establish conditions for the prevention of emergencies and mitigation of consequences thereof;
- 6) establish conditions for the reduction of the transboundary impact of the proposed activity, which underwent the transboundary environmental impact assessment;
- 7) where the environmental impact assessment shows the need for:
 - compensatory measures – shall impose an obligation to implement those measures;
 - prevention, avoiding, reduction (mitigation), offset, control, as well as monitoring of the impact of the proposed activity on the environment – shall impose an obligation to undertake relevant action;
 - carrying out of additional EIA at the other stage of the project – shall determine the time frames and substantiate requirements for such an assessment;
 - carrying out of the post-project monitoring – shall determine the time frames and requirements thereto.

Where from the considered viable alternatives the environmental impact assessment shows that the environmentally justified alternative is different from the one proposed by the developer, with the written consent of the developer the EIA conclusion shall indicate the agreed alternative of carrying out the proposed activity. The EIA conclusion has to be granted to the developer within 25 working days of the completion of the public consultations.

After receiving the EIA conclusion, the developer applies to a public authority or a local self-governance authority seeking *the decision on carrying out the proposed activity*, which forms the basis for the commencement thereof, establishes (approves) parameters and conditions for carrying out the proposed activity and is taken in the form of a permit or other act of a public authority or a local self-governance authority pursuant to the procedure established by the legislation for the relevant decisions. For example, it is referred to a permit to perform construction works, to conduct operations

in the field of waste management, to start carrying out hazardous work, to special water use, to use of forest resources, to use of subsoil etc.

Where after granting the EIA conclusion the legislation does not require the taking of the decision on carrying out the proposed activity for it to commence, the EIA conclusion ascertaining the admissibility of the proposed activity shall be assumed to be the decision on carrying out the proposed activity.

It should be emphasized that the infringement of the EIA procedure, groundless and unjustified non-consideration or improper taking into account of the results of public participation, other violations of the legislation in the sphere of EIA shall form the grounds for cancellation of the EIA conclusion and the decision on carrying out the proposed activity through a judicial procedure.

The activity of business entities, regardless of ownership, in violation of the legislation on EIA may be: temporarily banned (suspended) or completely terminated. Such decision can be made exclusively by the court on the motion (claim) of the State Ecological Inspection of Ukraine, its territorial authorities or on the motion (claim) of other persons whose rights and interests have been violated.

3. CONCLUSIONS

The Law of Ukraine “On Environmental Impact Assessment“ is a procedural legal act defining the EIA mechanism starting from the notification on the proposed activity and ending with the decision on carrying out the proposed activity. The document was adopted in pursuance of the Ukraine–European Union Association Agreement.

The peculiarity of the EU Directives, introduction of which became mandatory for Ukraine in a framework of Association Agreement implementation, is that States must adapt their legislation to achieve the goals defined by the Directives, but they determine themselves the methods for achieving such goals.

Thus, the Directive 2011/92/EU of the European Parliament and of the Council of December 13, 2011 on the assessment of the effects of certain public and private projects on the environment was taken as a basis in Ukraine. EIA procedure was regulated, taking into account the Ukrainian realities, needs, experiences and problems manifested earlier in the course of massive and long-term environmental review, which over time discredited itself, in particular, because of the need to introduce systematic changes in the environmental legislation of Ukraine.

Important aspects and advantages of the new Law are:

- 1) confirmation of compliance with Ukraine's obligations under the Association Agreement with the European Union;
- 2) approval at the legislative level of the list of types of proposed activity and objects likely to cause a significant impact on the environment and subject to the EIA,
- 3) division of such types of proposed activity into two categories, which are defined depending on the complexity of the activity and the scale of the impact on the environment, natural resources or on human life and health;
- 4) introduction of obligatory public consultations in the EIA procedure;
- 5) creation of the Single Environmental Impact Assessment Registry;
- 6) carrying out the EIA procedure *before* the decision on carrying out the proposed activity is made;
- 7) preliminary indication of the methods of preventing possible negative consequences for the developer (business entity), as well as searching for alternatives of carrying out the proposed activity;
- 8) providing an in-depth framework for making well-considered decision by the authorized body thanks to the EIA report and information received during the consultations;
- 9) the responsibility of the authorized body for the issuance and reasonability of the EIA conclusion;
- 10) effective liability of the developer (business entity) for non-compliance with the EIA procedure or carrying out activity without the EIA.

At the same time, the new law is not devoid of certain shortcomings faced by the subjects of the relevant legal relations. First of all, business representatives did not fully understand the imperativeness of the norms of the Law and do not realize the importance of the EIA procedure for carrying out economic activities, therefore the procedure itself is delayed in time, and competent authorities, especially the Ministry of Environment, are currently overloaded. Subsequently, this situation will improve and the EIA will become a common thing for all parties.

The public is not familiar with the requirements of the law, therefore it does not actively use its ability to participate in public consultations in the EIA procedure. For example, if the local community missed the stage of public consultation through its passivity, the EIA conclusion was positive and the developer (business entity) began its proposed activity in compliance with environmental conditions, then the community actually loses the opportunity to adjust its activity or it will be much more difficult. However, it is also an additional guarantee for the developer (business entity) in the fight against unfair competition or unreasonable objections to the proposed activity.

Certain stages of the EIA procedure in practice may seem ineffective or too massive (for example, the need for a detailed description of the proposed activity in the printed mass media). Particularly, there may be problems in practice with the rule that “the proposed activity is subject to EIA *before making a decision to carry out the proposed activity*”. Not always the construction project or other proposed activity can cover everything that will affect the environment. If the developer (business entity) in its activity started the EIA procedure too quickly, then the EIA conclusion may determine that it is necessary to carry out the additional EIA at another project stage, and as a result the competent authorities can make such a request to the enterprise. This perspective is expensive and inconvenient for all parties, therefore it is worthwhile to analyze how often such problems arise and to consider the possibility of amending the legislation and liberalizing the procedure when, for example, the construction project and the EIA are being developed in parallel.

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Шпарик Назар. Правове регулювання оцінки впливу на довкілля в Україні: сучасний вимір. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 152–162.

У статті проаналізовано основні положення нового Закону України “Про оцінку впливу на довкілля”. Описано термінологію, процедуру та механізми проведення оцінки впливу на довкілля. Відображено можливі проблеми, із якими зіткнуться сторони на практиці проходження процедури оцінки впливу на довкілля. Виділено переваги та недоліки нового Закону та проаналізовано можливі проблеми під час реалізації норм закону.

Ключові слова: оцінка впливу на довкілля, Директива Європейського Союзу, Угода про асоціацію між Україною та Європейським Союзом, планована діяльність, екологічна експертиза, громадське обговорення.

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INTERNATIONAL LEGAL PRECONDITIONS FOR DEVELOPMENT OF STUDENT FORESTRIES AS A FORM OF EDUCATION FOR SUSTAINABLE DEVELOPMENT OF FOREST RESOURCES

ANZHELA SLEPCHENKO

Abstract. The conscious need for sustainable development of forest resources and the reflection of this idea in international law give increased attention to forestry education and training. Student forestry is one of the legal forms of extracurricular education in the environmental and naturalistic direction in Ukraine. Its primary task is a provision of knowledge, skills and competences in the field of forestry and enhancing environmental culture among children and young people. The availability of sound international legal preconditions for strengthening all forms of forestry education, analyzed by the author, should motivate legal scholars to focus their attention on the legal problems of development of school forestry in Ukraine.

Keywords: student forestry, sustainable development of forest resources, international legal preconditions, extracurricular environmental education.

1. INTRODUCTION

One of the most effective forms of education for children and youth in the field of forestry in Ukraine is a student forestry, which arose in the 60s of the XX century on the basis of the Yunnat circles, forestry groups ("links"), "green" and "blue" patrols. Such forestries received further broad development as one of the mass forms of extracurricular environmental education. In 2016 there were 563 Ukrainian student forestries with 19 thousand children in it [17]. Student forestry as one of the forms of environmental education and upbringing of children and young people, is called upon to play an important role in ensuring sustainable forest development in Ukraine, which is a modern reference point for international, regional and national forestry policies.

At the same time, the legal aspects of the activity of student forestries are not sufficiently investigated by the Ukrainian scholars, including those ones who are specialized on doctrine of environmental law. In general, legal regime of forest use was analysed by numerous such as Andreytsev V. I., Balyuk G. I., Bezv O. V, Hetman A. P., Kovalchuk T. G., Kostytsky V. V., Krasnova M. V., Poznyak E. V., Shemshuchenko Yu. S. and other scholars. Though mostly the issues regarding school forestries have remained beyond the attention of researchers.

Consequently, legal scholars shall address legal aspects of school forestries as well as other forms of extracurricular education in the environmental and naturalistic direction more specifically. All the

mentioned forms include a significant number of children in all regions of Ukraine and develop appropriate skills among secondary and senior school students. Nevertheless, the Ukrainian national legislation regulating student forestry activities is not perfect and is in a state of reform.

Considering all the aforementioned objective of this article is an analysis of international legal preconditions for the development of student forestry in Ukraine in order to determine the vectors for further development of legal regulation in this area of relations.

2. ANALYSIS AND DISCUSSION

Sustainable development of forest resources is one of the elements of sustainable development recognized by the international community [7, p.12]. The United Nations General Assembly Resolution "Transforming our world: the 2030 Agenda for Sustainable Development" adopted by the General Assembly on 25 September 2015 [19] specifically elaborate on importance of forest protection. In particular, the United Nations General Assembly reaffirms and recognizes that social and economic development depends on the sustainable management of our planet's natural resources. It is determined to conserve and use forests and other natural resources rationally (para.33). Consequently, protecting, restoring and promoting sustainable use of forests, its sustainable management is included into the list of goals under the mentioned Resolution.

One of the means to achieve this goal should be education and providing information as noted in most of the main international legal documents in the field of forest management and sustainable forest development.

In Forest Principles adopted on the United Nations Conference on Environment and Development in Rio de Janeiro on June, 3–14, 1992 [6] it is envisaged that forests are essential for the economic development and maintenance of all forms of life. The States, must ensure the implementation of these principles in accordance with constitutions and / or national legislation. One of these principles is the provision of timely, reliable and accurate information on forests and forest ecosystems is essential for public understanding and informed decision-making and should be ensured (para. 2(c)). In addition, the importance and the need to strengthen international, regional and national capacities in the areas of education, training and science (para. 12 (b)) are emphasized, and full functionality of the educational institutions (para. 12, c).

It is stated in Non-legally binding instrument on all types of forests approved by the United Nations General Assembly resolution dated December, 17, 2007 that to achieve the purpose of the instrument, and taking into account national policies, priorities, conditions and available resources, Member States should support education, training and extension programmes involving local and indigenous communities, forest workers and forest owners, in order to develop resource management approaches that will reduce the pressure on forests, particularly fragile ecosystems (para . 6 (v)) [10]. In particular, Chapter 6 "Improving the Quality of Data and Knowledge" is devoted to the issues of informing, raising the level of knowledge, including legal awareness of local communities, forest workers and forest management.

The emphasis on the matter of education is also made in United Nations strategic plan for forests, 2017–2030 and four-year practice of the United Nations Forum of Forests approved by the ECOSOC Resolution dated April 20, 2017 [22]. In particular, measures to implement the UN Global Objective on Forests include forest-related education, training and education; a common understanding of the concept of sustainable forest management; legal, political and institutional framework of this concept; carrying out scientific research in this field.

The issues of broad awareness and education on sustainable forest development are also given considerable attention at the level of regional cooperation. For example, member countries of the Montreal Process have developed specific criteria and indicators for sustainable forest development that contribute to the creation of a framework for forest policy at the national level and to ensure international cooperation in the field of sustainable forest management [9]. In particular, such criteria include "annual investments and expenditures on forest research and education" (6.2.b), "the

importance of forests for people" (6.5.b), "ensuring the involvement of society in activities and conducting educational programs to improve" (7.2.a), "the development and application of science and technology for sustainable forest management" (7.4b), and others. A separate area of the Montreal process is the annual training course for officials from developing countries on criteria and indicators for sustainable forest management, which is organized annually in Japan [18]. Yanji Declaration that was presented on the 12th session of the United Nations Forum of Forests (May 1–5, 2017) addressed importance of cooperation in order to deepen understanding and compliance of policies and practices in the field of sustainable forest use [23].

The issues of training and information in the field of sustainable forest management are relevant for European countries and are an integral part of the European forest policy. New EU Forest Strategy dated September 20, 2013 [1] underlines necessity to eliminate gaps in knowledge regarding forest management (p. 2) and enrich knowledge about forests (para. 3.3.5).

Traditionally attention is paid to education and information issues at the Ministerial Conferences on the Protection of Forest in Europe ("Forest Europe"), which have been regularly held since 1990. "Forest Europe" is an European informal association working at the political level to formulate strategic and political agreements as a result of cooperation of ministries' efforts in the field of sustainable forest management, conservation of biodiversity and sources of clean water, implementation of sustainable forest management in Europe and the world as a whole. The political decisions and resolutions made under Forest Europe are voluntary and by endorsing these commitments.

Oslo Ministerial Decision: European Forest 2020 adopted on the 6th Oslo Ministerial Conference includes European 2020 Targets: contemporary issues to be adopted till 2020 in order to support general concepts and objectives regarding forests [8]. In addressing emerging issues forest knowledge is improved through research, education, innovation, information sharing and communication (II). For fulfillment of their obligations participants of "Forest Europe" undertook to promote education, research and the use of scientific knowledge and facilitate sharing of experiences across countries, sectors and stakeholders on all aspects of sustainable forest management and other forest related issues (para. 21 (c)), raise awareness and understanding of contributions by Forest Europe to sustainable forest management in relevant fora including at international level and among the public, including through implementation of the communications strategy (para. 21 (d)).

In our view, the process of developing a legally binding agreement on forests in Europe, launched at the 6th Ministerial Conference in Oslo, where the "Mandate for Negotiating Legally" was of particular importance for understanding the role of education and training in the field of sustainable forest development.

Once again highlighting the value of appropriate and accessible information on forests and scientific knowledge for decision-making at all levels (paragraph 10), the parties decided to develop a comprehensive legally binding framework agreement on forests aimed at achieving specific objectives, one of which is "knowledge on forests on the basis of research, education, information exchange and communication activities" (j) [3]. The subsequently drafted legally binding agreement on forests in Europe [5] contains provisions on the obligations of the parties to implement legislative and administrative measures aimed at "... creating an enabling environment for education and training in sustainable forest management" and "... raising awareness on sustainable forest management" (Article 10).

In 2015, the 7th Ministerial Conference on the Protection of Forests of Europe (Madrid, January 20–21, 2015) was held, at which a number of documents were adopted. One of them is Resolution I "The Forest Sector in the Green Economy Sector" [4], which provides for the adaptation of the education and training system to the new conditions, technologies and skills needed both in the forestry sector and beyond (II, p.12).

Among scientists and specialists in the field of forestry in Ukraine there is a complete understanding of the strategic role of forestry education for the sustainable and efficient development of forests and the need to consider these issues when developing a forest policy of the state. In

particular, it is noted that the national forest policy should take into account the need to accelerate the development of science and education in the forest sector [20].

The analysis of the main legal acts of a programmatic nature, which establishes the foundations of the state forest policy in Ukraine over the past two decades, testifies to the fact that the problems of forestry education, science and education are given attention, and these issues are mostly included in relevant plans.

Thus, in the Concept of Formation and Development of Forestry, approved by the resolution of Cabinet of Ministers of Ukraine from April 18, 2006, No. 208-p [12] it is stated that the material base of forest science and education in Ukraine does not correspond to the world level, which necessitates the stimulation of ecological-educational activities. Accordingly, it is planned to provide for the development of forest science and education, enlightenment and propaganda, ecological culture, and, in particular, the development and support of school forestry (Y.) in the state budget.

In the State Target Program "Forests of Ukraine" for 2010–2015, approved by the decision of the Cabinet of Ministers of Ukraine dated September 16, 2009 No. 977 [14], the list of main directions and tasks for the balanced development of forestry includes improvement of scientific and personnel support, development of forestry science and education, environmental education of the population, environmental education activities, informing the public about the state of the forestry. It should be noted separately that one of the measures planned to implement this program is the increase in the number of school forestry in Ukraine to 602.

The next document, which should determine the priorities and content of the national forest policy in Ukraine for the future, should be the "Forests of Ukraine – 2030" program. The duty to develop this program is laid down by the Decree of the President of Ukraine "On Additional Measures for the Development of Forestry, Rational Use of Nature and Preservation of the Objects of the Nature Reserve Fund" dated November 21, 2017, to the Cabinet of Ministers of Ukraine [11]. The Cabinet of Ministers should also develop and submit for consideration by the Verkhovna Rada of Ukraine a bill on improving the system of financing and development of forestry by creating a state fund for forestry development, as well as actualizing scientific and educational activities in the field of environmental protection. We consider it expedient to include in the program "Forests of Ukraine – 2030" measures in the field of further development of forestry education and enlightenment, in particular, in students forests, which should become an important means of ensuring the sustainable development of forestry.

The normative and legal basis for extracurricular education in Ukraine is gradually developing. Thus, according to the Law of Ukraine "On Extracurricular Education" of June 22, 2000 [16], one of the areas of extracurricular education is the ecological-naturalistic direction within which students can acquire knowledge and experience in the field of forestry (Article 15). However, this Law, as well as other Laws of Ukraine, including the Forest Code of Ukraine of January 21, 1994 (as amended by the Law of Ukraine dated February 8, 2006), does not contain the direct consolidation of the notion "student forestry". On the contrary, the Forestry Code of the Republic of Belarus of July 14, 2000 contains a separate article 15 "School Forests", which establishes the legal basis for the activity of school forestry at the level of the law as a normative legal act adopted by the legislative body.

The order of the Ministry of Education and Science of Ukraine approved the Regulations on Student Forestry No. 66 dated January 30, 2015 [13], as well as a number of legal acts regulating other forms of students activity – competitions, take-offs, festivals and other actions.

It should be noted that the new Law of Ukraine "On Education" dated September 5, 2017 [15] established that in the system of extracurricular education partial qualifications may be obtained at the appropriate level of the National Qualifications Framework (Article 10), and competencies gained through extracurricular education programs, can be taken into account and recognized at the appropriate level of education (Article 14). Corresponding additions were made to Article 4 of the Law of Ukraine "On Extracurricular Education", according to which partial qualifications of the null – third level of the National Qualifications Framework can be acquired in the system of out-of-school education. These innovations considerably enhance the role of extracurricular education in the national education system as a whole and in the system of forestry education.

However, it should be noted that the effective activity of the student forestries in Ukraine is complicated by a variety of socio-economic problems. There is a discrepancy between the needs of society, the desire to carry out such work and the opportunities for their implementation, including the lack of the necessary regulatory framework [21]. In accordance with the letter of the Ministry of Education and Science of Ukraine "On the Status and Prospectives of Development of the Environmental and Research-Experimental Directions of Extracurricular Education" dated April 16, 2013 No. 1\9-285 [2], the most common problems in the activity of out-of-school institutions of an environmental profile, many of which are related to student forestries, are the lack of documents on right to land use, problems of material, technical and financial security, general trend of reducing the network of governmental institution engaged in extracurricular activities, lack of correlation between the education authorities and forestry enterprises.

3. CONCLUSIONS

Increased attention to education and education in the field of sustainable development of forest resources, which takes place at the international and regional levels, should also affect environmental and legal doctrine, designed to improve the legal framework of this sphere of relations. Taking into account the problems with funding, logistical support, unresolved issues of land use in the system of out-of-school education and, in some cases, the complete elimination of such institutions, we consider the actual task of legal, including field of environmental law, the development of legal safeguards for the conservation, effective functioning, financing establishments of extracurricular education of ecological-naturalistic profile. So far, almost no attention has been given to environmental law science, for example, the problems of the nature of the use of relevant educational institutions that use land and forest resources for educational, research and other activities.

In our opinion, the environmental and legal status of school forestries, as subjects of forest and land use, to which science has not received due attention so far is an issue of particular interest. It is also necessary to expand the scope of the tasks and objectives of school forestries by including in their list forest law education and legislation as a legal basis for forest management, as well as legal issues of sustainable forest resources development.

The urgency of solution of the mentioned problems is especially actual due to the complex legal nature of these legal relations, since the out-of-school education of the environmental and naturalistic direction is a legal form for the implementation of both educational and environmental rights of children and young people. It is a mean of forming a high level of environmental culture, consciousness and thinking, an important guarantee of sustainable development of Ukraine.

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Слепченко Анжела. Міжнародно-правові передумови розвитку учнівських лісництв як форми освіти в інтересах сталого розвитку лісових ресурсів. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 163–169.

Автором здійснено аналіз міжнародно-правових передумов розвитку лісівничої освіти в Україні. Усвідомлення необхідності сталого розвитку лісових ресурсів і відображення цієї ідеї у міжнародному праві викликають посилену увагу до лісівничої освіти та просвітництва і повинні спрямувати вітчизняну юридичну науку на дослідження правових проблем розвитку шкільних лісництв в Україні. Учнівські лісництва – це одна з правових форм позашкільної освіти еколого-натуралістичного напрямку в Україні, спрямована на надання знань, вмінь і навичок у галузі лісівництва та підвищення екологічної культури дітей та молоді.

Ключові слова: учнівські лісництва, сталий розвиток лісових ресурсів, міжнародно-правові передумови, позашкільна екологічна освіта.

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CARPATHIAN ECOLOGICAL NETWORK: INTERNATIONAL LEGAL BASIS AND UKRAINIAN EXPERIENCE

MARIYA VASHCHYSHYN

Abstract. The article analyzes the importance of the Framework Convention on the Protection and Sustainable Development of the Carpathians of 2003 (Carpathian Convention). Carpathian Convention created favourable conditions for the conservation of landscapes and biological diversity of mountain ecosystems of the Carpathian region. Carpathian Convention is a framework instrument, in other words, it determines the general principles concerning the solution of environmental, social and economic problems of the region. The Protocol on Conservation and Sustainable Use of Biological and Landscape Diversity to the Framework Convention on the Protection and Sustainable Development of the Carpathians has been analyzed.

The advantages of international cooperation of the countries of the Carpathian region in achieving a common comprehensive result – conservation of biodiversity and improvement of social and economic level of the region and its inhabitants on the grounds of sustainable development have been defined. Carpathian Convention coordinates the economic needs with the social and environmental protection, promotes the conservation of the unique and authentic cultural and natural heritage of the Carpathian ecoregion for present and future generations.

Framework Convention on the Protection and Sustainable Development of the Carpathians provides the creation of the Carpathian ecological network as a type of ecological networks at the sub-regional level, which is a part of the Pan-European ecological network. Ukraine consistently follows the bilateral and multilateral agreements, concluded with neighboring countries, concerning the protection of the environment and is involved in the creation of cross-border elements of the national ecological network.

The peculiarities of the Carpathian network of protected areas have been considered. The Carpathian network of protected areas is a special form of international cooperation in environmental protection, which consists in determining by the Conference of the Parties to the Carpathian Convention the list of protected areas and in approving of regulations about them. The Conference of the Parties to the Carpathian Convention encourages the administrations of these protected areas to participate actively in international cooperation and exchange of experience in the field of the conservation of the unique biological and landscape diversity, and to reduce the negative impact on the environment of the region of the Ukrainian Carpathians.

The author proves that the Carpathian Convention, except the traditional approaches concerning the protection of separate areas and species, recognizes the necessity of a broader approach to the conservation of nature. Parties to the Carpathian Convention are obliged to improve the conservation and sustainable management on the areas that are outside of protected areas, with the help of the ecosystem approach. Such an ecosystem approach to the sustainable management is applied to the spatial planning, integrated water management, agriculture, forestry, transport, infrastructure, industry, energy, tourism and cultural heritage conservation. Herewith, the interests of environmental protection shall be taken into account during the development and implementation of the economic and social policies.

Keywords: Carpathian Convention, Carpathian ecological network, protected area, the Carpathian network of protected areas, sustainable development, national and ecological network.

1. INTRODUCTION

Carpathian ecological region is included by WWF in the list of the most outstanding natural regions of the world (WWF Global 200). The unique of mountain ecosystems of the Carpathians with rich forest flora, conservation of certain areas of virgin forests of the Transcarpathian region and endemic and vestigial species of animals and plants which are included in the Red and Green Book of Ukraine and are recognized to be specially protected areas of natural reserve fund of Ukraine incites to use modern forms of conservation of landscape and biological diversity, which allow sustainable use of natural resource opportunities of the region and increase of the social and economic status of its inhabitants. The combination of environmental protection activity with the development of tourism, agriculture and forestry, the improvement of transport infrastructure is the basis of the Framework Convention on the Protection and Sustainable Development of the Carpathians of 2003.

2. ANALYSIS AND DISCUSSION

The preamble to the Framework Convention on the Protection and Sustainable Development of the Carpathians (Carpathian Convention) reflects awareness of the fact that efforts to protect, maintain and sustainably manage the natural resources of the Carpathians cannot be achieved by one country alone and require regional cooperation, and of the added value of transboundary cooperation in achieving ecological coherence [11].

V.G. Butkevych, Ukrainian scholar of international environmental law issues, proves that the environmental problems require international cooperation, joint coordinated actions of countries and international organizations at all levels – global, regional, sub-regional and bilateral. Multilevel character of international legal protection of environment is connected with the variety of objects of legal protection, including multinational objects (some water resources, migratory animals) and mutual objects (international rivers and lakes, border natural systems) [2, p. 506].

Sub-regional level of international legal protection of environment is represented by a number of international instruments, which have launched a coordinated environmental protection activity of several states, located in a separate natural region. The most significant impact on the development of cross-border environmental protection cooperation in Europe has the Alpine, Danube, Black Sea and Carpathian conventions.

Cross-border cooperation of Ukraine in the Carpathian region was established by a number of international agreements, concluded between individual Carpathian countries and aimed at solving of regional environmental problems: Agreement on the conservation of forest biodiversity of the Eastern Carpathians between the Ministries of Environment of Poland, Slovak Republic and Ukraine; Agreement between the Governments of Poland, Slovak Republic and Ukraine on International Biosphere Reserve “Eastern Carpathians” (1992–2000); Agreement between the authorities of regional self-government of border regions of Ukraine, Poland, Hungary and Slovak Republic on the establishment of the Association “Carpathian Euro-region” and others [3, p. 11].

However, these multilateral intergovernmental agreements that define the terms of cooperation of the states of the Carpathian region in a separate field of environmental protection were not enough. It was necessary to build cooperation on the principles of sustainable development, that provided the coordination of economic and social strategies with a balanced environmental protection activity. Economic activity in such a big mountain ecological system could not be conducted in isolation, and

directly or indirectly influenced on the environment in neighboring countries. Therefore, there was an understanding of how important it was to combine the efforts of all parties to create a joint instrument on the protection and sustainable development of mountain regions [3, p. 10].

In 2001 Ukraine initiated the development and adoption of the Framework Convention on the Protection and Sustainable Development of the Carpathians (Carpathian Convention), signed by the Ministers of Environment of the Carpathian countries in Kyiv on 22nd May, 2003 during the 5th Pan-European Ministerial Conference on "Environment for Europe", held between Romania, Hungary, Czech Republic, Serbia, Montenegro, Slovak Republic and Ukraine, and on 25th November, 2003 it was signed by Poland either. This was a logical conclusion of the process that began in Kiev in 2001 during the First International Meeting of experts engaged in preparing the Carpathian Convention on "Cooperation dealing with the protection and ecologically balanced management of the Carpathians" [4, p. 3].

The experts draw attention that the process of development of the Framework Convention on the Protection and Sustainable Development of the Carpathians (Carpathian Convention) has been quick and well-coordinated [3, p. 8]. The existing international experience was favourable to it – the Convention on the protection and sustainable development of the Alps (Alpine Convention), signed in 1991 in the Austrian city of Salzburg by the countries of the Alpine region: Austria, France, Germany, Switzerland, Italy, Liechtenstein, Slovenia, Monaco and the European Union (entered into force in 1995) was taken as an example.

Since the initiation of the idea of the development of the Carpathian Convention and during the process of its implementation the Governments of Italy, Liechtenstein, Austria, as well as UNEP and the secretariat of the Alpine Convention had provided the significant financial, organizational, technical and information support. Thus, the Framework Convention on the Protection and Sustainable Development of the Carpathians was second sub-regional agreement on the protection of the mountain region in the world after the Alpine Convention.

Carpathian Convention is based on the principles, defined by the following international legal instruments: the Convention on Biodiversity, Pan-European Strategy on the Conservation of Biological and Landscape Diversity, the Program of sustainable development of mountain regions, the decisions of Krakow Conference held in 1998 "Green mountain range of Central and Eastern Europe", the Program of ecological network development in Central and Eastern Europe, Bern and Landscape Convention of the Council of Europe, Convention of UN European Economic Commission, the decisions of Danube-Carpathian summits and Carpathian Convention is coordinated with the initiatives consistent with WWF, IUCN, GEF/WB and other international environmental organizations.

The purpose of the Framework Convention on the Protection and Sustainable Development of the Carpathians as a multilateral agreement is to coordinate strategy with a focus of joint efforts for the conservation, restoration and rational use of natural resources of the Carpathian region. The Carpathian Convention, based on the concept of sustainable development, tries to create a reasonable balance between the needs of economic progress and social and environmental protection and to preserve national traditions, the protection of the unique and authentic cultural and natural heritage of the Carpathian eco-region for present and future generations.

Carpathian Convention is a framework instrument that outlines common policy and common priorities with regard to the solution of environmental, social and economic problems of the region. Each priority direction requires the development of a special protocol – separate instrument with regard to a separate scope of the Convention and determines the mechanism of solving of the problems and the future perspectives of international cooperation of the Parties in this field. The common means of achieving the objectives of the Convention at the internal level are the development and implementation of national strategies, plans or programs with regard to sustainable development of the Carpathian region in relevant sector or cross-sector plans, programs and policies.

In particular, the integral part of the Carpathian Convention is the development, adoption and implementation of the Convention Strategy and Local Action Plan – with measures aimed at application of the Law of Ukraine "On ratification of the Framework Convention on the Protection and

Sustainable Development of the Carpathians” at the local (regional) level. Ukraine, as the main initiator of the Convention, remains one of the most active country among the Carpathian countries in the preparation of its implementation. Ukraine had fulfilled all the necessary formal procedures so that this instrument came into force –signed the Convention (May 22, 2003), adopted the Law of Ukraine “On ratification of the Framework Convention on the Protection and Sustainable Development of the Carpathians” (№ 1672 of April 07, 2004), developed and adopted the Strategy of implementation of the Carpathian Convention. Moreover, the Ministry of Environmental Protection of Ukraine issued the Decree “On establishment of the Coordination Council on the implementation of the Carpathian Convention” (№ 535 of December 31, 2004), developed and approved the plan of operation of the Convention, including at the local (regional) levels, developed and submitted to the Secretariat of the Carpathian Convention, and by means of it – to six other countries – the draft of protocol on biological and landscape diversity to the Convention. As a result, on 19th June, 2008, the Parties to the Convention signed the Protocol on conservation and sustainable use of biological and landscape diversity to the Framework Convention on the Protection and Sustainable Development of the Carpathians [9]. The Protocol was ratified by the Law of Ukraine of September 04, 2009.

According to paragraph 5 of article 4 of the Carpathian Convention, which defines the legal grounds of conservation and sustainable use of biological and landscape diversity and provides that the Parties shall cooperate in developing an ecological network in the Carpathians, as a constituent part of the Pan-European Ecological Network, in establishing and supporting a Carpathian Network of protected areas, as well as enhance conservation and sustainable management in the areas outside of protected areas [11]. Taking into account the content of this article, there are two types of networks in the Carpathians – ecological and protected one, but the Convention doesn’t make a strict distinction between them.

The Protocol on Conservation and Sustainable Use of Biological and Landscape Diversity to the Framework Convention on the Protection and Sustainable Development of the Carpathians defines the following important terms which disclose the content of the studied categories – “Ecological network” means a system of areas which are ecologically and physically linked, consisting of core areas, corridors and buffer zones, and “Carpathian Network of protected areas” means a thematic network of cooperation among protected areas in the Carpathians. “Protected area” means a geographically defined area which is designated and managed to achieve specific conservation objectives [9].

Article 14 of the Protocol on Conservation and Sustainable Use of Biological and Landscape Diversity to the Framework Convention on the Protection and Sustainable Development of the Carpathians provides that the Parties shall support and facilitate cooperation under the Carpathian Network of protected areas established by the Conference of the Parties and encourage the protected area administrations to take part in the cooperation within this Network. The Conference of the Parties shall recognize the areas part of the Carpathian Network of protected Areas and adopt the terms of reference of the Network [9].

Taking into account the above mentioned we can propose the following definition. Carpathian network of protected areas is determined by the Conference of the Parties to the Carpathian Convention as a thematic network of geographically defined areas that are designed and organized to achieve specific conservation objectives with a formation of their catalog, as well as an approval of regulations about them and to encourage their administrations to participate in cross-border cooperation in order to achieve the environmental integrity of the Carpathian eco-region.

Carpathian network of protected areas was created in December of 2006 in order to implement the Framework Convention on the Protection and Sustainable Development of the Carpathians and made favourable conditions for international cooperation between these and neighboring areas, located outside of protected areas, compact group of mountains.

The idea of creation of the Pan-European Ecological Network which was made in 1995 at the 3rd Ministerial Conference “Environment for Europe” as the means of implementation of the Pan-European Biological and Landscape Diversity Strategy was supported by many international law

sources and the national legislation of most European countries. The Pan-European Ecological Network will contribute to achieving the main goals of the Strategy by ensuring that a full range of ecosystems, habitats, species and their genetic diversity, and landscapes of European importance are conserved; habitats are large enough to place species in a favourable conservation status; there are sufficient opportunities for the dispersal and migration of species; damaged elements of the key systems are restored and the systems are buffered from potential threats. [10]

The law of Ukraine "On State Program of national ecological network of Ukraine for 2000–2015" dated September 21, 2000 and the Law of Ukraine "On ecological network of Ukraine" dated June 24, 2004 are the legislative basis for the formation and conservation of the national ecological network of Ukraine [8]. Article 4 of the Law of Ukraine "On ecological network of Ukraine" provides a number of basic principles of formation, conservation and use of ecological network, among which the important place is taken by the principle of combination of national ecological network with the ecological networks of neighboring countries, that are the members of the Pan-European Ecological Network, all-round development of international cooperation in this field. This principle reflects the organizational peculiarities of the national ecological network concerning the mutual coordination of efforts of the countries of the European continent, aimed at achieving the objectives, provided by the Pan-European Biological and Landscape Diversity Strategy with regard to the formation of the Pan-European Ecological Network.

Program grounds of national ecological network correspond with the generally recognized principles of international law dealing with the implementation of national environmental policy, because Ukraine consistently follows bilateral and multilateral agreements with neighboring countries dealing with the protection of the environment and participates in the formation of cross-border elements of the national ecological network. In general, the 12 key areas of international and national levels, which represent mountain landscapes of the Eastern Carpathians, are the part of Trans-Carpathian ecological network of Ukraine [1, p. 47].

Thus, the formation of an ecological network in the Ukrainian Carpathians is based on the conception of building of a national ecological network in which the existing and projected natural reserve objects plays the leading role in the extraction of key areas. The protected areas are complementary in the determination of the location of elements of ecological network, including key areas and the data about the location of natural ecosystems, undisturbed by business activity, rare biotopes, areas and localities of rare species of flora and fauna, when the migration routes of animals play a determinant role in planning of the spatial structure of ecological network in the European conceptions of formation of ecological networks [6, p. 197]. The European experience proves that the formation of ecological networks can overcome the fragmentation of habitats by creation of buffer zones in order to protect natural areas and their connection with each other by creation of passages and corridors that allow species to colonize new areas and to move freely in a search of food or partner [5, p. 61].

The comprehensive approach to the regulation of relations in the Carpathian region on the basis of sustainable development is demonstrated in Article 8 of the Carpathian Convention, which provides the policies of sustainable transport and infrastructure planning and development, which take into account the specificities of the mountain environment, by taking into consideration the protection of sensitive areas, in particular biodiversity-rich areas, migration routes or areas of international importance, the protection of biodiversity and landscapes, and of areas of particular importance for tourism [11]. These terms include areas that are defined at international level (the territories from the list of the World Heritage, lands of the Ramsar Convention, Biosphere Reserves, etc.), as well as natural corridors of migration of natural species and areas that contain the diversity of species and habitats [5, p. 101]. All these areas are essential for the spatial planning of ecological network at the national and transboundary levels and are the constituents of the key areas (natural regions) and connecting areas (natural corridors) of ecological network.

In Ukraine the legal regime of objects and areas of natural reserve fund, which are the basis for the formation of the key areas of the national ecological network, is determined by the special legislation,

including the Law of Ukraine "On Nature Reserve Fund of Ukraine". Instead, the legal regime of other structural elements of the national ecological network (connecting, buffer and renewable areas) is a gap of the national legislation. In practice, this gap is filled in by the initiative and with the support of environmental organizations and international environmental funds.

In particular, in 2008-2010 Ukrainian charitable organization "InterEkoTsentr" and Dutch environmental consulting center "Altenburg & Wymenga Ecological Consultants" together with the Ministry of Environmental Protection of Ukraine and subordinated structures completed the project "Implementation of cross-border environmental connection in Ukrainian Carpathians". Two cross-border corridors that connect two national parks and one regional landscape park of Ukraine with three national parks of Poland and one Ukrainian national park with the national park of Romania were created [7, p. 427]. However, it is necessary to develop organizational and legal mechanism of formation of all its structural and cross-border elements in order to achieve the integration of the national ecological network of Ukraine within the Carpathian and Pan-European ecological networks.

On 25th May, 2004 the Ministry of Environment of Ukraine and UNDP signed the Memorandum on mutual understanding about cooperation in the field of sustainable development, environmental protection and energy-saving. The project motion "Conservation of the unique biodiversity and reduction of the negative impact on the environment of the region of the Ukrainian Carpathians" was developed and approved in order to implement GEF Memorandum. Realization of the objectives of the project will provide an integrated approach – namely, a combination of traditional means of management and management of protected areas with innovative and more efficient mechanisms in order to conserve the biodiversity on the areas of operational purpose [3, p. 27].

The Carpathian Convention, except the traditional approaches concerning the protection of separate areas and species, recognizes the necessity of a broader approach to the conservation of nature. Parties to the Carpathian Convention are obliged to improve the conservation and sustainable management on the areas that are outside of protected areas, with the help of the ecosystem approach. Such an ecosystem approach to the sustainable management is applied to the spatial planning, integrated water management, agriculture, forestry, transport, infrastructure, industry, energy, tourism and cultural heritage conservation. Herewith, economic and social policies shall be developed and implemented taking into account the interests of environmental protection.

3. CONCLUSIONS

Framework Convention on the Protection and Sustainable Development of the Carpathians (Carpathian Convention) is a powerful instrument of international legal regulation of relations in the sphere of protection and conservation of Carpathian nature. It laid the foundation for international cooperation of the countries of Carpathian region in the formation of Carpathian ecological network. Its progressive role consists in the provision of the opportunities for the conservation of the biodiversity using the agreed environmental policies of countries – Parties to the Convention on the principles of sustainable development within the whole unique mountain ecosystems of the Carpathians.

Unlike other European countries, Ukraine does not apply settlement principle of formation of ecological network, which provides the protection of the natural habitats of species. This principle requires special conservation regime not only for existing objects of natural reserve fund (key areas), but for the connecting and buffer areas, that allow to protect larger space of natural areas and to provide them with a higher degree of protection against the negative impact and to create better conditions for natural reproduction of flora and fauna in the region.

Carpathian network of protected areas is determined by the Conference of the Parties to the Carpathian Convention as a thematic network of geographically defined areas that are designed and organized to achieve specific conservation objectives with a formation of their catalog, as well as an approval of regulations about them and to encourage their administrations to participate in cross-border cooperation in order to achieve the environmental integrity of the Carpathian eco-region.

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У статті проаналізовано значення Рамкової конвенції про охорону та сталий розвиток Карпат 2003 року (Карпатської конвенції). Карпатська конвенція створила сприятливі передумови для збереження ландшафтів та біологічного різноманіття гірських екосистем Карпатського регіону. Карпатська конвенція є рамковим документом, тобто визначає загальні засади та пріоритети щодо вирішення екологічних, соціальних та економічних проблем регіону. Проведено аналіз Протоколу про збереження і стале використання біологічного та ландшафтного різноманіття до Рамкової конвенції про охорону та сталий розвиток Карпат.

Визначено переваги міжнародної співпраці країн карпатського регіону в досягненні загального комплексного результату – збереження біорізноманіття і підвищення соціально-економічного рівня регіону та його мешканців на засадах сталого розвитку. Карпатська конвенція узгоджує економічні

потреби із захистом соціального та навколишнього середовища, сприяє збереженню унікальної та автентичної культурної та природної спадщини карпатського екорегіону для теперішніх та майбутніх поколінь.

Рамкова конвенція про охорону та сталий розвиток Карпат передбачає формування Карпатської екологічної мережі як різновиду екологічної мережі на субрегіональному рівні, що своєю чергою входить до складу Всеєвропейської екологічної мережі. Україна послідовно дотримується двосторонніх та багатосторонніх угод із сусідніми державами щодо охорони довкілля та бере участь у формуванні транскордонних елементів національної екомережі.

Розглянуто особливості Карпатської мережі природоохоронних територій. Карпатська мережа природоохоронних територій є особливою формою міжнародної співпраці у сфері охорони довкілля, яка полягає у визначенні Конференцією Сторін Карпатської конвенції переліку природоохоронних територій та схвалення положень про них. Конференція Сторін Карпатської конвенції заохочує адміністрації цих природоохоронних територій брати активну участь у міжнародній співпраці та обмінюватися досвідом у сфері збереження унікального біологічного та ландшафтного різноманіття, а також зменшувати негативний вплив на навколишнє природне середовище регіону Українських Карпат.

Ключові слова: Карпатська Конвенція, Карпатська екологічна мережа, природоохоронна територія, Карпатська мережа природоохоронних територій, сталий розвиток, національна екомережа.

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SOLID WASTE MANAGEMENT AND THE PRACTICE OPEN DUMPING IN BRAZIL: LESSONS LEARNT FROM THE STATE OF SANTA CATARINA

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Abstract. In the context of several complex global issues that challenge modern societies, the large-scale generation of solid waste and its inadequate disposal are rather intricate problems that threaten not only human livelihoods but also the life on the planet. More specifically, the practice of open dumping, which concerns to the illegal use of irregular sites for waste disposal, characterized by the absence of adequate environmental and health standards, is considered a global health and environmental emergency, demanding urgent action from Governments and individuals. Given that, this paper aims at providing a brief overview of the solid waste management scenario in Brazil, giving emphasis to the issue of open dumping and the challenges in tackling this problem. More specifically, it seeks to analyze the case of the State of Santa Catarina as a success story of deactivation of irregular dumpsites. The paper is therefore divided into three main sections. The first contextualizes the issue of solid waste and open dumping in Brazil. The second, explores the Brazilian framework for solid waste management, especially the National Policy for Solid Waste. Finally, the third discusses the successful case of Santa Catarina. All in all, it was possible to conclude that the Brazilian legislation on waste management is very progressive and address the issue with a systemic approach, which is one of the essential elements to achieve a sound waste management. Reforming the Brazilian infrastructure to better manage the waste produced, closing all open dumpsites and building proper landfills, are other crucial elements in transforming the country's system, being the case of Santa Catarina an empirical proof of the fundamentality of the adoption of a systemic approach.

Keywords: waste management, open dumping, Brazilian National Policy for Basic Sanitation, Santa Catarina.

1. INTRODUCTION

The 21st Century has been marked by several complex global issues that pose new challenges to modern societies and demand urgent action. Amongst these issues, we can highlight the widespread of unsustainable consumption patterns, the large-scale generation of solid waste and its inadequate disposal, which threaten not only human livelihoods, but also the planet's well-being.

In this context, a major current concern is the case of *open dumping*, which is lamentably still a problem that affects both the developing and the developed worlds, although being more typical in the former. Having this problem in mind, this paper aims to outline a brief overview of the solid waste

production and disposal scenario in Brazil, emphasizing the country's open dumpsites and its main policy on the matter.

Moreover, it seeks to critically analyze the case of the State of Santa Catarina and its success story of deactivation of irregular dumpsites, to identify what lessons could be learnt from it towards implementing cleaner and more sustainable solid waste disposal facilities in other Brazilian States.

The Issue of Solid Waste in Brazil: from High Generation to Inappropriate Disposal

Any species, including humans, extract resources from the environment and generate waste. However, when the extraction of resources or generation of waste is greater than the ecosystem's capacity to reproduce or recycle them, depletion and/or pollution of the environment will occur. This, in itself, is characteristic of an environmental crisis (Foladori, 2008).

In addition to the empirical evidence of the biophysical limits of the Earth, the resources of which are not infinite, there are several reports from reliable sources that document the extrapolation of these limits by the modern process of civilization, which could wipe out all the conditions necessary for maintaining human life.

According to Moran (2006), in the last fifty years, human's impact on the Earth, that is, on a global scale, has been of unprecedented severity. Evidence of this is provided by scientific studies that show the exponential growth of carbon dioxide, the exponential reduction of the ozone layer; the exponential concentration of nitrous oxide in the atmosphere; the accelerated loss of tropical forests; increases in the frequency of natural disasters; the extinction of many species, among others.

Alongside these problems, especially since the end of the twentieth century, a new issue has arisen. Due to the rise in world population, the indiscriminate increase in consumption and industrial innovation, we are now confronted with our inability to efficiently and sustainably manage the waste produced in increasing quantities and of increasingly dangerous qualities.

Waste management has been gaining prominence in international politics due to the great amount of environmental, social, political and economic problems that arise from poor and illegal waste management practices, such as biodiversity loss, the increase of social inequalities and the degradation of human health.

2. ANALYSIS AND DISCUSSION

The *United Nations* (UN) document entitled *The Future We Want*, one of the most important outcomes of the *UN Conference on Sustainable Development* (Rio +20), stressed in 2012 the relevance of implementing and developing policies for resource efficiency and environmentally sound waste management (United Nations 2012, 41). At this opportunity, the Nations committed “to further reduce, reuse and recycle waste (3Rs), and to increase energy recovery from waste”, calling for “the development and enforcement of comprehensive national and local waste management policies, strategies, laws and regulations” (United Nations 2012, 41).

In 2012 roughly 1.3 billion tonnes of municipal solid waste were produced all over the world, according to the World Bank's estimates (World Bank 2012, 8). The Organization predicts that this figure will increase up to 2.2 billion tonnes by 2025 (World Bank 2012, 8).

Statistical studies by the European Union show that the amount of solid household waste generated per person in European countries in the last decade has been relatively steady. According to Eurostat¹, the average waste generated among European countries in 2004 was 512 kilos per inhabitant, while in 2015, this figure dropped to 476 kilos. However, analyzing the data of each country separately, it is evident that the average of Western European countries is much higher (in many cases the double) than of other European countries (Central and Eastern) and of most of the developing countries.

¹ For further information, see: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&plugin=1&language=en&pcode=tsdpc240>

For example, while Denmark had an increase from 695 kilos per inhabitant of waste generation in 2004 to 789 kilograms in 2015, Poland, which generated 256 kilos per person in 2004, rose this number to 286 kilos in 2015. Switzerland also presented a growth in the generation of waste, from 660 kilos per inhabitant in 2004 to 725 kilos in 2015, but such numbers fall by half when related to Latvia, which generated 318 kilos per person in 2004 and 433 kilos in 2015.

In Brazil, research indicates that, in 2000, around 125,281 tonnes of solid household waste were generated every day, equating to the disposal of more than 45,727,565 tonnes of this type of waste per year. Also, more than 30% of the waste collected in this period did not have the correct destination. These surveys report that, in Brazilian towns and cities with up to 200,000 inhabitants, 450-700 grams of solid waste were collected per person per day, while in cities with more than 200,000 inhabitants, this amount was between 800 and 1,000 grams per person, showing increased generation of household waste in large urban areas (IBGE, 2001).

Surveys conducted by *Brazilian Institute of Geography and Statistics* (IBGE) and *Brazilian Association of Public Cleaning and Special Waste Companies* (ABRELPE) show that, by 2015, the amount of solid household waste generated in Brazil on an annual basis had increased to over 79,9 million of tonnes, with 390.91 kg of solid waste generated per inhabitant during the period (ABRELPE 2015). That is to say, in just 15 years, the generation of solid household waste in Brazil increased by nearly 34,2 million of tonnes per year, and the annual generation of solid waste per inhabitant rose from 255.5 kilos to 390.91 kilos, i.e., each Brazilian inhabitant produced 135.41 kilos more solid waste than they had 15 years before.

All these numbers are very concerning and illustrate why solid waste has been a recurrent topic in the international debates held over the past years. Additionally, the state of civilization in which we find ourselves has been unable to prepare risk management tools capable of responding effectively to this new facet of the environmental crisis and keeping pace with the production of these risks.

Testimony to this are the creation and proliferation of irregular sites, commonly known as *open dumpsites*, illegally utilized for waste disposal, whose most common characteristic is the absence of adequate environmental and health safeguards (IBGE 2010, 214). This term is used to characterize a "land disposal site where the indiscriminate deposit of solid waste takes place with either no, or at best very limited measures to control the operation and to protect the surrounding environment" (ISWA 2016, 19).

Open dumpsites have nothing to do with *sanitary landfills*, which are on the contrary "an acceptable waste management method, with controlled emissions and limited health environmental impacts" (ISWA 2015, 10). According to ISWA (2016), such irregular sites receive several types of waste, from many sources and with diverse compositions. The waste in open dumpsites is completely exposed, meaning there is no coverage and compaction, leading to the risk of open burning. The lack of engineering is often seen in these sites, with no leachate management and landfill gas collection.

The presence of scavengers or waste pickers collecting recyclables without any protection measures is also very common. Sometimes such communities live within dump sites and even scavenging for food leftovers. This, together with poor control on accepting incoming materials or record keeping, shows how badly managed are open dumpsites (ISWA 2016).

In 2016, the International Solid Waste Association (ISWA) published a report on dumpsites, called *A roadmap for closing waste dumpsites: the world's most polluted places*. This was a follow up report of three major reports published between 2014 and 2015 related to dumpsites and the conditions of waste management in the developing world, namely: the *Waste Atlas Report*, on the 50 world's biggest dumpsites, published by D-Waste in partnership with ISWA and other institutions; the *Global Waste Management Outlook* (GWMO), a comprehensive assessment of global waste management published by the UNEP and ISWA; and the *Wasted Health Report*, about health impacts posed by dumpsites, also published by ISWA.

In its last report, ISWA brought updated information on the impacts caused by open dumpsites and proposed several recommendations and steps to close the world's most polluting sites. Considering them as a global health and environmental emergency, this Association reported that in only seven

months between 2015 and 2016, more than 750 deaths related to poor waste management in dumpsites, with more several incidents, were recorded (ISWA 2016).

According to ISWA (2016), dumpsites currently receive around 40% of the world's waste, serving about 3-4 billion people. The projections for this scenario are not very optimistic since urbanization and population growth will continue. Without a model shift, dumpsites will account for 8-10% of the global anthropogenic GHG emissions by 2025.

Based on reliable information from an extensive research, the report *Waste Atlas: the world's 50 biggest dumpsites* indicated that most of dumpsites are in Africa, Latin America, the Caribbean and Northern Asian countries, in areas with the highest population density in the world, with more than two third of the world's population. They have been affecting more than 64 million people and their total waste volume is 0.6-0.8 km³, therefore, cannot be considered as simply local problems (D-Waste 2014, 12).

Eight of these 50 biggest dumpsites are in Latin America, one of them in Brazil, called *Estrutural*. This biggest Brazilian dumpsite located in the Brazilian capital occupies an area of 136ha, keeps from 21 to 30 million tonnes of mixed solid waste, and houses around 2,500 waste pickers, who live and work there. According to the report, environmental damages are visible in and around the site, as well as the social and health impacts, since many accidents and deaths have been reported within and related to this dumpsite (D-Waste 2014, 97).

According to the survey *Panorama 2015*, although the solid waste collection in Brazil had improved in the last years, only 58,7% of the collected solid waste generated in Brazilian cities was sent to landfills in 2015. This means that more than 30 million tonnes of collected solid waste was improperly destined to open dumpsites and to other illegal destinations in that given year. Added to this, more than 7 million tonnes of solid waste generated in Brazil in 2015 was not collected by the public sector and, therefore, did not have a proper destination (ABRELPE 2016).

This survey also points out that in 2015, 1,552 Brazilian cities were still using irregular sites as final destination for the solid waste collected by them. The Northeast Region registered the highest number of cities using open dumpsites, 834 cities. On the other hand, the South Region had the lowest number of cities using such sites, 119 cities (ABRELPE 2016).

The State with the most precarious scenario was Rondônia (North), which had 80,4% of its solid waste sent to open dumpsites. Although the State of São Paulo (Southeast) has sent only 7,9% of its solid waste to such sites, it had the highest volume of waste inadequately destined in the whole country, i.e. this Brazilian State sent almost 5,000 tonnes of solid waste per day to irregular dumpsites. In contrast, the State of Santa Catarina (South) presented the best scenario, with only 10,9% of its solid waste destined for open dumpsites, representing 516 tonnes of waste per day (ABRELPE 2016)

IBGE stresses that although the percentage of waste inadequately disposed of in irregular dumpsites had decreased over the years, these numbers put into evidence a concerning historical scenario of inadequate solid waste destination in the country (IBGE 2010, 60).

Regarding the problems associated with open dumping, the *United States Environmental Protection Agency* (EPA) lists: the proliferation of rodents, insects and other assimilated living species, specially of disease-carrying mosquitoes that find in scrap tires and ideal breeding ground; the easy accessibility to open dumpsites and, consequently, to the physical and chemical hazards posed by the accumulated waste; the property damage and the evacuation of neighborhoods caused by dumpsites that caught fire; the flooding occasioned by the accumulation of wastes in ravines, creeks, culverts and drainage basins; the soil erosion; and the decrease of property values and of the amount of investments in communities in which open dumping is verified (EPA 1998, 3)

The *Waste Atlas* report indicates that most common environmental issues for dumpsite are surface water, groundwater, and soil contamination from toxic elements; air pollution from open surface burning of materials, underground fires fuelled by landfill gas, and gas leakage; and biodiversity problems as fauna can consume the solid waste exposed in these sites or contaminated plants and animals contaminated from leakage and waste and affected by the gas emissions (D-Waste 2014, 13).

All these environmental problems, in the long run, may cause considerable impacts in geological/hydrogeological and climatic conditions (ISWA 2016).

But open dumpsites challenge not only the environment, but also public health and, ultimately, the society, mainly the most vulnerable communities. The most common human health (public and occupational) issues are diseases related to gastrointestinal, dermatological, respiratory, and genetic systems; and several other types of infectious diseases. The population living close by open dumpsites suffer from all these issues, but people who work in such sites are more vulnerable and exposed to both, public and occupational health problems (D-Waste 2014, 13).

The potential for the spread of infection is large due either to direct contact with the waste or with vectors such as rodents and insects (ISWA 2016). Adding to this list, we can also mention the inflated costs and the difficulty level of remediating the effects of open dumping, which cannot be entirely predicted (ABRELPE 2015).

Open dumpsites have not been permitted in developed countries for the last 30 years, being completely replaced by engineered sanitary landfills and complemented with other waste disposal technologies and methods. On the other hand, developing countries are discussing and trying to close or upgrade open dumpsites. This is an essential step to reduce environmental, public health and social impacts, tackling an important facet of the current socio-environmental crisis and helping to achieve many of the sustainable development goals (ISWA 2016).

All these reasons led ISWA to consider the closure of open dumpsites a “global health emergency”, calling upon international actors and local authorities to work together towards the identification and closure of such sites (ISWA 2015, 6).

Brazilian Waste Management System: Legal Framework

Given this context of an increasing waste production and of the previously mentioned problems that arise from poor solid waste management and, more specifically, from irregular waste disposal, we can notice that Brazil² stands out as a country that still has many challenges to overcome.

Fortunately, the situation has to some extent improved since 2008 when the *National Policy for Basic Sanitation*³ (NPBS) was published. In 2015, the percentage of solid waste improperly destined to irregular facilities decreased to 41.3%, as reported by ABRELPE (2015, 24). Behind this decrease, that might seem somewhat modest at first, lies a series of significant shifts in Brazil’s political and legal scenarios, amongst which we underline those carried out by the *National Policy for Solid Waste* (NPSW) that was responsible for putting the country on the track to abolish its open dumpsites and to implement more environmentally sound waste management systems.

This new policy has its very fundamentals on the Brazilian Constitution of 1988, the current constitution in force. The Charter represented back in 1988 a paradigm shift to a more democratic regime, becoming known as the “civic constitution” because of the full range of rights and guarantees that it upholds. It guaranteed the citizens’ right to a more active participation in public life, setting the pluralism, the sovereignty, the citizenship and the dignity of the human person as the foundations of the Brazilian Democratic State. It also declared the environment as constitutional fundamental human right, prescribing that “*All have the right to an ecologically balanced environment which is an asset of common use and essential to a healthy quality of life, and both the Government and the community shall have the duty to defend and preserve it of present and future generations*” (Article 225). That provision implies that all

² Brazil is a federative republic, formed by the indissoluble union of the States, the Municipalities, and the Federal District, which have the competence to enact and to establish their respective laws and policies, provided that they obey the constitutional rules and principles and also the federal legislation.

³ In Brazil’s legal system, *public national policies* are a set of objectives, principles, guidelines plans, and instruments that shall guide the relationship between the State and its Citizens, and vice-versa. They are usually established by Federal Laws, which means that the individuals who do not comply with its terms may be held liable judicially.

individuals have the right to benefit from a well-balanced environment and the duty to safeguard it for the next generations.

It is worth of notice that the Constitution sets a series of environmental law principles – such as the sustainable development, participation, cooperation, and precautionary principles – that shall be observed by the law-making bodies, government agencies and judges in cases in which the environment is concerned. These principles establish guidelines and set boundaries to the performance of those institutions and agents, which have important roles in environmental protection.

Given this background, the NPSW (Federal Law No 12,305) was released in 2010, in consonance with what the Constitution stipulates in terms of the environment, establishing a legal framework to solid waste management in Brazil's Law. According to Milaré (2011, 855), this Policy filled a historic gap in Brazilian legislation, bringing an innovative and encompassing approach for a relevant environmental issue.

The NPSW included amongst its goals achieving sustainable production and consumption; protecting public health and environmental quality; adopting, developing and improving cleaner technologies to minimize environmental impacts; encouraging recycling and the action of recyclable materials collectors⁴; and assessing the environmental impacts of products through the implementation of life-cycle strategies (Article 7, Federal Law No 12,305).

Moreover, it set the *non-generation* of solid waste as a major priority for the country and stipulated that the reduction, reuse, recycling, treatment and adequate final destination of waste⁵ should be observed and prioritized – in this given order – by public decision makers, government agents, private companies, and individuals, regarding a good solid waste management system (Article 7).

The NPSW likewise called attention to the shared responsibility of manufacturers, distributors, traders, consumers and waste management companies for the life cycle of products (Article 30), “from cradle to cradle”. Moreover, it demanded the implementation of important mechanisms such as reverse logistics systems (Article 33) and *National and State Solid Waste Plans*, which became a requirement for accessing public funds destined to solid waste management activities (Article 16).

It is important to highlight that the NPSW has brought many other interesting features to Brazil's legal system, putting the issue of waste and its management in the spotlight of governmental actions. For instance, between 2010 and 2014, the Federal Government destined 1.2 billion of Brazilian Reais to the implementation of the Policy's guidelines, goals, plans and instruments (BRAZIL, Ministério do Meio Ambiente 2014), which certainly contributed to start tackling the problem.

We would like to stress here that one of the most interesting features of the NPSW, regarding the focus of this paper, is its objective of deactivating all open dumpsites in Brazil. The Federal Law No 12,305 established in its article 54 a period of *four years* – that started to be counted since the enactment of the policy in 2010 – for Brazilian cities to implement proper solid waste disposal facilities with the consequent deactivation of all the existent irregular open dumpsites.

Unfortunately, this goal could not be met and roughly 1,552 Municipalities remain in an irregular situation (ABRELPE 2015). Given that, there are currently multiple bills proposing an amendment to the NPSW which would allow the extension of that deadline for State Governments, exempting them from the penalties established by law. Nonetheless, no agreement regarding those bills has been reached until 2018, and the subject is still very controversial as many believe that extending the deadline would cause the NPSW to be forgotten and deemed ineffective.

This failure in accomplishing the goal illustrates that open dumping remains a preoccupying issue in many of the Brazilian States. The need of closing the still existing open dumpsites is incontrovertible. However, as well stated by ISWA (2016, 31), this is not a simple or easy task. To do so, an adequate planning, institutional and administrative capacity, financial resources, social support and political

⁴ Recyclable material collectors (or waste pickers) are informal workers that earn their savings by collecting and recycling objects and materials. In Brazil, they form a social movement called *National Movement of Recyclable Material Collectors* (Movimento Nacional dos Catadores de Materiais Recicláveis, in Portuguese) that pleads for better work conditions, space in the political scenario, and a more fair and sustainable society.

⁵ Here the Law refers to that specific type of waste that cannot be recovered or treated anymore.

consensus are essential. This is fundamentally a political and social problem, a matter of administrative structures, legal frameworks and regulations, and not a simple technical or limited financial resources problem.

Therefore, a systemic perspective of the waste management may be adopted to properly understand the issue of dumpsites and to achieve the goal of closing them. According to ISWA (2016), the Integrated Sustainable Waste Management (ISWM) is seen as a great analytical framework for waste management systems.

This was one of the analytical frameworks used by the *Global Waste Management Outlook* (GWMO) published by UNEP and ISWA as a follow up to the Rio+20 summit since a sound waste management is one of the sustainable development goals internationally established. In this report, UNEP (2015, 29) stated that, for a system to be sustainable in the long term, three basic elements should be considered: the infrastructure of the waste management system (physical elements), the actors involved (stakeholders), and all the strategic aspects, such as political, institutional and environmental.

Integrated sustainable waste management brings all those three dimensions together. The first element, physical, is considered by ISWA as the “hardware” of the waste management system, providing the necessary infrastructure for solid waste management. This element is formed by waste collection, waste treatment and disposal, and the 3Rs approach (UNEP 2015, 30).

Most analytical frameworks address only the physical elements of the waste management system. However, a truly integrated and sustainable waste management system must go beyond, also addressing the governance aspects, which encompasses the two other elements: stakeholders and strategic aspects. These elements form the “software” of the waste management system and focus on the inclusivity of stakeholders, financial sustainability and sound institutions and proactive policies (UNEP 2015, 30).

Thus, the systemic approach involves both the “hardware” and the “software” of waste management and may allow a well-functioning system that works sustainably over the long term. Such approach brings the understanding that “each and every ‘hardware’ arrangement is functional only with specific ‘software’ tools and vice versa.” (ISWA 2016, 29).

This means that to successfully change or upgrade the physical infrastructure of a waste management system, such as closing open dumpsites, the governance components – the “software” – of the system needs to be reformulated and vice versa. In other words, “the adoption of this framework means that closing dumpsites is a serious systemic change that affects all the dimensions of the ISWM” (ISWA 2016, 29).

The Brazilian case is a good example of this since the enactment of a good legal framework has not been sufficient to achieve the ambitious goal of closing all dumpsites in the country. However, there are some successful cases, such as the case of Santa Catarina State, which deserves a closer analysis.

Santa Catarina State: a Successful Case

Before further analyzing the case of Santa Catarina, which has a distinguished story of deactivation of open dumpsites, we would like to make a brief remark regarding the role of the Courts in the implementation of the NPSW.

Because of this new legislation, many cases involving open dumpsites have reached the Brazilian Courts, which have been stating their opinion on the matter and recurrently declaring the Municipalities liability for damages caused to the environment and to public health by such facilities located within their territories when proved their omission in regularizing their situation.

A clear-cut example is the case *Brazilian Institute of Environment and Renewable Natural Resources v. Municipality of São Bento* (2015), in which the Municipality, located in Paraíba, Brazil, failed to abide by the Brazilian legislation for environmental protection and solid waste management through omission. The Court, therefore, stipulated a deadline for the termination of the irregular open dumpsite maintained by the Municipality and for the implementation of a sanitary landfill (*Brazilian Institute of Environment and Renewable Natural Resources v. Municipality of São Bento* 2015).

Another precedent is the case *Brazilian Institute of Environment and Renewable Natural Resources v. Municipality of Bezerros* (2013), in which the Municipality of Bezerros (Pernambuco, Brazil), that also maintained an open dumpsite and did not comply with the Federal laws on environmental protection, was condemned to: (1) end open dumping in its territory, (2) elaborate and present to the *Pernambuco State Agency for Environmental Protection* (SAEP) a project for the establishment of new sanitary landfill in the State, requesting the respective environmental licenses; (3) implement the project and conclude the construction of the facility within an year, making it fully operational; (4) present a project to recover the area degraded by the open dumpsite; and (5) a daily penalty of 1,000.00 Brazilian Reais for disregarding any aspects of the judicial order. The Municipality appealed of the decision and the *Regional Federal Court of the 5th Region*⁶ amended it only to adjust and to extend the deadlines given to the Municipality to implement the measures determined by the sentence (*Municipality of Bezerros v. Brazilian Institute of Environment and Renewable Natural Resources* 2014).

Cases like these depict how relevant the role of the Judiciary is in ensuring the correct applicability and implementation of the new legislation, in special regarding its aspect related to solid waste disposal. They also depict that the Courts and judges are showing technical knowledge of the issues related to the matter, manifested in coherent decisions endowed with a proper constitutional interpretation of the Brazilian legislation, which was also an important factor in the last years' improvement in the solid waste management scenario in the country.

Yet, these cases also reinforce the idea that notwithstanding all the positive changes carried out since the enactment of the NPSW, the transition to more sustainable and environmentally sound waste management systems in the States and Municipalities and the end of open dumping in the country remain a complex task to be achieved, that demand not only a Judiciary committed to the environmental protection, but also new approaches to addressing the problem, such as the Integrated Sustainable Waste Management framework.

Fortunately, some States give us some good examples, like Santa Catarina that significantly improved its solid waste management systems over the last two decades, having the best results in Brazil, since it deactivated roughly all its open dumpsites⁷.

The State of Santa Catarina, located in the South of Brazil, has approximately 6.2 million of inhabitants and a *municipal human development index* (MHDI)⁸ of 0.774, which can be considered high when compared to other Brazilian States' indexes, according to the most recent published edition of the *Brazilian Human Development Atlas* (2010).

Its history of successful deactivation of open dumpsites and establishment of regular landfills dates to the year 1999, when the *Environmental Military Police* elaborated a report about the solid waste scenario on the State (Venâncio 2015, 139), denouncing amongst other facts that 56% of the 278 Santa Catarina's Municipalities maintained open dumpsites and 2% had no waste collection systems (States Prosecutor's Office of Santa Catarina 2001). Overall all, the report described a preoccupying reality marked by poor solid waste management and unsustainable waste disposal practices (Venâncio 2015, 139), which were verified in all Municipalities of Santa Catarina and demanded an urgent call for action.

⁶ Brazil's Federal Justice has five Regional Federal Courts, whose Jurisdiction is determined by their geographical location.

⁷ It is important to highlight that the institutions and organizations disagree on the percentage of open dumpsites deactivation. For example, whereas the *State Public Prosecutor's Office of Santa Catarina*, the *Brazilian Association of Sanitary Engineering* and the *Santa Catarina State Foundation for the Environment* claim that the State deactivated all its open dumpsites, the *Brazilian Institute of Geography and Statistics* and the *Brazilian Association of Public Cleaning and Special Waste Companies*, as seen earlier in this paper, state otherwise (Diário Catarinense 2014). Nevertheless, it is well known that Santa Catarina made impressive achievements in closing its irregular dumpsites, constituting an example for the entire country.

⁸ The *municipal human development index* (MHDI) adapts the methodology used to calculate the *human development index* (HDI) to a State/city level. The MHDI is represented by a number that varies from 0 to 1. The closer that a given MHDI is to 1, the bigger is the human development level of its respective State or city.

Given that, the report was forwarded to the *State Public Prosecutor's Office of Santa Catarina* (MPSC, acronym in Portuguese)⁹ which have then issued the recommendation No 001/2001/CPC/CME to the *State's Secretariat of Environment* (SDS, acronym in Portuguese), stating its concern with Santa Catarina's scenario and suggesting that the Secretariat should: "support and encourage the Municipalities to develop public awareness campaigns against overproduction of waste, stimulating its reuse through recycling; and an institutional programme regarding the sustainable collection of waste" (State Public Prosecutor's Office of Santa Catarina 2001). This recommendation, alongside with the document elaborated by the *Environmental Military Police*, was an important initial impetus for mobilizing the State Organs towards regularizing the situation of the open dumpsites in the State.

Moreover, the MPSC also created in 2001 the programme entitled *Our Daily Waste* ("*Lixo nosso de cada dia*", in Portuguese), aiming at (1) encouraging the implementation of recycling plants, landfills in accordance with the technical rules, and other regular facilities designed for solid waste disposal; (2) and recovering areas damaged by irregular dumping (Rosa 2005, 123). We can, therefore, observe that the MPSC has since then assumed an active role in the task of identifying irregular dumpsites, promoting the installation of landfills, and encouraging a better waste management in Santa Catarina.

The *Our Daily Waste* programme, which is still active currently, consists in a set of measures to be adopted by the MPSC and the State's public Organs for environmental protection, under the coordination and in cooperation with the former. Those measures include not only the already mentioned goals of the programme but also environmental education initiatives and monitoring and control actions (Rosa 2005, 132).

Between 2001 and 2004 the MPSC actively worked towards implementing the programme, through investigating the illegal and irregular solid waste management activities; assisting the Municipalities in the process of accessing public funds; and notifying their legal representatives to optimize the environmental licensing process of landfills and to speed up the recovery of areas damaged by irregular dumpsites (Rosa 2005, 140).

Besides, the MPSC has also provided full support to the State Prosecutors from Municipalities with irregularities, aiding them to set *undertakings of adjustment of conduct* and to file *public class actions* (Rosa 2005, 141).

Due to this successful coordination between the MPSC and other public agencies and bodies of Santa Catarina, the first results of the programme were impressive, given that within only four years, in 2004, the percentage of Municipalities adequately sending their waste to regular and licensed solid waste disposal facilities increased to 95.22% (Rosa 2005, 144).

Additionally, within this scenario marked by a major shift in the environmental political agenda, the *State Policy for Solid Waste* (SPSW) (State Law No 13,557/2005) was released in 2005, establishing many relevant guidelines, principles, and instruments that were only included in the federal legislation years later. The SPSW then called upon all the Municipalities to elaborate *Integrated Solid Waste Management Plans* (ISWMP) as a condition to receiving tax incentives and accessing public funds (Article 20, State Law No 13,557/2005). As a remark, we should point out that these Plans started to be formally implemented only in 2009 and it is known that more than 11 million Brazilian Reais were invested in this process in the next two years of their enforcement (Gerência de Resíduos Sólidos 2011).

Moreover, the SPSW called upon the Government to promote the coordination and integration between the Municipalities, regarding the search for regional solutions and the establishment of *consortiums* aimed at facilitating regular waste treatment and disposal (Article 6, State Law No 13,557/2005). These consortiums were fundamental to the implementation of new landfills in the State.

The NPSW also played a key role in ending open dumping in Santa Catarina. By providing in 2010 a comprehensive legal framework for solid waste management in the country, it facilitated and stimulated the development of programmes and plans aimed at closing the last open dumpsites in the

⁹ The *State Public Prosecutor's Office of Santa Catarina* is a body of independent public prosecutors at a State level. They are responsible for ensuring that the law is applied by bringing criminal charges, supervising criminal lawsuits and protecting civil rights, such as those related to the consumers, elderly, health and the environment.

State. Unquestionably, all of those above-mentioned events contributed to the near extinction of open dumpsites in the State of Santa Catarina. Not denying the importance of each element, the Santa Catarina State case, especially the *Our Daily Waste Programme*, shows that closing open dumpsite is not only a matter of having good legal frameworks or of attracting funds. It is, as well highlighted by ISWA (2016), mainly a challenge to create sustainable operational entities in all the governance levels and human resources that will undertake the long-term improvement of the local waste management system.

3. CONCLUSIONS

Following the Integrated Sustainable Waste Management framework presented in this paper, it is possible to conclude that the practice of open dumping is directly related to other structural and governance problems faced by Brazil.

The Brazilian legislation on waste management is very progressive and address the waste issue with a systemic approach, respecting the general rules imposed by the Brazilian Constitution. However, having a good legal framework and regulation is only one of the essential elements to achieve a sound waste management. To successfully reform the Brazilian infrastructure to manage the waste produced in the country (the system's "hardware"), closing all open dumpsites and building proper sanitary landfills, it is crucial to transform the system's "software", having good administrative structures, financial sustainability, sound institutions with proactive policies and inclusivity of stakeholders. The case of Santa Catarina State is an empirical proof of the fundamentality of the adoption of this systemic approach to achieve a sound waste management system. After analyzing the paths taken by such State, we can argue that achieving a very high percentage of deactivation of open dumpsites in its territory, having the lowest amount of waste destined to such sites, stems from multiple factors.

Among them we underline: the "protagonism" of the MPSC, a sound institution which can be considered as the major driver of this process. This institution assisted the Municipalities in accessing public funds to close open dumpsites, replacing them with sanitary landfills. MPSC also helped in the improvement of environmental education on waste management, including and engaging different stakeholders all through its proactive programme *Our Daily Waste*.

The cooperation and coordination between the public and private sectors, mainly through the establishment of consortiums were important for the establishment of good administrative structures. The public investments made provided financial sustainability to deactivate irregular dumpsites, recovering damaged areas and implementing landfills. At last, the enactment of extensive and coherent regulations, together with the control and monitoring role played by the Courts were also important to the success of the Santa Catarina State in closing open dumpsites.

Cases like Santa Catarina give us new insights and hopes, proving that the end of open dumping is an achievable goal in a not-so-distant future. However, it is also important to stress that, in a national level, while the Government does not compromise to implementing more effective economic and social policies that seek to promote sustainable consumption practices and to reduce the number of people who live in poverty and precarious conditions, the promising NPSW will not be able to accomplish its goals. In a broader sense, this is a matter of improving public health whilst protecting the environment.

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У контексті складних глобальних проблем великомасштабне виробництво твердих відходів та правове регулювання поводження з ними є значною проблемою. Досліджується проблема незаконного використання місць для утилізації відходів, що характеризується відсутністю належних екологічних та медичних стандартів, яка часто супроводжується надзвичайною екологічною ситуацією, що вимагає термінових дій урядів та окремих уповноважених осіб. З огляду на це, стаття має на меті короткий огляд регулювання поводження з твердими побутовими відходами в Бразилії. Зокрема, зроблено аналіз правового регулювання у штаті Санта-Катаріна як історію успішної дезактивації нерегулярних звалищ побутових відходів. Тому стаття розділена на три основні частини: контекстуалізація проблеми твердих відходів та відкритого демпінгу в Бразилії; бразильська структура поводження з твердими побутовими відходами та національну політику щодо поводження з твердими відходами; практику успішної реалізації відповідних правових норм у штаті Санта-Катаріна. У цілому зроблено висновок, що бразильське законодавство у сфері поводження з відходами є дуже прогресивним і вирішує цю проблему за допомогою системного підходу, який є одним з найважливіших елементів для досягнення раціонального поводження з відходами. Реформування бразильської інфраструктури для вдосконалення управління відходами, закриття всіх відкритих звалищ є іншими важливими елементами трансформації системи країни, оскільки досвід штату Санта-Катаріна є емпіричним підтвердженням фундаментальності прийняття системного підходу.

Ключові слова: управління відходами, споживання, бразильська національна політика з управління відходами, Санта-Катаріна.

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ENVIRONMENTAL CONFLICT AS A SOCIO-LEGAL PHENOMENON

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Abstract. The article studies environmental conflict and identifies it as a specific socio-legal phenomenon – legal environmental conflict – on the basis of the suggested unified approach to understanding its nature. It is confirmed that legal conflict has to be studied in terms of the inseparable unity of its social basis and legal nature. It is concluded that the generic features of social conflict in the process of juridization turn into features of legal nature and acquire legal character in legal conflict. The distinction is made between the notions of “legal conflict” and “legal collision”.

Keywords: conflict, contradiction, social conflict, juridization, legal conflict, legal collision, environmental conflict, legal environmental conflict.

1. INTRODUCTION

The functioning of modern society is determined by many factors, social interest being of particular importance among them. A variety of social interests is the underlying cause of the conflict-based nature of interpersonal relationships in socio-political, economic, and other spheres. The relationship between society and nature has always been a very sensitive issue: by fostering the development of society, we damage the environment. Therefore, any form of natural resource management is inherently controversial: “...economic growth inevitably comes with an increase in the amount of natural resources taken from the environment which adversely affects its condition” [20, p. 308]. In this respect, the problem of the optimum relationship between economic and ecological forms of natural resource management, the satisfaction of social interests, and environmental protection has considerable theoretical and practical importance.

The strategy of global sustainable development, the underlying principle of which is “the principle of responsibility to future generations”: sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” and ensures “high environmental quality and healthy economy for all nations in the world” [27, p. 58], comprises three aspects – economic, social, and environmental – that collectively are aimed at reconciling contradictions and regulating the current conflicts. It is evident that the international community brings to the fore the problems of reconciling environmental and economic needs of society. The practical realization of this principle causes the necessity to ensure the optimum

reconciliation and functioning of disparate interests (primarily, economic and environmental) that lie at the basis of the emergence, development, and existence of environmental conflicts.

The constantly increasing sensitivity of legal environmental matters, the necessity to reform environmental legislation and bring it into compliance with international environmental standards determines the topicality of a study of legal environmental conflicts in Ukraine. A comprehensive analysis of the nature of environmental conflict as a category of law will give the opportunity in the future to define the most efficient ways of its regulation and minimization of its repercussions and is currently of practical and theoretical importance for the sphere of environmental law.

In the preceding publications [34, p. 78–83] we already outlined the problem of studying environmental conflict consisting in the necessity to draw a distinction between its legal, social, economic, and environmental aspects. This article is aimed at conducting a detailed analysis of the specific features of environmental conflict by defining its legal and social nature and then studying it as a type of socio-legal conflict.

2. ANALYSIS AND DISCUSSION

Currently, the issue of environmental conflicts requires attention to finding the ways of their regulation and a major focus of all the branches of science on the environmental issue. As N. R. Kobetska rightly said, in order to legislate on the optimum reconciliation of economic, consumer interests in meeting resource needs of economy and environmental interests aimed at ensuring the vital need to live in a safe, ecologically balanced environment, it is necessary to use interdisciplinary knowledge in regulating legal environmental matters [18, p. 40].

Environmental conflicts are studied by many social sciences, every one of which defines and characterizes them from its own perspective. Among all social conflicts at global as well as at regional and local levels, environmental conflicts are perhaps the least studied ones. Therefore, the issue of the conflict-based relationship between society and nature is studied by many scholars. In Ukraine such legal scholars as S. V. Bobrovnyk, O. H. Danylian, V. M. Krivtsova, Ya. I. Lenher, V. M. Kudriavtsev, M. M. Oleksiuk, S. F. Orlov, and others, should be mentioned.

Due to the multi-functionality of the category of conflict as the underlying notion for environmental conflict, there is difficulty in defining it and ambiguity in understanding its nature. Thus, the most common approach is to define the nature of conflict in the context of contradiction as a more general notion. In terms of philosophy, contradiction is understood as the interaction of social processes, conflict being one of the forms of its development. According to the well-known philosopher O. Spirkin, “the process of the emergence of differences and opposites has several stages. In the initial stage, contradiction, existing only as a possibility, is identity with an inconsequential difference. The next stage presents an important difference in identity: phenomena coming from one source have different essential characteristics and tendencies. These essential differences turn into opposites (the biggest difference, polarity, antagonism) that, by mutually denying one another, turn into contradictions” [30, p. 523–524]. In modern philosophy and sociology, the stages of the functioning of social contradictions are studied mainly by means of a systemic analysis of conflicts and the stages of their development. Thus, according to the representatives of the Chicago School of Sociology R. Parks and his followers, at the basis of all social processes lies interaction which is a functioning contradiction, and competition, conflict, adaptation, and assimilation are the forms of this interaction [6, p. 138]. The well-known sociologists E. Durkheim and K. Boulding in their works point out the existence and correlation between such states of social contradictions as harmony and conflict. For instance, K. Boulding wrote that “conflict is discord, and its opposite is harmony” [7, p. 308].

Therefore, contradiction is a philosophical category is considered to be a certain process which goes through several stages in its development – from conflict to harmony. The Ukrainian scholar O. H. Danylian suggests analyzing contradictions of social systems in such major forms as: 1) harmony; 2) disharmony; 3) conflict [9, p. 139]. In the meantime, contradictions are regarded not as negative, but positive phenomena, associated with the development of society.

Conflict resolution, a special branch of science which studies society in the so-called unstable state – “society in conflict” [17, p. 5], practically leaves out the analysis of the notion of “contradiction” considering it to be the main reason for conflict development: conflict is a clash between interests and needs resulting in a fight between parties [15, p. 26–27] which basically are specific social interactions, mainly characterized by contrast rather than cooperation and represented by an unspecified number of people fighting for their individual interests [12, p. 121].

In the research papers of S. V. Bobrovnyk, who is considered one of the leading experts in Ukrainian legal conflict resolution, conflict is defined on the basis of the anthropological and communicative approach to conflict matters as “the state of the bilateral connection between persons, developed from a certain legal contradiction which is characterized by the prevention of or an obstacle to the realization of these persons’ interests and is a reason for the development or the crisis of social relations” [3, p. 6]. Russian scholars emphasize the fact that conflict and contradiction can be regarded neither as synonyms, nor as the opposite notions. Contradictions are necessary but insufficient prerequisites for conflict. Contradictions turn into conflict only when the forces that are their carriers start to interact [11, p. 12]. As the Ukrainian scholar Ya. I. Lenher points out, contradictions in society do not always lead to the emergence of conflict: the opposition of interests and the corresponding behavioural motivation are needed for such a transformation. In this regard, the author states that conflict is, first and foremost, a conscious contradiction presupposing the opposition of parties ready to take certain measures and actions [21, p. 59].

Narrowing the focus of research into environmental conflict as a specific type of social conflict, scholars also explain its meaning in terms of contradictions in social interaction: legal conflict is defined as confrontation between two or more persons, caused by the opposition or incompatibility of their interests, needs or values [32]; as confrontation between parties with different interests that has legal nature or pertains to law at least to some extent, but is certain (or has the possibility) to end in a legal way [24, p. 432–433]; legal conflict is the most civilized form of social confrontation within a certain legal procedure [19, p. 8]. Accepting such definitions of legal conflict, Yu. M. Zhornokuy emphasizes the active roles of interacting persons: contradictions and opposites turn into conflict only when the persons who have them begin to act: infringe or threaten to infringe on the rights and/or interests of the other parties having a legal connection with them. In this respect, their actions can often be explained by insufficiently thought-out legal mechanisms enshrined in statutes of law, gaps in law, or are misapplications of law [14, p. 56].

In the meantime, the analysis of legal conflict in terms of social conflict is subject to criticism, since a study of legal conflict and its definition are based on the existing theories of social conflict whereas its specific legal characteristics are given less attention. As stated in the studies on this matter, there is a lot of similarity and homogeneity in the nature and meaning of social conflict and legal conflict, although the specific sphere of the existence and manifestation of legal conflict – the legal sphere – should not be disregarded [1, p. 143]. There is no doubt that studying and analyzing the notion of legal conflict by analogy with social conflict has its advantages since the social aspect characteristic of the inner stage of the development of legal dispute (contradiction) allows to study legal conflict from a psychological and social perspectives; although, as stated by V. M. Kudriavtsev, “every legal conflict is social, but not all social conflicts are legal” [33, p. 5]. Therefore, it is suggested to study the nature of legal conflict exclusively within the theory of law instead of taking the established approach to defining it by analogy with social conflict.

Nevertheless, the social aspect of legal conflict should not be completely rejected since, as S. V. Bobrovnyk rightly said, the definition of the basic category, able to form the basis for the definition of legal conflict, has to encompass its fundamental characteristics: i.e. the specific state of social relations, characterized by the existence of social contradictions between the parties involved in a conflict [4, p. 180]; i.e. the focus is on the social character of legal conflict. In this regard, the author outlines, along with the legal characteristics, the features determining the social nature of legal conflict:

- (1) conflict violates or prevents the realization of the interests of the persons involved;

- (2) conflict is always bilateral and, as a rule, asymmetrical, involving the dominant and the submissive parties;
- (3) social contradictions (violation of prohibitions, breach of duties, abuse of rights, absence of mutual respect, unfair competition) are a prerequisite for the development of conflict;
- (4) depending on its origin (the evolutionary and radical theories of conflict) and the specific features of its nature and functions, conflict can foster the stabilization of society, the development of new social relations, or lead to destabilization and destruction, etc.;
- (5) conflict is a process of subjective and objective character; its subjective character is determined by the behaviour of the persons involved, and its objective character – by social contradictions [4, p. 180–181].

Besides, studying conflict as a category of law without analyzing its social aspect, in our opinion, entails the possibility for it to be substituted for other notions, similar in meaning and functions. In this regard, the scholarly dispute over the notions “legal collision” and “legal conflict” as types of contradictions, characterized by certain specific patterns of emergence and development, can be provided as an example. There are different points of view on this issue in academic literature – from the equation of these notions to their opposition. For instance, according to N. P. Svyrydiuk, legal conflict is understood as legal collision [28, p. 88]. Analyzing the notions “conflict” and “collision” in the context of the theories of legal consciousness, Ya. I. Lenher defines their common features (they are of social and legal nature; develop as a type of contradiction in society; are manifested in the legal sphere; affect individual interests) and concludes that “collision is a type of conflict” [22, p. 52].

Other scholars of legal conflict resolution consider legal collisions to be the reason for developing legal conflicts highlighting their considerable potential for carrying out legal reforms and “implementing the regulatory influence of law, ensuring the consistency of legislation, and increasing its efficiency” [5, p. 33–34]. In view of this, legal collision is defined as “a type of legal contradiction within the state legal system; more specifically – as a contradiction between the current statutes of law, only one of which has to be chosen for further use” [5, p. 33]. In support of this view, Ukrainian scholars analyze the nature and meaning of legal collision as “a contradiction between the current legal order and intentions and actions aimed at changing it” in the course of the development and functioning of legal conflicts in modern society, emphasizing its action-oriented aspect and the specific features of the functioning of its subjective and objective aspects. The objective aspect of legal conflict is determined by a number of factors related to the peculiarities of social and political as well as economic and legal processes in society. Its subjective aspect is represented by parties whose interests or claims do not concur and enter into conflict [25, p. 445–446].

Summarizing this scholarly dispute, it has to be said that despite the fact that both conflict and collision are types of contradiction, they should not be equated because they operate on different levels: legal collision functions in the system of positive law whereas legal conflict – always in the legal sphere in the course of social interaction between persons. The problem is that the social aspect of legal conflict is not taken into consideration when these notions are equated – a contradiction develops between persons, therefore a collision between statutes of law may only be a prerequisite for the conflict of interests between certain persons. Thus, it is the social aspect of legal conflict that helps to distinguish it from the related notion of “legal collision”.

Denying the connection between legal conflict and social conflict or separating one from the other is a priori impossible, since legal conflict has social character whereas social relations, after being brought under regulation, acquire the form of legal conflict. In legal science the term “juridization” is used to denote this phenomenon; it is the process of attributing legal character to social phenomena [6]. According to Belorussian scholars, the procedure of juridization can be reduced to the process of law-making when certain social relations come under legal regulation, are formalized, and their subject, object, subjective rights, and legal obligations are clearly identified. As a result of juridization, the actual meaning of these social relations remains practically unchanged, although their form is considerably altered. The process of law enforcement activity also involves juridization. In this case, it is possible to talk about the juridization of social conflicts that go beyond interpersonal communication

and acquire specific features, elements, and ways of solution [2, p. 286]. This view is supported by the Ukrainian scholar V. M. Krivtsova, "Non-legal conflict can become legal only in the process of juridization – specific institutionalization of conflict-based relations" [19, p. 7].

Thus, it can be concluded that legal conflict has to be studied in terms of the inseparable unity of its social basis and legal nature. The generic features of social conflict turn into features of legal nature and acquire legal character in legal conflict.

This article is further aimed at studying environmental conflict and identifying it as a specific socio-legal phenomenon – legal environmental conflict.

There are a few publications on environmental conflict, and they present different definitions of this notion. For instance, V. V. Sabadash defines it as "contradiction at state or interstate levels, caused by the incompatible or opposite interests of one or more parties and their struggle for the right of ownership, use (distribution) of natural resources, or control over them that can be accompanied by violent methods of achieving goals" [26, p. 19]. A. L. Demchuk states that environmental conflicts are conflicts caused by the current (or planned) policy of natural resource management that results (or can result) in disturbing the natural cycle of ecosystem (environmental) restoration [10, p. 65]. Environmental conflict develops when such intervention, according to one or several groups of people, is considered disruption to the complex interaction between physical, biological, and social processes in the environment and in so doing causes damage [31].

N. M. Mylina emphasizes the social aspect of environmental conflict, "it is a type of social conflict, development of which is related to natural resources management..." resulting in the person's feeling the deterioration (or the imminent deterioration) of the environment and attempting to prevent it by means of social confrontation [23, p. 258–259].

The modern environmental conflict theories of the western school of thought interpret the meaning of environmental conflicts in broader terms analyzing them as political, social, economic, ethnic, religious, territorial or other conflicts. These conflicts are caused by environmental degradation and are characterized by the following features: 1) excessive use of renewable natural resources; 2) excessive pressure on the absorbing capacity of ecosystem (environmental pollution); 3) environmental depletion. Thomas Homer-Dixon uses the following definition: environmental conflicts are severe conflicts caused by an environmental deficit developed in the process of the interaction of numerous contextual factors. To denote environmental conflict, the author uses the notion of an environmental deficit that exists in three forms: a deficit caused by an increase in demand, for instance, by population growth; a deficit caused by a decrease in the possibility to use certain resources due to degradation and depletion; a deficit caused by uneven distribution or access to resources [29].

As can be seen from the above, scholars take different approaches to analyzing the meaning of this category by placing emphasis either on the peculiarities of the origin of environmental conflict (the environment) and human attitude to nature or stressing its social character by identifying social relations with regard to nature. Studying the problems of environmental conflict, the paper explains the necessity to analyze it on the basis of deductive analysis by means of studying the general notion of conflict, specifying the definition of socio-legal conflict, and elaborating it in the sphere of legal regulation in the form of legal environmental conflict. If one discusses the conflict of human-nature interaction, the connection with the general notion of conflict is lost. Therefore, in our opinion, environmental conflict has to be studied exclusively as social contradiction developing under specific circumstances – in the natural environment.

In order to further identify the category of environmental conflict, it is necessary to focus on the specific features of this type of contradiction allowing to make a distinction between environmental conflict and other related categories. In this regard, analyzing environmental conflict from a sociological perspective, O. V. Kelasiev outlines the following features:

- 1) the subject matter of socio-environmental conflict differentiates it from other social conflicts since it covers a certain problem in human-nature interaction presupposing actions that can cause changes in the socio-natural system;

- 2) the scope of socio-environmental conflict may include: a) objects of nature; b) anthropogenic systems and objects affecting the environment; 3) means of control over natural and anthropogenic objects, etc.;
- 3) these conflicts have existential character concerning the fundamental problems of life and human existence;
- 4) the consequences of environmental conflicts are often irreversible in comparison with other types of conflicts;
- 5) the geographical boundaries and a number of persons involved in a conflict are often uncertain [16, p. 27–28].

V. M. Vasylenko stresses the importance of a socio-psychological environment and atmosphere in society for environmental conflicts, and that their regulation is possible on the basis and by means of the environmental self-identification of social institutions, economic and other structures of society, and the socialization of environmental sciences [8, p. 75]. N. M. Mylina defines the peculiarities of the structure of environmental conflict which, in her opinion, is a complex system of interrelated elements, both social and environmental; therefore, environmental conflicts are defined as complex ones [23, p. 260].

Studying environmental conflict, the Russian scholar in the sphere of environmental law O. L. Dubovik identifies its specific features, in the meantime emphasizing its social aspect: (a) social immanence (the state of being inherently present in society; environmental conflicts are caused by the interaction between society and nature and reflect human life in the natural environment; the interaction between society and nature is essentially restricted due to the use of objectively limited, hardly renewable, or non-renewable resources); (b) the social nature and significance of environmental conflicts (ecological loss of one party is loss of all the other parties; i.e. it is impossible to damage the environment without affecting the interests of the third party); (c) epistemic difficulties in their solution (human knowledge in the environmental sphere is insufficient, therefore it is necessary to deal sensibly and carefully with human mental capacities, science, and the state regulation (through the use of legal means) of environmental conflicts) [13, p. 7–8].

A sociological study of environmental conflict creates prerequisites for legal analysis of this category. Furthermore, according to O. L. Dubovik, such research presupposes analysis of factors and types of conflicts based on empirical sociological and ecological information that “most clearly defines the need of legal environmental regulation, its aims, direction, employed legal techniques, etc.” [12, p. 121]. In the meantime, it is necessary to take into account the features characterizing legal environmental conflict in terms of social relations. Thus, the subject matter, scope, structure, consequences, and forms of regulations of legal environmental conflict as the basic characteristic features of socio-environmental conflict will become the focus of our next research paper and will be studied and analyzed from a legal perspective by attributing to them legal character and meaning.

3. CONCLUSIONS

The absence of a unified approach to understanding the nature of environmental conflict, the vague subject matter of research, a wide scope of the suggested theories present difficulty in unifying the characteristic features of environmental conflicts and studying them.

A study of the issue of environmental conflict has to be carried out on the basis of systemic analysis with the use of a deductive analytical method by outlining the general characteristics of social conflict, their specification in socio-legal conflict, and elaboration in the sphere of legal regulation.

Thus, environmental conflicts are characterized by the essential features and developmental mechanisms of social conflict; on the other hand, they have specific characteristics – they reflect the nature of human life in the natural environment and characterize a certain state of social relations in the system “society – nature”, i.e. have environmental character. In the meantime, when these relations are brought under legal regulation, they acquire the form of legal conflict. Therefore, in our opinion, it is

reasonable to use the term “legal environmental conflict” which, in this case, will denote with absolute precision the legal meaning of the category of environmental conflict.

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У статті на підставі запропонованого уніфікованого підходу до розуміння сутнісних характеристик конфлікту проведено дослідження екологічного конфлікту та його ідентифікацію як специфічного соціально-правового явища – еколого-правовий конфлікт. Доведено, що екологічний конфлікт необхідно досліджувати на основі нерозривної єдності її соціальної основи із правовим змістом. Зроблено висновок, що родові ознаки соціального конфлікту у процесі юридизації трансформуються у ознаки правового характеру та набувають юридичного значення в екологічному конфлікті. Проведено розмежування понять “юридичний конфлікт” та “правова колізія”.

Ключові слова: конфлікт, протиріччя, соціальний конфлікт, юридизація, юридичний конфлікт, правова колізія, екологічний конфлікт, еколого-правовий конфлікт.

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COPING WITH FOREST AND LAND FIRE REGULATORY CHALLENGES IN INDONESIA: AN ASSESSMENT TO THE REGULATORY ENFORCEMENT

ISNA FATIMAH

Abstract. The uncontrolled expansion of plantation activities within peatland areas is one of the major trigger causing forest and/or land fire (Fire) in Indonesia. To deal with such problems including other influencing variables such as land use management, Indonesian law provides various options of regulatory instrument. The law indicates strong message that the Fire must be stopped, reflected through stipulations on regulatory instruments including command and control type of regulation (direct regulation) and alternative approaches to hold compliance. After exacerbate Fire in 2015, many protests from the people, neighborhood countries and broader international parties encouraged Indonesian government to be more active in conducting regulatory enforcement of some regulatory instruments. Some of the examples are the imposed administrative sanction and lawsuit against companies within 2015 to 2017. However, the regulatory enforcement has not been assessed as to whether it has obtained significant improvement to stop Fire. This paper attempt to assess whether regulatory enforcement on selected Fire cases has met the regulatory objective particularly to stop the Fire. This research finds that output of the applied enforcement for violation on Fire provisions remains incoherent with the regulatory objective while the strategy of enforcement is not well-systemized.

Keywords: regulatory enforcement, Fire, direct regulation, alternative approach, regulatory instruments.

1. INTRODUCTION

The character of Fire in Indonesia is influenced by human activities, which involves the land-use expansion for plantation¹. Despite the risk of Fire, plantation business still popular among big to small enterprises due to its prospectus income². Unfortunately, the plantation activities have invading too

¹ To simplify the terminology in this article, the word 'plantation' refers to not only plantation in land but also plantation in the forest and forest utilization for industrial activities as well.

² There are more than 1500 recorded palm oil plantations (The Directory of Palm Oil Plantation, National Statistic Center Agency, 2015) and 706 (The Directory of Forest Estate, National Statistic Center Agency, 2015) Number of plantation companies (existing) not to mention number of unrecorded or illegal plantation activities. See: <https://media.neliti.com/media/publications/48378-ID-direktori-perusahaan-perkebunan-kelapa-sawit-2015.pdf>; <http://ditjenbun.pertanian.go.id/tinymcpuk/gambar/file/statistik/2015/SAWIT%202013%20-2015.pdf>; <https://media.neliti.com/media/publications/48681-ID-direktori-perusahaan-kehutanan-2015.pdf>.

much of the peat-land areas, a special ecosystem that highly sensitive with the drought and tend to get easily burnt [1]. The longing un-monitored expansion of plantation within peat-land areas and the lack of monitoring compliance to the working plantation paved a way to higher risk of Fire³. Despite the lack of efforts to monitor, government admit that most Fires are occurred by human cause⁴, be it intentional or negligence.

Indonesian laws treat the Fire threat as violation to environmental protection and share the liability to prevent and mitigate Fire with the right-holders. The stipulation in the Forestry Act, for example, states that any right holders are responsible to fire occurs within his right-given areas as part of their obligation to protect the forest. The Environmental Act, moreover, generally⁵ prohibit any slash and burn activities in either forest or land. In line with it, the acts stipulate that all business activities must comply with the sustainability goals as well as not causing pollution nor damage to the environment⁶. These provisions put the Fire regulation as part of instrument to reach a greater benefit from environmental protection for greater people, by regulating behavior of right holder in terms of Fire control. The objective of Fire provisions within environmental protection framework can be entails to the protection on the right to sound and healthy environment as stated in the Constitution. Environmental Act further emphasize such right as the part of human right, by setting robust procedural rights within the provisions⁷. Thus far, controlling the Fire shall be construed as part of environmental protection and management.

The regulation on Fire itself is not a standalone provision. It is correlated with other kind of regulatory instruments which influenced the Fire regulatory enforcement⁸. With regards to plantation compliance on Fire control obligation, it is inevitably influenced by the regulatory enforcement on other interrelated aspects, such as environmental compliance monitoring, land use management and other natural resources management. Because of that, Fire regulation involved not only command and control instrument, but also other alternative approaches.

As a matter of fact, since 2015 furious Fire invites protests from multi-international level parties, Indonesian government improve their combat ammunition to deal with the Fire. Numbers of State Budget allocated for Fire mitigation is increased to 680 billion rupiahs in 2016⁹ while coordination action among government institution in national and regional level is tightened. It was part of the international and national commitment of the leading President, remarked also by the up-lift of mitigation activities by both national and regional Fire Control Team during 2016 until now¹⁰. In terms of regulatory enforcement, this momentum signed the raise of cases exercised by the government. The history of Fire regulatory enforcement in recent years is remarked by the act of Minister of Environment and Forestry and/or law enforcement institution (Police) which has been conducting enforcements over some entities allegedly commit unlawful act or violation to Fire regulation. The enforcements are including, for instance, administrative coercion, government lawsuit, and criminal investigation [22].

³ *Loc. cit.*

⁴ Tempo, "99% Kebakaran Hutan karena Ulah Manusia", see: <https://nasional.tempo.co/read/709324/99-persen-kebakaran-hutan-karena-ulah-manusia>. ("99% of Forest Fire is Human Caused"); Detiknews, "BNPB: 90 Persen Kebakaran karena Ulah Manusia", accessed through: <https://news.detik.com/berita/d-3015346/bnpb-90-persen-kebakaran-hutan-karena-ulah-manusia>, 12 September 2017. ("National Disaster Management Agency: 90 percent of Fire is Human Caused").

⁵ There is an exception for local wisdom activities in Act No. 32, 2009 on Environmental Protection and Management (Environmental Act), article 69 paragraph 2.

⁶ Article 98, Environmental Act.

⁷ If the character of protection to substantive rights can be seen from the building of institution, enforcement and remedies such as defined by IUCN, the Environmental Act could be one of examples which determined to form environmental right as independent form of human right. This is basically in line with the Constitution, which positioned environmental right under the Chapter of Human Right (Chapter XA was added in the Constitution at the second amendment of the Constitution).

⁸ For example, that the Fire regulation is also included in regulation regarding sectoral licenses or performance certification. This notion will be further discussed in the next chapter of this paper.

⁹ The amount, however, is decreasing to 500 Billion in 2017. See: <http://nasional.kontan.co.id/news/dana-penanggulangan-kebakaran-hutan-di-2017-minim>.

¹⁰ The President relaunch the Presidential Instruction No. 11, 2015 regarding Acceleration of Forest and Land Fire Control in 24 October 2015 and that public pressure is high at the time.

Despite the more active government in combatting Fire, there is lack of accountability in the contribution of such actions to the improvement of regulated actors' compliance to Fire regulatory objective¹¹. The government claim that their action has been resulted to the decreasing number of burnt land and/or forest¹². On the other hand, research conducted by Indonesian Center for Environmental Law reveals that the claim by MoEF is doubtful for only claiming the decreasing number of Fire and number of land burnt as single successful indicator. Based on ICEL research, enforcement of Fire regulation in terms of prevention, rehabilitation, and law enforcement is generally underperform. Moreover, the year of 2017 is considered to be a wetter year compare to 2015¹³ which make the climate variable indicated to has played the more dominant role. The research then stimulates follow up question that is if the prevention, rehabilitation and law enforcement by the government is underperformed, to what extent it has changed the behavior of regulated actors? Whether the level of compliance in the field is really increasing or is it just a circumstantial compliance behavior or by luck that the number of Fire decreased? Up to now, there has been no reliable data on whether the raise of compliance level is the major trigger to the down-fall on Fire numbers.

In order to provide data and analysis on the contribution of current regulatory enforcement to obtain the Fire regulatory objective, this research will capture kinds of available and implemented regulatory instrument. It will also analyze whether the regulatory enforcement has met its utmost objective that is to stop the Fire.

Fully aware of the hard challenges in explaining gaps, the method of this research is inspired by the idea of Smart Regulation by Neil Gunningham and Peter Grabowsky, as one of regulatory theory which provide tools to analyze the design as well as improve enforcement strategy. Smart Regulation argue that single instrument usually is not sufficient to deal with specific environmental problems. It then suggests that the decision maker should design strategy to combine instruments and optimize public participation simultaneously. This research starts with a hypothesis that the current enforced instrument is not optimum for each instrument are enforced in scattered ways.

To limit the research, it will only focus the assessment on the instruments applied to plantation companies by arguing that expansive plantation is a significant contributor to Fire as stated in the beginning of the background.

There are two main questions of this research:

- How is Fire regulation for plantation activities stipulated?
- To what extent does the regulatory enforcement in Fire cases has met its objective?

To answer the questions, this paper will first explain the existing regulatory instruments to hold the plantation comply with the Fire regulation. In this section, the character of regulatory instruments will be described, including the objective of each instrument. The second section will be focusing on explaining how the Fire regulation enforced. The third section will escort the analysis on whether the Fire regulatory enforcement has been reaching its objective, before went to conclusion in the last section.

2. ANALYSIS AND RESEARCH

The Fire Regulatory Instruments

Kagan stimulates the idea of assessing regulation not only as a mean to reach compliance but also whether it has been made to accommodate the socially desired goals. However, there is lack of

¹¹ The MoEF report only tells that number of Fire is decreasing in 2017 due to proactive joint forces. See: Tempo.co, "Titik Api Akibat Kebakaran Hutan Turun 88%", ("Hotspot is decreasing up to 88%"). Available at: <https://nasional.tempo.co/read/1043764/klhk-titik-api-akibat-kebakaran-hutan-turun-88-persen>

¹² Kumparan, "Mengapa Angka Kebakaran Hutan Indonesia di 2017 Turun Drastis", <https://kumparan.com/@kumparansains/mengapa-angka-kebakaran-hutan-indonesia-di-2017-turun-drastis>, accessed in 22 December 2017. The head of Information and Data and human Relation of National Disaster Mitigation Agency announced that numbers of land burnt because of Fire is decreased to 65,7% compare to 2016. He argues that this is the result of serious act to mitigate Fire as well as law enforcement. Tambahkan statement Jokowi.

¹³ BMKG (Geo-physics, Climatology, Meteorology Agency), "Prakiraan Musim Hujan 2017 di Indonesia", ("the 2017 Rain Forecast in Indonesia"). Available at: <http://www.bmkg.go.id/iklim/prakiraan-musim.bmkg>

assessment on whether the existing regulation has reflecting the desired goals because of the challenges in reaching the objective data [23]. This idea then stimulates other scholars to conduct empirical study to deepen understanding on the background of regulatory framework and how then it was enforced. Ayres and Braithwaite, with his Responsive Regulation, did an empirical research on regulatory enforcement and found that the value of regulatory instrument is in its desired objective [1; p. 65]. Ayres and Braithwaite then use the objective as the standard of assessing level of compliance, of which once the level is not reached or violation occur, the regulator must think of responsive regulatory strategy, by escalating sanction, climbing to the more stringent instrument [1; p. 65]. Gunningham and Grabosky, who develop a theory of Smart Regulation then argue that identifying the desired policy goals as the first thing to do prior to assessing the ideal regulation strategy for particular problem [2; p. 14]. According to these analytical frameworks, it is necessary to assess the objective of each regulation as prerequisite to further characterize and describe the regulatory instruments.

This section will explain Fire regulatory objectives and how then it built the characteristic of regulatory instruments. In assessing the goal of regulation, however, this paper assume that the goals of regulatory instrument have been made by the policy maker so that it is reflected in the explicit norms of purposes or principles in the legal instrument¹⁴. The regulatory instruments are divided into two general types: command and control/direct regulation [2; p. 38] and alternative approaches [2; p. 38-85].

a. Direct Regulation

There are basically three Acts which regulates Fire control. They are Act No. 41, 1999 on Forestry (Forestry Act), Act No. 32, 2009 on the Environmental Protection and Management (Environmental Act) and Act No. 39, 2014 on Plantation (Plantation Act)¹⁵. Environmental Act is the one that explicitly entail Article 28H paragraph 1 of the Constitution, regarding the protection of the right to safe and healthy environment. The other two acts are entailed to Article 33 regarding natural resources utilization. In general, Fire regulatory objectives are to be understood as part of the implementation of the mandate on the protection of the right to safe and healthy environment and the obligation to ensure that utilization of natural resources shall be conducted for the people's welfare.

The Fire regulatory objective not explicitly stated in the three acts. Provisions related to Fire are just small part of the biggest aim of the acts. Forestry Act and Plantation Act are focusing more on the utilization of resources while Environmental Act is more on how to ensure that the utilization works in sustainable manner. Thus, to scrutinize the goals of the Fire regulation, we must look into the objective and principles of the act.

- Forestry Act

The objective of Fire regulation from the perspective of Forestry Act can be identified as to reach the first and second objective of Forestry Act itself, noting that this Act is only apply to fire occurs within forest area. The first is to guarantee that the forest is exist in sufficient area and is distributed proportionally¹⁶. Another objective is to optimize variety of forest functions covering conservation, preservation and production functions in order to gain balance and sustainable environmental, social, cultural and economic benefit¹⁷.

Generally, Forestry Act mandates government to define limitation for forest utilization by considering sustainability of the forest [6]. This is the utmost purpose of which then other provisions under Forestry Act entailed. The act then strengthening its spirit to halt forest fire by prohibit every person to burn the forest, regardless by intention or negligence. The Forestry Act also shares responsibility to protect forest to the one who possessed the land either through licenses or given by law (such as indigenous people within traditional land and government itself within areas with no

¹⁴ As Civil Law country, Indonesia regulatory style relies on the written norm. Base on The Act No. 12, 2011 on Regulation Making, the objective of the Act must be stated in the first chapter of each Act. However, there is no obligation to put the objective of each lower regulatory product although some of the policy maker copy the style of putting the objective in the first chapter of regulatory product.

¹⁵ Translation by <http://www.indolaw.org/UU/Law%20No.%2039%20of%202014%20on%20Plantations.pdf> accessed at 8 August 2017.

¹⁶ Translation by <http://www.flevin.com/id/lgsso/translations/Laws/Law%20No.%2041%20of%201999%20on%20Forestry.pdf>. Article 3 Forestry Act, accessed 8 August 2017.

¹⁷ *Ibid.*

licenses). The government plays his role to conduct monitoring on the protection over the possessed forest and protecting the forest in general.

Base on Forestry Act, the obligation to conduct prevention, mitigation and restoration within concession inside forest area applied to the license holder, while obligating the authority to monitor the compliance. The concept of forest protection from fire threats for private right owned forest is clear: right or license holder inside forest is responsible to forest burnt within the given area. The term 'forest burnt' in the stipulation indicates that it is not require active burning to call the right or license holder responsible to circumstances happen in the given forest area. This concept allows government to make sure that all forest is under best protection, including but not limited to conduct law enforcement to anyone breaching the responsibility to protect. This stipulation is applied to all kind of legitimate activities within the forest area, including plantation. Any business activities in the forest that found to be burnt will meet the legal consequences.

The Forestry Act then stipulates that monitoring should be further regulated through Government Regulation. However, the only existing related implementation regulation of Forestry Act is the Minister of Forestry Regulation on Procedures of Imposing Administrative Sanction for License Holder of Primary Industry Wood Forest Utilization, which is limited to one kind of forest utilization licenses. To cover the blank in the implementing regulation, there is clearer monitoring procedures through implementing regulation of Environmental Act. Although the authority to conduct the monitoring base on these two instruments can be different and thus has different ground, approaches, and consequences, both are the form of direct regulation to hold the license holder comply with the obligation to prevent and mitigate fire.

Besides monitoring, there is an explicit criminal stipulation for those who commit burning forest under the Article 78 paragraph 3 of Forestry Act [6]. Article 80 Forestry Act then opens room for imposing administrative sanction for infringement of stipulation on Forestry Act without mentioning explicitly the kinds of such infringement. Similar with stipulations for civil law enforcement, Forestry Act opens room for filing suit for any unlawful act which stipulates in Forestry Act. The provisions state that any unlawful act or infringement, which threatened by criminal penalty, can be imposed with administrative sanction and may become a subject to sue. These mean that burning forest is not only a criminal qualification but also subject to administrative sanction and civil suit.

- Environmental Act

The general objective for Fire regulation in the perspective of Environmental Act is basically reflected in the whole purpose of this act. Thus, the framework of this act related to Fire regulation can be construed as the framework of protection and management of environment from damages or potential damages derived from Fire. The framework is mainly to conduct prevention, mitigation and rehabilitation to the damaged environment.

The government and enterprises are responsible to conduct prevention, mitigation and rehabilitation of the Fire damage. Whereas, heavy responsibility to prevent and cease the Fire is given to enterprises within their concession. Government, in this regard, has the authority to set general rules and technical guidance to prevent and mitigate Fire. As for that, the enterprises are to create sound situation for preventing and mitigating Fire within their concession. The government then has the responsibility to monitor the compliance and impose sanction whenever it is necessary.

As a means to manage the excess of the Fire, Environmental Act order the authority to measure standard criteria for environmental damage related to Fire (Article 21 paragraph 3 c). The more specific provisions addressing the control over the damage and pollution related to Fire are settled in the Government Regulation No. 4, 2001 on Control over Environmental Damage and or Pollution related to Forest and or Land Fire (GR 4/2001). The preamble of GR 4/2001 considers Fire as a cause of environmental damage and or pollution which create severe loss, including ecology, economy, and socio-cultural loss nationwide and internationally. The scope of GR 4/2001 includes controlling, preventing and mitigating environmental damage and or pollution related to Fire. Although the GR was enacted far before the Environmental Act, the provisions are mostly still relevant.

Environmental Act considers open burning land as a crime. Article 108 jo. Article 69 paragraph (1) h stipulates the prohibition to conduct open burning land¹⁸. A sanction of minimum 3 years and maximum 10 years and fine of minimum three billion rupiahs and maximum of 10 billion rupiahs is imposed to everyone who commit the crime. However, special protection is given to those who conduct open burning in a manner which in line with the local wisdom¹⁹.

Environmental Act is also imposed criminal sanction for those who intentionally or by negligence committing action causing surpass of standard quality of ambient air standard criteria or standard of environmental damage. The convicted entity shall be subject to imprisonment for minimum 3 (three) years and maximum 10 years and a fine of minimum 3 billion rupiah and maximum 10 billion rupiahs²⁰.

In the field of civil law enforcement, Environmental Act stipulates that suits can be filed for every personnel in charge of businesses and/or activities committing legal violation in the form of environmental pollution and/or destruction incurring losses on other people of the environment²¹. The alleged entity shall be obliged to pay compensation for the losses and/or take certain measures²². It also has special stipulation that apply strict liability, which refers to every action, business and/or activity using, producing and/or managing hazardous substances and/or causing serious threat to the environment. Those who met this qualification shall be responsible absolutely for the incurred losses without necessity to prove wrongful act. The latter is socially supported by CSOs to be conducted to plantation activities in the peatland for peatland naturally will be seriously damaged because of plantation activities²³.

- Plantation Act

The objective of Fire regulation in the in the Plantation Act is reflected in seventh objective, that is, to manage and develop plantation in optimum, responsible and sustainable manner. Plantation Act focusing on regulating plantation activities notwithstanding the area: forest and land²⁴. This act prohibits every plantation enterprises to open and/or cultivate land (including forest) by burning²⁵. Further, the act also orders every plantation enterprises to have Fire control system, facilities and infrastructure²⁶. It is in line with the aim of creating optimum, responsible and sustainable plantation²⁷.

Plantation Act stipulates criminal penalty of imprisonment and fine for every plantation business who open or manage land by burning²⁸. Another possible criminal enforcement can be construed through Article 109 Environmental Act which stipulates that plantation business who do not apply: a. environmental impact assessment or environmental management efforts and the efforts of environmental monitoring, b. environmental risk analysis; and c. environmental monitoring shall be punished with imprisonment and a fine²⁹.

Stipulation on monitoring which tailored to enforcement is found in Plantation Act. Article 98 paragraph 1 of Plantation Act states that monitoring is conducted to ensure the enforcement and implementation of plantation businesses. Monitoring activities here comprises of reporting from plantation licenses holder of his business activities, and monitoring and evaluation through the process

¹⁸ Article 69 paragraph 1 h Environmental Act.

¹⁹ The article further explain that the local wisdom means burning maximum of 2 hectares of land per-family to plant local variety plantation and provides firebreaks to prevent fire spread.

²⁰ Article 98 paragraph 1 (intentional) and Article 99 paragraph 1 (negligence) Environmental Act.

²¹ intentionally or by negligence.

²² Article 87 paragraph 1 Environmental Act.

²³ See for example: <http://www.mongabay.co.id/2017/06/08/asosiasi-usaha-coba-usik-uu-lingkungan-walhi-icel-masukkan-gugatan-intervensi/>

²⁴ According to Forestry Act and Plantation Act, plantation activities can be conducted within forest area (except for protected and conservation area) by getting license from Ministry of forestry.

²⁵ Article 56 par 1 Plantation Act.

²⁶ Article 56 par 2 Plantation Act.

²⁷ Article 3 g Plantation Act.

²⁸ Every plantation business which opens and/or cultivate land by burning shall be punished with imprisonment of 10 years and a fine of not more than 10 billion rupiah (Article 108)

²⁹ 3 years imprisonment and a fine of not more than 3 billion rupiah.

of examination (Plantation Examination)³⁰. Hence, there is no direct stipulation for imposing administrative sanction for violation of Fire regulatory provisions³¹. However, the Ministry of Agriculture Regulation No. 98, 2013 stipulates that the license issuer can impose administrative sanction company who violate the obligation to have proper facility for non-burning land-clearing and fire control.

Unlike the previous two acts, Plantation Act does not have provision on subject of civil suit. It does not mean that no infringement on Plantation Act cannot be subject of civil suit for it is still possible by utilizing Indonesian Civil Code or by optimizing provisions under Environmental Act, which can be tailored with environmental permit.

b. Alternative Instruments to deal with Fire problem

The possibility of applying other instruments to meet Fire regulatory objective is intensified particularly in Environmental Act. There are at least four types of alternative approaches in which Fire regulation is included. The first is Economic Instrument which accommodated through Environmental Act. However, further enforcement of Economic Instrument under the Environmental Act is in the process of building the system as the implementing regulation has just enacted in September 2017. The second is education and information to regulated parties which was conducted as part of government obligation. The third type is more like the derivative of economic instrument which has been developed and enforced before the current Environmental Act enacted³²: that is Environmental Performance Rating mechanism³³. The last is also type of alternative approach which combining direct regulation and economic instrument essence which build under the Forestry Act: The Forest Legality Product Certification and Sustainable Forest Utilization Certification. Particularly for Palm Oil Plantation, there is also similar type of approach, that is, Indonesian Sustainable Palm Oil Certification.

- Education and Information

An example of complementary instrument is education and information³⁴. Gunningham and Sinclair categorized education and information instrument into five, that is: education and training, corporate environmental reporting, community right to know and pollution inventories, product certification and award schemes. All of the schemes in the group have been implemented in Indonesian environmental regulatory activities.

Training

Training is of the most common mandate to be found in the Fire regulation. Environmental Act assigns government to provide education, training, fostering and appreciation for general entities. On the implementing regulation of Environmental Act, Ministry of Environment Regulation No. 10, 2010 explicitly states that government conducted fostering which includes training for the people and enterprises regarding environmental management of pollution and damage related to Fire³⁵. In Forestry Act, the word training can be found in the explanation of the provisions on forest rehabilitation only. However, if we look into implementing regulation regarding the control of Fire, there are many stipulations on the obligation of government to give training to control Fire³⁶. In Plantation Act, training is part of empowerment activities for plantation human resources³⁷.

a. Reporting

Environmental reporting cannot be separated from monitoring mechanism in the desk of environmental compliance monitoring. Moreover, every license holder/enterprises is obliged to submit

³⁰ Article 98 paragraph 2 Plantation Act.

³¹ The Act only stipulates two kinds of behaviour that may be sanctioned with administrative sanction. See Article 15, 16, and 17.

³² Indonesia has faced three periods of environmental act: the first is Act No. 4, 1982 on Key Provisions for Environmental Management; the second Act No. 23, 1997 on Environmental Management, replacing the Act of 1982; the 2009 Act is a replacement to the Act in 1997.

³³ The regulation has changed for four times: 2002, 2010, 2011, 2013 and the latest is 2014.

³⁴ Gunningham and Grabowsky, *op. cit.*, p. 60–61.

³⁵ Article 11 paragraph 2 section a Minister of Environment Regulation No. 10, 2010.

³⁶ Ministry of Environment and Forestry Regulation No. 32, 2016 on Forest and Land Fire Control.

³⁷ Article 51 paragraph 3 section a Plantation Act. Plantation human resources consists of officials, plantation enterprises, and people (see Article 88 paragraph 1 Plantation Act).

regular performance reports³⁸. Related to performance report, Ministry of Environment and Forestry also held environmental performance rating in order to stimulate beyond compliant³⁹ of enterprises. This is where, the chance to use multi-approaches to meet the goal of Fire management or control may be reached by harnessing the best output from each approach.

Environmental Act mandated government to conduct persuasive approach through fostering and coercive approach through monitoring compliance⁴⁰. The most significant differences between stipulations on fostering and monitoring is that the first does not equipped with strong provisions under Environmental Act whilst the latter has its own definitive chapter⁴¹. Compare to Forestry Act, monitoring is not stipulated in detail. Unlike Environmental Act, Forestry Act doesn't mentioning about fostering at all, whilst monitoring is mentioned in very general provisions. In Plantation Act, the stipulation on fostering and monitoring grouped under one specific Chapter on Fostering and Monitoring. It gives the same weight of guidance to the government regarding its responsibility to foster and monitor plantation activities

c. Community Right to Know

Another form of education and information instrument based on Gunningham and Sinclair's category is community right to know and pollution inventory. Both instruments are provided under the Environmental Act. The provision of community right to know can be found in almost every section, for example the obligation to publish every issuance of environmental permit. For the pollution inventory related to Fire, the obligation to create inventory is mandated to government in the form of standard criteria for environmental damage related to Fire.

- Certification

Fire prevention and mitigation is included as point of assessment in either Forest Legality Product Certification (further will be mentioned as "FLP"), Sustainable Forest Utilization Certification (further will be mentioned as "SFU") or Indonesian Sustainable Palm Oil Certification (further will be mentioned as "ISPO"). These certification instruments are incentive based approach, which combine the essence of education and information, voluntary, and direct regulation for plantation company that includes the trigger to conduct compliance of obligation to control fire.

- FLP and SFU

Based on current regulation⁴², the FVLP and SFU is part of obligation of forest utilization enterprises. The assessment is conducted by assessment institution and independent verifier. Market who has concern to the legality of the product to environmental and human right requirement is foreseen to be more acceptable to products from enterprises holding the certificates.

The assessment to obtain FVLP and SFU also includes Fire regulatory compliance including the readiness of human resources to protect the concession from Fire, sufficient budget, existence of standard operating procedure, and complete and good facilities to prevent and control Fire. Each point then should be assessed till resulted into three general classification: Bad, Average and Good. The

³⁸ The holder of environmental permit shall make and deliver report on the implementation of prerequisites and obligations given by such license (Article 53 paragraph 1 section b Government Regulation No. 27, 2012 on Environmental License). See also Article 36 paragraph 1 Environmental Act: "Every business and/or activity obliged to have Environmental Impact Assessment shall be obliged to have environmental permit". All kind of businesses which has a risk to run into Fire includes in the category of business which need to have environmental permit, be it plantation or forest utilization sector. Enterprises are also obliged to submit reports regarding the forest and/or land control (according to Ministry of Environment and Forestry Regulation No. 32, 2016) and control and restoration of environmental damage and or pollution related to Fire (according to Government Regulation No. 4, 2001).

³⁹ Beyond Compliance is articulated in some criteria include: implementation of environmental management system; energy efficiency; emission reduction; and implementation of hazardous waste Reduce, Reuse and Recycle. (Ministry of Environment and Forestry, "An Explanation of Environmental Performance Rating in Indonesia 2015", p. 22).

⁴⁰ Central government, Province government and District government by virtue of their authority shall be assigned and authorized to foster and supervise compliance of personnel in charge of businesses and/or activities to the provisions of environmental licensing and legislation (Article 63 paragraph 1, 2, and 3 section o Environmental Act).

⁴¹ See Article 71 to Article 75 of Environmental Act. It clearly states who is responsible to conduct monitoring, what is the object and to what extent does monitoring should be enforced.

⁴² The regulation regarding SFU and FVLP has just revised in 2016. See: Minister of Environment and Forestry Regulation No. 30, 2016 and Directorate General of Sustainable Forest Production Management Regulation No. 14, 2016.

regulation doesn't have provision to connect the result of this assessment to forest utilization monitoring under the Forestry laws nor environmental monitoring under the Environmental laws.

- ISPO

The ISPO now is part of obligation for companies running Indonesian Palm Oil Activities⁴³. The system positioned certificate as prerequisite to obtain guarantee of environmentally sound quality of palm product prior entering the market. This certification gives information to the buyers whether the product originated from legally clean and environmentally compliant activities. The point of compliance related to Fire prevention and mitigation including Standard Operating Procedure for non-burning land clearing, facilities such as Fire-fighting prevention and mitigation tools, drainage system, water management, human resources devoted to prevent and control Fire, emergency organization, and documentation of Fire prevention and Mitigation.

The provisions of ISPO does not state clearly how it relates with Plantation Examination and Monitoring. There is only one stipulation, which stated that companies who has not yet apply for the ISPO till the due date of 6 months since the regulation was enacted, they will get some consequences. The consequences are gradual, from downsizing Plantation Class, warning letter, to business license revocation. For those who already get the certificate, they were threatened with certificate suspension or revocation if they were found to have violate the points of obligation, including obligation to prevent and mitigate Fire. Since both the ISPO and Plantation Examination and Monitoring⁴⁴ stipulates obligation related to Fire control with no clear guidance on which instruments shall be prioritized, the government has choices of: (i) imposing under the ISPO system; (ii) imposing sanction under the Plantation Examination system; (3) imposing sanctions based on both system simultaneously. This condition is risking the consistency of enforcement.

The stipulations on Fire are generally attempt to prevent Fire. Both government and enterprises have distinct responsibility to mitigate the Fire and restore the damage it has caused. Everyone who commit burning land can be charged with criminal penalty whilst enterprises may be sued or imposed with administrative sanction.

Despite the almost complete approaches in the Fire regulatory framework, not necessarily all of them work perfectly. However, this article will not go further to assess the effectiveness of each of regulations in reaching the goals. It will only use the information of available approaches to assess whether Fire regulatory frameworks has accommodated various approaches which can be utilized to reach Fire regulation goals as has been explained in the beginning of this section. From the explanation above, it may be concluded that the goals of Fire regulation are to stop Fire from happen in order to fulfill the environment sustainability as well as ceasing any impact which may harm human right of people particularly those who were impacted by Fire [20]. However, each instrument has their own objective which is unable to stop the Fire reoccur again if it is not combined with other instruments. For example, the criminal sanction, which may not be work sustainably unless supported by training and compliance monitoring. Another example is the lawsuit which by nature is intended to get remedy rather than deterrent effect—though it might work as scary punishment when the ruling order expensive cost for remedy. Besides, each instrument has its own weaknesses⁴⁵.

In seeking the proper strategy to reach the goals, Fire regulatory framework provides command and control approach from each sector (environment, plantation and forestry) with each own distinctiveness which can be a used as complementary or, if implemented inconsistently can be a threat to Fire regulatory goals itself. Meanwhile, some other approaches are also had chances to be utilized although mostly require commitment and innovative action by official in charge, though highly depends on innovative initiative.

The Assessment to Fire Regulatory Enforcement

The Fire regulatory enforcement, as explained earlier, basically faced two kinds of challenges. The first is provisional problems and the second is problems in implementation. In provisional aspects,

⁴³ Ministry of Plantation No. 11, 2015 on Indonesian Sustainable Palm Oil Certification System.

⁴⁴ Minister of Agriculture Regulation No. 98, 2013.

⁴⁵ This is what has been argued by Gunningham and Grabowsky.

guidance on connecting the relation between each instrument is lacking whilst single instrument is insufficient to stop the Fire. The lack of clearance on connection among each instrument require initiative from the decision maker to maintain the quality of enforcement. Whereas, there are still other external factors influenced the quality of enforcement such as budget and resources issue.

In the level of provisions, there are two types of flaw. The first is the lack of guidance explaining connection among direct regulation and other approaches. This can be identified as an example of which the Smart Regulation principle pointing at, which is to prefer approaches capable of responding behavior of regulated entity. Single instrument has its own objective, which are mostly indirect to the ultimate objective of Fire regulation (see table 1). The second is inconsistency of the form of instrument. Some instruments are redundant with one another in terms of technical aspects such as implementing actor to enforce and the need of budgetary fund. The worst condition is when these instruments have also lead to different consequences [19]. The provisions tend to combine voluntary approach with mandated approach, with no clear boundaries and lack of inconsistencies.

The table below shows the objective of each Fire regulatory instrument and each position to the objective of each regulation they belong, and to the utmost, to stop Fire.

Instrument	Objective	Position to the Peak of Fire Regulatory Objective
Monitoring (Forestry Act)	License holder protects the forest (prevention and mitigation). License holder does not open-burn the forest.	Direct with requirement Monitoring by the license authority should be consistent, concise and responsive. The challenges in monitoring are: takes high cost, need skillful inspectors (government) and a concise tools and standard operating procedure (including that on cooperation among government institutions).
Criminal Sanction (Forestry Act)	License holder does not open-burn the forest.	Direct with requirement When open-burn is a common behavior of many companies as gambling risk they would have chosen rather than increasing productive cost for non-open-burn method, sanctioning small number of perpetrators with weak punishment will be counterproductive. Another thing is the chaotic land conflicts makes finding the real crime master-mind challenging. Data in Riau (see section three) shows that many perpetrators were individual whilst the crime occur inside the company's concession. It does not help to get remedy for the environment and the victims.

Instrument	Objective	Position to the Peak of Fire Regulatory Objective
Civil Suit by Government Standing	Remedy to the environment which has been damaged or polluted because of the Fire.	<p>Indirect</p> <p>Big challenges in proofing evidences.</p> <p>It usually took long time before the rulings are final and binding (unless no further legal act to the higher court).</p> <p>Even if the plaintiff wins, the scheme for make sure that the defendant comply is now still not clear.</p>
Environment Performance Rating and Certification Model	Stimulates the regulated actors to perform beyond compliance.	<p>Indirect</p> <p>It does not apply to regulated actors who has no good faith.</p> <p>The implementation of this instrument can be counterproductive with the enforcement of direct regulation if between the authorities are not conducting good coordination and if the decision maker is not consistent with the choice of enforcement.</p>
Education and Information	To make the regulated actors educated.	<p>Indirect</p> <p>This instrument's character is as complement to the other instruments.</p>

The table shows that by enforcing all the instruments at once may lead to negative impact but the other may resulted to positive results. The sample of negative results is reflected once the government conduct environmental rating and focusing on enforcing certification whilst not enforcing administrative sanction in consistent manner [18]. This will make enforcement become weak and regulated actor with bad faith will not influenced with the act. On the other side, if the government set responsive strategy to each type of actor's behavior, the combination of the two types of instruments may resulted to positive impact. For example, if certification is only applying to those actors who already pass examination through monitoring this will ensure that those who are qualified to get the certificate are those who already comply with the obligation. This strategy may stimulate beyond compliance. Another way around, the government may enforce the certification first, but once the regulated actors violate the obligation, the authority must not hesitant to apply punitive enforcement. Another thing to consider is the involvement of broader regulated actors. This is a good point that has been proved in Indonesia. The participation of citizens and Civil Society Organizations has been giving a good insight and help in the effort to meet Fire regulatory objective.

3. CONCLUSIONS

As a part of the environment related regulation, including forestry and plantation sectors, existing Fire regulations accommodate options and even mixture among command and control instrument and alternative instruments. However, there are three challenges derived from the type of each provisions.

The first is not all of the instruments comprehensively resulted to zero burning activities and zero fire [16]. The second is that some instruments have redundant objectives with regards to Fire regulation especially those whose character is a combination between alternative approach and command and control, for example monitoring obligation related to Fire prevention under the Environmental Act and Plantation Act. The third is missing connection among instruments with sliced objectives and strategies, for example between sustainable palm oil certification monitoring and plantation assessment [23]. These conditions urge the government (the decision maker) to have a strong strategy combining political will, innovation, and creativity to choose the best instrument. Although the government has been more proactive, this paper finds that there is still no consistent action in enforcing the Fire regulation. As a result, some instruments are conducted just because it is an obligation of the government, not purely conducted to reach its goals. Moreover, some enforcement is not conducted in respond to misbehave nor it is to cease the Fire thoroughly. Even if the government become responsive, it was because the cases were captivating public attention or depending on complaint from the people.

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Фатіма Існа. Боротьба з лісовими пожежами в Індонезії: проблеми правового регулювання та реалізації. *Журнал Прикарпатського університету імені Василя Стефаника*, **5** (2) (2018), 198–210.

Неконтрольоване розширення діяльності насаджень в районах торф'яних районів є одним із головних факторів, що спричиняють в Індонезії лісовий та/або сухопутний вогонь (пожежу). Для вирішення таких проблем потрібно проаналізувати управління землекористуванням. Індонезійське законодавство передбачає різні варіанти регуляторних інструментів (пряме регулювання та альтернативні підходи до забезпечення відповідності). Після посилення пожеж у 2015 році, багато протестів від громадян, країн-сусідів і міжнародної спільноти закликали індонезійський уряд бути більш активним у застосуванні деяких регуляторних інструментів. Були введені адміністративні санкції та позов проти компаній протягом 2015–2017 років. Проте, регуляторне виконання не пройшло належної оцінки результатів. Це дослідження показує, що результат застосування примусових заходів щодо порушення положень про пожежу залишається невідповідним нормативним цілям, та стратегія виконання не є систематизованою.

Ключові слова: нормативно-правове забезпечення, пожежа, пряме регулювання, альтернативний підхід, регуляторні інструменти.

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ENVIRONMENTAL REQUIREMENTS IN THE FIELD OF URBAN DEVELOPMENT: LEGAL LAND ASPECTS

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Abstract. The article analyzes the procedure for conducting an environmental impact assessment in the context of urban development activities in accordance with the Law of Ukraine “On Environmental Impact Assessment”. The environmental impact assessment and the environmental expertise, which was carried out before the entry into force of the new legislation, were compared. Particular attention is devoted to public participation in the implementation of environmental impact assessment and to the introduction of a new information resource – the Unified Register of Environmental Impact Assessment.

Keywords: environmental impact assessment, ecological expertise, state ecological expertise, public ecological expertise, the Unified Register of Environmental Impact Assessment.

1. INTRODUCTION

The favorable ecological state of the environment is an increasingly vital component of society. The ecological situation in the world, particular in Ukraine, is becoming increasingly threatening. The probability of adverse environmental impact of anthropogenic interference increases with each passing day. The main task in this area should be to reduce the number of environmental risks in order to improve the state of the environment and achieve sustainable development.

Environmental risks carry within them inter alia urban development objects, including airports and airfields, motorways, public roads, main railway lines, hydraulic structures of sea and river ports, as well as industrial parks, residential areas, reloading terminals and equipment for overloading of various types of transport, dams, tram tracks, funiculars, subway lines (underground and aboveground) and power lines etc. The abovementioned objects are located on lands of industry, transport, communications, energy and residential and public buildings [7], which are often the environment of compact population.

The risks of the negative impact of urban development objects are not only on the objects of the environment, but also on the subjects living in it. That is why, in order to avoid negative impact on people's livelihoods, according to State Construction Standard DBN 360-92** “Urban Development. Planning and Development of Urban and Rural Settlements” as of April 17, 1992, the territory of the city is divided into the residential, industrial, including external transport and recreational according to the functional purpose and the nature of use [5, p. 6].

The residential area includes sections of residential buildings, public institutions, buildings and structures, including educational, design, scientific research and other institutes without research productions, internally residential road and transport network, as well as areas, parks, gardens, squares, boulevards, other objects of green building and public places. In its turn, the industrial area is intended for the placement of industrial enterprises and associated production facilities, including complexes of scientific institutions with research enterprises, utility and warehouse facilities, enterprises for the production and processing of agricultural products; sanitary protection zones of industrial enterprises; objects of special purpose (for defense purposes); structures of external transport and ways of out-of-town and suburban communications of the inner-city road and transport network; sections of public institutions and places of common use for the population working at the city enterprises [5].

It is important that industrial enterprises are allowed to be placed in the residential zone, following sanitary and fire safety requirements, if they do not emit harmful, toxic, dusty and fire hazardous substances into the environment, do not create higher levels of noise, vibration, electromagnetic radiation and do not require access to railroads. Mostly, such sanitary requirements and restrictions are established for the comfortable and eco-friendly residence of people, rather than for the preservation and renovation of the environment [5].

Recently, the legal regulation of the relations in this area has changed significantly. By May 23th, 2017, the Law of Ukraine "On Environmental Expertise" regulated this issue. Nevertheless, for the purpose of implementation of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) ratified by the Law of Ukraine as of March 19th, 1999 [3] as well as the Association Agreement between Ukraine on the one hand and the European Union, the European Community on nuclear energy and their member states, on the other hand, as of September 16th, 2014 [1] a new Law of Ukraine "On Environmental Impact Assessment" was adopted on May 23th, 2017, which was enacted on November 23, 2017.

Therefore, the problem requires an additional analysis, since previous scientific researches of such scientists as Y. V. Kondratenko, I. V. Starodubov, Z. V. Korzh, A. P. Voitsitsky, E. Posnyank etc., were based on the Law of Ukraine "On Environmental Expertise", which has become void.

2. ANALYSIS AND DISCUSSION

Using the comparative legal method, we are going to find out the main differences between the environmental impact assessment in the Law of Ukraine "On Environmental Impact Assessment" and the ecological expertise in the Law of Ukraine "On Ecological Expertise", which has become void, in the context of urban development activities.

The Law of Ukraine "On Environmental Impact Assessment" de-facto abolishes the institute ecological expertise prescribed by the Law of Ukraine "On Ecological Expertise" (the conclusion of the ecological expertise is a permit document). The new law introduces an environmental impact assessment procedure instead of ecological expertise.

According to Art. 1 of the Law of Ukraine "On Ecological Expertise", ecological expertise is a type of scientific and practical activity of authorized state bodies, ecological expert formations and associations of citizens based on inter-sectoral environmental research, analysis and evaluation of pre-design, project and other materials, the realization and action of which may negatively affect or affects the state of the environment. Ecological expertise is aimed at preparing conclusions on the compliance of the planned or ongoing activities with environmental protection legislation norms, sustainable use and restoration of natural resources, environmental security [10].

The main objective of such ecological expertise was to prevent the negative impact of human activities on the state of the environment and human health, as well as assess the degree of environmental safety of economic activity and the environmental situation in certain areas and objects.

According to Art. 7 of the Law of Ukraine "On Ecological Expertise", objects of ecological expertise are draft laws and other legislative acts, documentation on the introduction of new technologies,

materials, substances, products, genetically modified organisms, the implementation of which may lead to violation of environmental standards and negative impact on the state of the environment [10]. It is important that according to Art. 14 of the Law of Ukraine "On Ecological Expertise" as amended on April 9th, 2009, investment projects, feasibility studies and calculations, projects and working projects for the construction of new and expansion, reconstruction, and technical re-equipment of existing enterprises were also objects of the state environmental expertise. Today, examination of the design documentation for construction is carried out in accordance with Art. 31 of the Law of Ukraine "On Regulation of Urban Development". Expert examination of the design documentation for construction is complex, and experts on sanitary and epidemiological well-being of the population, ecology, labor protection, energy conservation, fire, technological, nuclear and radiation safety are involved (on the basis of civil contracts too) [8].

Hence, with the adoption on February 17th, 2011 of the Law of Ukraine "On the Regulation of Urban Development" [8], as well as the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine on Improvement of Urban Development Activities", ecological expertise as an environmental supervisory instrument was de-facto eliminated. There was no hope of analyzing and evaluating pre-project, project and other materials or objects, realization and actions of which could negatively affect or affected the state of the environment.

At the same time, the new Law of Ukraine "On Regulation of Urban Development" reduced the access of public to decision-making process on environmental issues, as far as the institution of public ecological expertise of the project documentation for construction was offset. This extremely contradicts Art. 6 (public participation in decision-making on specific activities) of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), ratified by the Law of Ukraine of July 6th, 1999 year [4]. This was one of the reasons why the meeting of the Parties to the Aarhus Convention on July 1, 2011 convened a decision on non-compliance with the Convention by Ukraine.

The adoption of the Law of Ukraine "On Environmental Impact Assessment" was a solution to many problems. This, in particular, has become a fulfilment of one of the articles of the Association Agreement between Ukraine on the one hand and the European Union, the European Atomic Energy Community and their Member States, on the other hand, as of September 16th, 2014, and will certainly promote prevention of damage to environment and provide of environmental safety in the future.

The Law of Ukraine "On Environmental Impact Assessment", introduces a mechanism of environmental impact assessment instead of ecological expertise [9]. The result of such an assessment is the decision on environmental impact assessment made by the competent bodies.

The law provides a clear and understandable list of activities, their criteria and limit values, for which an environmental impact assessment is required. The lists of types of activities and objects that are subject to environmental impact assessment, which are assessed at the level of the Ministry of Ecology and Natural Resources of Ukraine, or at the level of Ecological Departments of regional state administrations are determined. Hence, there are two categories of objects in the process of making decisions on the implementation of planned activity, which require the environmental impact assessment.

The first category of types of planned activities and objects includes those that can have a significant impact on the environment. As for urban development, they are as follows: the construction of airports and airfields with a main runway of 2100 meters length or more; highways; public motor roads of state and local importance with four or more lanes, or reconstruction and / or expansion of existing lanes up to four or more, provided they are continuously extending 10 kilometres or more; first-class highways; main railway lines of general use; hydraulic structures of sea and river ports, which can accept the vessels with a tonnage of more than 1,350 tons; deep sea shipping, including natural river beds, special canals on land and in shallow marine areas suitable for passage of vessels with a tonnage of over 1350 tons [9].

The second category of types of planned activities and objects regarding urban development activities includes infrastructure projects, in particular, the construction of residential quarters

(complexes of multi-apartment residential buildings) and shopping or entertainment complexes outside settlements on the area of 1.5 hectares or more, or within the boundaries of settlements, unless their connection to centralized water supply and / or drainage are provided; the construction of cinemas with more than 6 screens; construction (arrangement) of parking lots on an area of at least 1 hectare and more than 100 parking spaces; construction of airports and airfields with a main runway length of up to 2100 meters; construction of railway stations, railways and structures; construction of transshipment terminals and equipment for overloading various types of transport, as well as terminals for different types of transport; construction of dams and installation of other equipment for holding or accumulation of water at long intervals; carrying out works on clearing and dredging of the channel and bottom of the rivers, coastal consolidation, change and stabilization of the state of river channels; construction of tram tracks, pendant ropeways and funiculars or similar lines used for passenger transportation; construction of underground, aboveground lines of subway as single complexes, including depot with a complex of technical constructions; construction of aqueducts and pipelines for long-distance water transportation; construction of main product pipelines (pipelines for the transportation of gas, ammonia, petroleum or chemicals); construction of electric power lines (air and cable) with voltage of 110 kilovolts or more and substations with voltage of 330 kilovolts or more; construction of hydrotechnical structures of sea and river ports; construction of deep-sea vessels, including in the natural riverbeds, special channels on land and in shallow marine areas suitable for passage of vessels, as well as channels for anti-flooding purposes and hydraulic structures [9].

It should be noted that the environmental impact assessment is subject only to the planned activity, but not to what is already under way. According to the Law of Ukraine "On Ecological Expertise", which has become void, the state ecological expertise was allowed after the developer received the relevant permits for the construction of the object [10]. Today, the investor must conduct an environmental impact assessment prior to the the project documentation development. Such system has long been operating in the countries of the European Union and guarantees people living in the areas where they plan to implement the project to assess properly how much it will affect the environment and avoid construction that is contrary to the interests of the territorial communities.

According to the previous legislation, two types of environmental expertise were distinguished in Ukraine: state and public. The conclusions of the state environmental expertise were mandatory. When making a decision on the further implementation of the objects of environmental expertise, the conclusions of the state environmental expertise were taken into account on a par with other types of state expertizes. In return, the conclusions of the public and other environmental expertizes were recommendatory and might be taken into account when conducting the state ecological expertise, as well as when deciding on the further implementation of the object of environmental expertise [10]. This kind of ecological expertise was carried out by independent groups of specialists on the initiative of public organizations, as well as local executive bodies at their own expense or on a voluntary basis [12, p. 294]. This greatly diminished the role of the public in making decisions concerning the environmental impact.

The new legislation also provides for public participation in the process of environmental impact assessment at all stages. Hence, according to Art. 2 of the Law of Ukraine "On Environmental Impact Assessment", an environmental impact assessment is a procedure that includes the following stages:

- 1) preparing an environmental impact assessment report by an economic entity;
- 2) conducting public discussion;
- 3) an analysis of the environmental impact assessment report, any additional information provided by the economic entity, as well as information received from the public at the time of public discussion, during the implementation of the cross-border impact assessment procedure, other information by competent authority;
- 4) providing a reasoned opinion on the environmental impact assessment by competent authority taking into account the results of the abovementioned analysis;
- 5) taking into account the conclusion on the environmental impact assessment in the decision on the implementation of the planned activity, respectively [9].

Hence, public discussion is a form of public participation in environmental impact assessment conducted under Art. 7 of the Law of Ukraine "On the Environmental Impact Assessment" and the Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Procedure of Conducting Public Hearings in the Process of Impact Evaluation on the Environment" dated December 13th, 2017. Thus, the purpose of public discussion in the process of environmental impact assessment is to reveal, collect and take into account the remarks and suggestions of the public considering the planned activities [11]. This is an opportunity to get to know the opinion of the community, evaluate the possible risks before construction and obtaining the permits, unlike the process foreseen by the Law of Ukraine "On Ecological Expertise", which has become void, and under which public hearings were supposed to be conducted after issuance of all permits. Of course, to consider public opinion does not mean to literally consider the opinion of everybody, but the Law of Ukraine "On Environmental Impact Assessment" prescribes the possibility of a justified refusal, since opinions may be contradictory in many cases [13, p. 2].

There is also a new form of public discussion – the submission of written remarks and suggestions (electronic form including). In course of public discussions, the public has the right to submit any remarks or suggestions related to the planned activities in their opinion, without the need to justify such. Remarks and suggestions can be submitted in verbal or written form (including electronic form) during public hearings and shall be included in the minutes of public hearings [9].

In accordance with part 6 of Art. 7 of the Law of Ukraine "On Environmental Impact Assessment", after submission of the report on environmental impact assessment public discussion commences from the day of the official announcement of the launch of public discussion of the report on environmental impact assessment and provision of public access to the environmental impact assessment report for review; it lasts no less than 25 and no more than 35 business days. All remarks and suggestions by the public within the established deadline are subject to mandatory review. Suggestions submitted after the deadline shall not be considered. In case remarks and suggestions were not submitted within the specified time period, it is assumed that there are no comments or suggestions [9].

Conducting public hearings with clearly defined timeframes, as well as a clear and transparent procedure of considering and fixing their results, will also help to minimize the impact of the decision-making authorities. A transparent procedure of public participation in the process of environmental impact assessment at all stages is extremely important. This is a kind of guarantee that negative impact on the environment and human health will be minimized, as often it is the community that has an information about the ecological characteristics of the region.

Together with the enactment of the Law of Ukraine "On Environmental Impact Assessment", a qualitatively new information resource – the Unified Register of Environmental Impact Assessment – became operational. Therefore, the submission of documents to obtain a report on the environmental impact assessment is carried out directly by placing it in an open Unified Register of Environmental Impact Assessment. This register limits the contact between state authorities and economic entity, which is especially relevant in view of anticorruption efforts and investment climate facilitation in Ukraine. Moreover, it creates appropriate conditions for the preservation of the environment. Unified register allows all interested parties to get acquainted with open procedures for environmental impact assessment and to quickly find data with regard to which objects and types of activities the environmental impact assessment is carried out in different regions of Ukraine.

3. CONCLUSIONS

Taking into consideration the abovementioned, it can be concluded that the adoption of the Law of Ukraine "On Environmental Impact Assessment" introduces to Ukraine a European model of environmental impact assessment of potentially dangerous planned activities. Contrary to the previous legislation, a system is created to prevent environmental damage, and not to deal with possible consequences of it.

Environmental Impact Assessment is a transparent and complex stage-by-stage procedure with precise timelines which establishes contemporary principles of public participation in the planning of certain activities. According to the Law, the violation of the procedure of carrying out an environmental impact assessment is the basis to cancel the report on the environmental impact assessment.

Providing free public access to all information concerning planned activities, procedures of public hearings and conducting public Unified Register of environmental impact assessments on the Internet is a remarkably forward-looking step for the country declaring the need for openness and transparency in decision-making.

Adoption of the Law of Ukraine “On Environmental Impact Assessment” is a significant step towards the fulfilment of Ukraine's international obligations to the European Union, as well as an important step towards the introduction of reasonable and effective environmental policy.

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Костик Соломія. Екологічні вимоги у сфері містобудівної діяльності: земельно-правові аспекти. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 211–217.

У статті проаналізовано процедуру проведення оцінки впливу на довкілля в контексті містобудівної діяльності відповідно до Закону України “Про оцінку впливу на довкілля”. Здійснено порівняння оцінки впливу на довкілля та екологічної експертизи, яка здійснювалась до набрання чинності новим законодавством. Особливу увагу присвячено участі громадськості у здійсненні оцінки впливу на довкілля та запровадженню нового інформаційного ресурсу – Єдиного реєстру оцінки впливу на довкілля.

Ключові слова: оцінка впливу на довкілля, екологічна експертиза, державна екологічна експертиза, громадська екологічна експертиза, Єдиний реєстр оцінки впливу на довкілля.

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PREVENTION OF INDUSTRIAL ACCIDENTS IN THE EU LEGISLATION

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Abstract. The development of civilization and technology is associated with the growing risks to the natural environment, primarily from the risks posed by industrial plants that use hazardous substances or production processes in process of production. The experience of the last few decades shows that such failures cause serious damage to the environment and material or human losses. To prevent such accidents and limit their possible consequences, legal regulations known as Seveso Directives have been developed within the European Union. They were adopted also in Poland as a EU member.

Keywords: industrial plants, failure, accident, Poland, European Union, Seveso Directives, State Fire Department.

1. INTRODUCTION

The issue of preventing major industrial accidents that pose a potentially significant risk to the natural environment is increasingly gaining in importance. Alongside the rising level of industrialisation and technological advancement of industrial plants, the risk of accidents and failures is also growing. Depending on the type and location, not only the staff at the plant but also residents of the neighbouring areas as well as the natural environment may find themselves in the danger zone. The most tragic disaster of this kind happened in 1984 in an Indian city of Bhopal. The leakage of more than 40 tonnes of methyl isocyanate from a pesticide manufacturing plant (owned by an American company Union Carbide) resulted in 15,000 deaths, a large number of people suffering from serious health damage and more than 500,000 residents coming in contact with the hazardous substance. Industrial accidents also happened in Europe. In 1976 in Seveso, a town in northern Italy, an explosion in a plant manufacturing artificial fertilisers led to the contamination of the environment (the atmosphere, the ground as well as ground and surface waters) with significant amount of toxic and carcinogenic substances. The disaster affected more than 2,000 people.

The danger related to industrial accidents and their scale imposes the necessity to take preventive action on the national as well as on the international level. The consequences of accidents, especially for smaller states, could be unpredictable not only for them but also for their entire regions as national borders provide no protection at all.

2. ANALYSIS AND DISCUSSION

Poland: What are ZDRs and ZZRs?

Like EU member states, Poland pays a lot of attention to the issue of preventing industrial accidents. Even more so, because the economic development of our country increases the number of industrial plants that – were the accident to occur – pose a potential threat to the environment and the people. In terms of the number of plants posing a potential threat, Poland ranks 8th in the EU. In 2005, there were 1062 such plants across Poland, in 2008 – 1173 [1].

The legislation covering the issue of serious industrial accidents in Poland is the Environment Protection Act of 27 April 2001, and in particular Title IV: ‘Major Accidents’. Depending on the type, category and quantity of a dangerous substance article 248 of the Act mentions ‘increased-hazard establishments’ (Zakłady Zwiększonego Ryzyka (ZZR)) and ‘high-hazard establishments’ (Zakłady Dużego Ryzyka (ZDR)). Whether a plant is categorised as ZZR or ZDR is a decision of the minister of economic affairs announced in a regulation following consultations with ministers responsible for health, home affairs and administration, and the environment. Especially dangerous substances include materials that are: toxic, highly toxic, oxidising, explosive, combustible, highly combustible, extremely combustible and exceptionally dangerous for people and the environment [2; Art. 248]. An operator of a high-hazard or increased-hazard establishment is obliged to register it with the State Fire Service at least 30 days before the launch [3]. The application should include the location of the plant as well as its type, category, amount and physico-chemical characteristics, fire and toxic specification of the dangerous substances used as well as specification of the area where the plant is located with particular focus on factors that could contribute to increasing the risk of an industrial accident or increase its consequences [4; p.40]. At least once every year the plant should be checked by the State Fire Service [2; Art. 250].

The Act also introduces the definition of a major industrial accident. It is understood as an incident, in particular emissions, fire, or explosion occurring in the plant and emerging in the course of an industrial process, storage and transport involving one or more dangerous substances, leading to immediate or delayed danger to human health or life, or the environment [2; Art. 3].

Most potentially dangerous plants in Poland are located in the Silesia province. There are 38 such establishments, out of which 15 are ZDR category and 23 ZZR category (6). Across Poland there are about 160 establishments classified as ZDR and about 200 classified as ZZR, according to the State Fire Service. What is more, the results of checks carried out in 2007 showed that 43% of plants did not follow the rules of dealing with dangerous substances [5].

International legislation: Seveso II and Seveso III

The issue of industrial accidents is recognized as vital so it requires separate regulation at the EU level. The first piece of dedicated legislation was the Council Directive 82/501/EEC of 24 June 1982 on the major-accident hazards of certain industrial activities, known as Seveso-Directive. Its amended version was passed on December, 9, 1996, and is known as Seveso II: Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances, and completed by the Directive 2003/105/EC.

Seveso III was adopted in 2012 as a Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC [7].

In Poland the above-mentioned legislation is implemented by the already mentioned Environment Protection Act of 27 April 2001. Article 1 specifies the basic objective of the directive, which is the prevention of major accidents which might result from certain industrial activities involving dangerous substances and with the limitation of their consequences for people and the environment as well as providing high-quality prevention against hazards in the European Community [6; Art.1]. Substances defined as “dangerous” are listed in the annexes. Article 4, on the other hand, includes a specification of threats and plants out of the scope of the directive. These are:

- military establishments, installations or storage facilities;

- hazards created by ionizing radiation;
- the transport of dangerous substances and intermediate temporary storage by road, rail, internal waterways, sea or air, outside the establishments covered by this directive, including loading and unloading and transport to and from another means of transport at docks, wharves or marshaling yards;
- the transport of dangerous substances in pipelines, including pumping stations, outside establishments covered by this directive;
- the mining industry, including such activities as exploration, extraction and processing of minerals in mines, quarries, or by means of boreholes;
- waste land-fill sites [6; Art.4].

A similar specification is included in the Environment Protection Act in article 248. An operator of a plant under the directive is obliged to notify authorised bodies before the launch of such a plant (as already mentioned in Poland the authorised body is the State Fire Service). The operator is also obliged to take actions to secure a high-level of protection for people and the environment through creating the right procedures and mechanisms of actions [6; Art.7]. Article 9 of the Directive (and parallel Article 253 of Environment Protection Act) imposes on the operator a duty to produce a safety report. It should be updated at least once every five years (or more often if the circumstances require) and include the following:

- the operator of a high-hazard establishment is prepared to apply the accident-prevention program and to respond to industrial accidents;
- the establishment meets the requirements for the implementation of the safety management system referred to in Article 252 (safety training, the instructions on the safe operation, monitoring and review of the safety system);
- the possibility of the occurrence of an industrial accident has been analyzed and the necessary measures to prevent it have been taken;
- the design, construction and operation of the installation where the dangerous substance is present ensures its safety;
- internal emergency plans have been developed and information has been provided for the development of external emergency plans [6; Art.253].

Regarding accidents preventions, the Directive focuses on the creation of a program for preventing accidents and a plan in case an accident occurs. Accidents Prevention Program (PZA) includes:

- the likelihood of an industrial accident;
- rules on preventing, and tackling the consequences of industrial accidents that should be implemented;
- the ways of limiting the consequences for people and the environment in case of an accident;
- the frequency of analysis, review and updates [3].

In case on an accident an internal operation and rescue plan is needed. It is described in Article 11 of the directive. Such plans are required for newly established plants, as well as plants already in operation but falling out of the scope of the 1982 directive [6; Art.11]. The plan has to include in particular:

- the proposed measures to limit the effects of the industrial accident on people and the environment;
- the proposed methods and means of protecting people and the environment against the effects of an industrial accident;
- information on existing hazards, the preventive measures taken and on the response measures to be taken in the event of an industrial accident, to be provided to the public and the competent authorities;
- an indication of the ways wherein the effects of an industrial accident will be eliminated and the previous state of the environment restored;
- an indication of the measures to prevent the transboundary impact of an industrial accident [2; Art.260].

The tasks under the directive and the Environment Protection Act should be carried out, for ZDE, by the Provincial Commandant of the State Fire Service, and for ZZR, by Regional Commandant of the State Fire. These bodies are also responsible for the preparation of the external operation and rescue plan in case the consequences of an industrial accident spill into the areas beyond the plant. Rescue plans for regions and provinces are developed based on delivered data. If the projected danger zone includes residential buildings or public buildings (offices, schools, institutions, etc) evacuation plans have to be developed. Residents and staff from the buildings located in the potential danger zone are informed well in advance about how to behave in case an accident occurs [7]. External rescue plan should be kept up to date and tested in a form of a regular drill at least every three years. Changes in the plant and in the structures of rescue teams must be taken into account [8]. EU member states are obliged to create, or transfer powers to, relevant bodies responsible for implementation and control if the rules in the directive are obeyed [6; Art.16]. In case the plant operator does not fulfill their duties specified in the directive, the member state may ban the use of the dangerous substance or installations in the scope of the directive [6; Art.18]. In order to secure the implementation of the rules there is a possibility to conduct inspections. Every three years EU member states are also obliged to present reports on the progress of the implementation of the directive [6; Art.19].

In case of a major accident, the plants operator is obliged to immediately inform the relevant authority (here the State Fire Service and the Environmental Protection Inspector) and provide these bodies with the following information:

- the circumstances of the accident;
- dangerous substances involved;
- review of consequences for people and environment;
- rescue actions taken, and other actions taken to limit the consequences of the accident.

In case of a major industrial accident in a neighboring country with consequences impacting on the territory of Poland, the environment minister immediately informs the Chief Commandant of the State Fire Service, who launches relevant rescue actions. When, on the other hand, such accident occurs in Poland the environment minister informs the European Commission giving the details of the accident, its consequences, analyses and plants that pose potential danger [2; Art.271].

3. CONCLUSIONS

The level of safety in Polish industrial plants is satisfactory: the factors related to accidents and failures are on the compatible level with such countries as France or Spain [9]. On the other hand, advancing industrial development of industrial plants and an increase in their numbers across Poland requires constant monitoring of their safety. The most serious shortcoming of the industrial accidents prevention system in Poland includes the lack of a defined accident prevention policy. However, according to specialists the introduction of the Environment Protection Act, which implemented the Seveso II Directive, in Poland improved the safety of ZDRs and ZZSs.

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Матерняк Даріуш. Запобігання промисловим аваріям у законодавстві ЄС. *Журнал Прикарпатського університету імені Василя Стефаника*, 5 (2) (2018), 218–222.

Розвиток цивілізації та технологій пов'язаний з зростаючими ризиками для навколишнього природного середовища, що виникає, в першу чергу, з ризиків, спричинених промисловими підприємствами, які використовують небезпечні речовини або виробничі процеси. Досвід останніх десятиліть показує, що такі аварії завдають серйозної шкоди навколишньому середовищу, матеріальні та людські втрати. Щоб запобігти подібним аваріям та обмежити їхні можливі наслідки, в рамках Європейського Союзу були розроблені правові норми, відомі як директиви Seveso.

Ключові слова: аварія, промисловий завод, Польща, Європейський Союз, директива СЕВЕСО, пожежна служба.

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EUROPEAN SOVEREIGNTY AND SUSTAINABLE DEVELOPMENT: DISENCHANTED ANALYSIS OF A CLEAR-OBSCURE POLITICAL SPEECH

NATHALIE HERVE-FOURNEAREAU

This article demonstrates the new innovative approach to the significant legal and political correlations and is been written in the form of Presidential political speech analysis, which foresees the deep synthesis and knowledge of legislative provisions, reflections on national sovereignty, ecological transition, climate change and European Union legislation.

“The fourth key to our sovereignty is being able to address the first of the major global transformations, the ecological transition” (Sorbonne Speech of the French President “Initiative for Europe”, 2017).

How could we not share the French President’s ambition expressed during his speech at the Sorbonne in September 2017 [1]? His desire to revolutionize *“the way we produce, redistribute and behave”* but also to ensure a *“demanding vision of sustainable development”* generates an enthusiasm filled with relief and hope. It is a relief to think that this speech would finally translate into an awareness of the environmental emergency and the need for transnational and transgenerational solidarity. It is also a hope to imagine the design of a *“new production model that will not only be a model for the economy, but also a model for society and civilization, enabling a fresh perspective on inequalities”*.

Following his Athens speech, the French President is showing his determination to play a major role on the European and international scene. His initiative *“Make our planet great again”* [2] or his choice to bring before the UN, among the existing French projects (the draft Universal Declaration of Humankind Rights or the draft International Convention on Human Rights to the environment), the Global Pact for the Environment [3] supported by the European Commission [4] illustrates this presidential dynamic.

According to the French President, the *“only way”* to build this sustainable future is to build a European sovereignty in the sense of our ability to *“take action”* and *“exist in today’s world”*, in order not to suffer *“the survival of the fittest”* or the undermining of the founding values of the European project.

Beyond the question of the presidential sincerity in favor of a Europe that is *“a pioneer of an effective and equitable ecological transition”*, the opportunity to use the expression *“European sovereignty”* in a context of *“polycrisis”* exacerbated by a *“fall back”* raises questions. If the final objective of the speech

was to provoke a shock wave, this Pascal's bet is very risky and is full of contradictory interpretations. It should be remembered that the construction of Europe is part of a process going beyond the Westphalian conception of State sovereignty without however sealing the end of national sovereignty. As Advocate General J. Kokott reiterates, "*the Union was established by still sovereign States*" and "*the principle of conferred powers in order to define the competences of the Union is both an expression of that sovereignty and a safeguard of it*" [5]. Unsurprisingly, the term "European sovereignty" cannot be found in case law unlike the many cases where issues of limitations, transfers and protection of national sovereignty were at the heart of the complex and evolving relations between national and European competences. Did the President want to refocus the role of the Union on major challenges in the light of a revisited subsidiarity principle? Did he want to expand the limited scope of the EU's exclusive competences (...)? The speech remains silent on the scenarios needed to redesign the powers and competences attributed and exercised by the Union. However, a clarification will be needed to provide an operational translation, especially for this fourth key to European sovereignty.

European sovereignty and ecological transition: an ambivalent relationship

Intended to enable the Union to respect its internal [6] and external [7] commitments in favor of sustainable development, this fourth key is not without ambivalence. Facing the unique spatio-temporal dimension of environmental challenges, sovereign States are forced to build international cooperation to manage these socio-ecological interdependencies and dependencies that ignore this holy concept of state sovereignty. In that regard, it is important to recall that the research of the establishment of "*the level of action (local, regional, national, Community, international) that befits the type of pollution and the geographical zone to be protected*" constitutes, since 1973, the guiding principle giving priority to community actions that are able to bring an environmental added value compared to other legal scales. This research of the environmental added value based on this division of competences between the Union and the Member States will not be called into question while at the same time it provides for procedures that will preserve the sovereign sensitivities of the Member States (Unanimity: taxation, town and country planning, quantitative management of water resources, land use, choice of energy sources (Article 192 TFEU) and national measures for enhanced protection (Article 193 TFEU)). Should the ambition to "revolutionize" our development model lead to a rethinking of competences' division attributed to the Union and their methods of exercise? Should it go beyond environmental policy while at the same time respecting the principle of integration of environmental requirements (Article 11 TFEU and Article 37 Charter of Fundamental Rights of the European Union [9])? One can question the willingness of States to break with the questionable political interpretation of the subsidiarity's principle which for example has led to the withdrawal of two proposals for directives in 2014 (on access to justice and soil protection [10]).

Carbon price, European industrial programs (...): Nothing new under the sun, or almost?

Is the Union committed to transforming its development model for a high level of environmental protection (TFEU) and its international commitments such as the Aarhus Convention [11] on access to information, public participation in decision-making and access to justice in environmental matters (Council Decision (EU) 2017/1346 [12], Open Letter from ClientEarth and BEE to European Environment Ministers in April 2018 [13])?

The French President insists on the "*climate change*" which "*is threatening our security like never before*" asking for radical changes of the modes of production and consumption. However, environmental challenges are not just about climate; the erosion of biodiversity and the vulnerability of high seas, areas outside national jurisdiction, highlight the need for an integrated ecosystem approach that is including in the ecological transition and sustainable development. As necessary is the defensive philosophy underlying the President's speech and the need for a Europe that protects (echoing the White paper on the future of Europe 2017 [14]), it seems unfortunate to leave in the shadows the

responsibility of the Union and its Member States in the global environmental degradation. Europe must “*fundamentally reduce the environmental footprint of its economy*” and “*ensure that economic development and growth respect the planet’s limitations*” [15].

Obviously, this transformation of the production model not only requires substantial investment but also to reform all financial support. Despite the President’s choice to “*say hardly anything about tools*” and focus on this project of refoundation, the proposed measures disappoint by their lack of audacity. Their economic classicism underscores the importance of weak sustainability model whereby environmental policies are confined to provide support roles to the market. As the reading of the speech progresses, the gap between the ambitious objectives and their realization becomes more pronounced. If the French President reiterates the importance of having “*confidence in the experts*” in view of recent controversies over glyphosate [16] or the definition of endocrine disruptors [17], why has not he suggested the recognition of a principle of non-regression that could have been based on French environmental law? (L110-1.9 of the French Environmental Code [18]). One could have proposed deepening the process of democratization of the European system, the recognition of a right to the environment or the construction of climate [19] and environmental justice. It is also difficult to appreciate the results of the President’s proposal to hold “*democratic conventions*”, renamed “*Citizens’ Consultations for tomorrow’s Europe*” [20], that will take place from April to October 2018 in 27 Member States.

“*France’s time for making proposals has returned*”. Hence, in spite of these paradoxes and grey areas, we may hope that the Sorbonne’s speech will constitute a great political platform that will contribute to the construction of a future European socio-ecological pact based on solidarity sovereignties [21].

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