

ORIGINAL ARTICLE

Questions of efficiency of the state policy in the ecological sphere

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The article has studied problematic issues of terminology that is widely used in national legislation—"rubbish", "waste", "disposal". It is emphasized that at present, attempts are being made in the state to introduce a reasonable waste management policy at the legislative level. This is proved by a number of legislative initiatives in the sphere of ecology. Public attention is focused on the state policy of medical waste management, especially for hazardous waste, which includes medical equipment and materials that were used in the treatment of patients with coronavirus disease COVID-19. It should be noted that the increase in hazardous medical waste, according to statistics, is actively increasing. The article has analyzed the national legislation in the sphere of waste management and it was suggested a systematic approach to the introduction of effective measures to solve the problems of effective waste management.

Keywords: Rubbish, waste, disposal, legislation, natural environment.

Introduction

This study is of great importance for humanity as a whole, because one of the main tasks of any state is to ensure and protect one of the natural values of a man—natural environment. Recognition of a person as the highest social value in the state (axiological approach) makes it possible to draw the following conclusions—a person has the right to the fullness of a decent existence and development; in case of violation of normal relations of such development, he has the right to restore balance, that is, the resumption of violated rights. Therefore, everyone should be guaranteed the right to environmental safety, in other words, to a clean environment. Natural values are determined by human interests and needs that arise throughout a person's life. An integral condition for sustainable economic and social development of any state, including Ukraine, is protection of natural environment, rational use of natural resources, and ensuring environmental safety of human's vital activity.

In Ukraine, an environmental policy is being realized at the state level and it is aimed at preserving the natural environment that is safe for the existence of living and inanimate nature, as well as protecting people's lives and health from negative impacts caused by environmental pollution. To this end, our country is taking active steps to harmonize the interaction of society and nature (natural resources), its rational use and restoration.

The introduction of effective policies and legislation in this area will lead to the preservation, development, improvement and restoration of natural environment quality, rational use of natural resources and the adoption of measures at the international and national levels to solve environmental issues. The implementation of effective reforms to ensure the observance of the environmental laws will lead to cross-border cooperation in this area.

Materials and Methods

To achieve the goals of the article and solve research problems, a set of general scientific and special methods was used. The dialectical method was used in all parts of the work, which ensured an analysis of the components of the branch (legal) characteristics of terminology. The dogmatic (formal-logical) method was used when studying and explaining of the law itself in its various manifestations. At the same time, both external and internal forms of law are considered, which made it possible to formulate definitions indicated in legislation that are in line with the rules of formal logic. The formal-legal method was used to understand the internal form of law phenomena and processes, and made it possible to formulate concepts and definitions—rubbish, waste, and disposal—based on generalization and identification of characteristics. The method of analysis gave an opportunity to learn the system of state-legal phenomena in their complex, as well as rights and freedom in their unity, their characteristics acquired precisely through this combination. This allowed establishing the existence of links of various elements of the system with each other, as well as with the external environment, which helped to diversify ideas about the complexity of the functional sphere of the state and the role of environmental protection in this context. The comparative method consisted in finding out similar or different by corresponding characteristics of the concepts used in the study.

Results and Discussion

Problems of normative regulation of “rubbish” and “waste” concepts

Analyzing the normative legal acts in this area, we came to the conclusion that there is no comprehensive understanding of some terminology. The current legislation of Ukraine provides legal regulation of this issue by implementing the state policy in the area of waste management. However, in the process of legal issues analysis in the area of waste management, concepts that have different meanings and are interchangeable in practice are used, which is unacceptable. So, the terms “rubbish” and “waste” seem to have the same meaning, and sometimes they are interchanged in legislation.

The definition of “rubbish” was given for the first time in the legislative field of Ukraine in the Methodology for calculating the amount of compensation for losses caused to the state as a result of violation of the legislation on the protection and rational use of water resources (1995). Rubbish (clause 3.1.8)—heterogeneous mixtures that are generated in the process of human’s vital activity and need to be neutralized, recycled, and liquidated. All types of food, household and operational waste (with the exception of fresh fish and its residues) that are generated during the normal operation of the vessel (<https://zakon.rada.gov.ua/laws/show/z0162-95/ed20090825/find?text=%D1%EC%B3%F2%F2%FF#Text>). The same concept of “rubbish” some time later was given in another regulatory document and means all types of food, household and operational waste (except fresh fish and its residues) that are generated during the normal operation of the vessel and subject to permanent or periodic removal, with the exception of substances, the definition or list of which is given in Appendix V to MARPOL 73/78 and other Appendices to MARPOL 73/78. (<https://zakon.rada.gov.ua/laws/show/z0452-01#Text>).

From compared definitions, their differences can be seen: firstly, in the first definition it is said about a heterogeneous mixture (a mixture with an inhomogeneous composition) (<https://www.greelane.com/uk/%D0%BD%D0%B0%D1%83%D0%BA%D0%B0-%D1%82%D0%B5%D1%85%D0%BD%D0%BE%D0%BB%D0%BE%D0%B3%D1%96%D1%8F-%D0%BC%D0%B0%D1%82%D0%B5%D0%BC%D0%B0%D1%82%D0%B8%D0%BA%D0%B0/%D0%BD%D0%B0%D1%83%D0%BA%D0%B0/definition-of-heterogeneous-mixture-and-examples-605206>), which in our opinion does not have any special meaning in the definition. Besides, the “method” of generation (in the process of human’s vital activity) and possible “consequences”—(neutralization, disposal, liquidation) contained in the definition have no meaningful meaning, since they do not play any role in the definition; secondly, there is a significant feature in another definition—the mention of the prohibition of special substances, which are given in Appendix V to MARPOL 73/78 and other Appendices to MARPOL 73/78 (https://zakon.rada.gov.ua/laws/show/896_024?find=1&text=%D0%B2%D1%96%D0%B4%D1%85%D0%BE%D0%B4%D0%B8#w1_1) that is the condition for ratification of the 1973 International Convention for the Prevention of Pollution from Ships and its Appendices (https://zakon.rada.gov.ua/laws/card/896_009) that link them.

Along with the term “rubbish” in the legislation of Ukraine, the term “waste” is used, which is more common, and is not synonymous. So, waste—any substances, materials and objects generated in the process of production or consumption, as well as goods (products) that have completely or partially lost their consumer properties and have no further use at the place of their generation or discovery and their owner gets rid of them, intends or has to get rid by recycling or disposal of them (Pro vidhodi: Zakon Ukrayini, 1998).

Explanatory dictionaries define this terminology as follows. “Waste is the remains of raw materials, materials that are generated in the process of manufacturing products and can be used for other production. Rubbish—something that doesn't matter, values, etc.; something superfluous, unnecessary”

(<https://slovnyk.ua/index.php?swrd=%D0%B2%D1%96%D0%B4%D1%85%D0%BE%D0%B4%D0%B8>).

Therefore, the absence of stable and clear definitions of the terms “rubbish” and “waste” will lead to the inability to unambiguously establish some of their characteristics. So, it is necessary to improve the normative background in the environmental sphere, thereby consolidating general definitions in the current legislation, eliminating cases of using these terms with different meanings. In addition, to bring the definitions of the terms “rubbish” and “waste” in line with international legislation and relevant European rules.

Environmental issue of waste management

Humanity has been trying for several decades to implement a reasonable policy, including at the legislative level regarding waste management. The State Statistics Service of Ukraine (<http://www.ukrstat.gov.ua/>) provides some information in the sphere of natural environment (Table 1).

Year	The amount of generated waste	The amount of disposed waste	The amount of burned waste	The amount of waste disposed of in specially designated areas and facilities	Total amount of waste accumulated during operation in specially designated areas and facilities
2016	295870.1	84630.3	1106.1	157379.3	12393923.1
2017	366054.0	100056.3	1064.3	169801.6	12442168.6
2018	352333.9	103658.1	1028.6	169523.8	12972428.5
2019	441516.5	108024.1	1059.0	238997.2	15398649.4

Table 1: Waste generation and management in Ukraine (2016–2019).

Thus, the analysis of the “Waste generation and management” data proves that in recent years the amount of waste generated, as well as the total amount of waste accumulated during operation, in specially designated places and facilities, has significantly increased. In addition, such disappointing waste statistics include waste of I-III hazard classes. Consequently, at present it is appropriate to recognize that in Ukraine there is an environmental problem with waste and its accumulation, which requires a comprehensive solution to this issue.

For the state settlement of this issue at the legislative level, active steps are being taken to solve this problem. First of all, the law of Ukraine “On waste” defines that “waste management is actions aimed at preventing the waste generation, its collection, transportation, sorting, storage, processing, recycling, disposal, neutralization and dumping, including control over these operations and supervision of disposal sites” (clause 2 of Part 1 of Article 1). This definition contains a lot of terms that have different meanings in the normative legal acts of our state. One such controversial term is “waste disposal”. It has been analyzed current normative-legal acts and those acts which lost their validity, that provide different definitions of this terminology, thus the following definitions of “waste disposal” are present:

- 1) use of waste as secondary material or energy resources (Pro vidhodi: Zakon Ukraini, 1998; <https://zakon.rada.gov.ua/laws/show/1360-98-%D0%BF/ed20021011/find?text=%D3%F2%E8%EB%B3%E7%E0%F6%B3%FF+%E2%B3%E4%F5%EE%E4%B3%E2#Text>; <https://zakon.rada.gov.ua/laws/show/408-99-%D0%BF/ed19990413/find?text=%D3%F2%E8%EB%B3%E7%E0%F6%B3%FF+%E2%B3%E4%F5%EE%E4%B3%E2#Text>; <https://zakon.rada.gov.ua/laws/show/1225-99-%D0%BF/ed19990722/find?text=%D3%F2%E8%EB%B3%E7%E0%F6%B3%FF+%E2%B3%E4%F5%EE%E4%B3%E2#Text>);
- 2) use of the production as secondary material or energy resource after decontamination (<https://zakon.rada.gov.ua/laws/show/z0579-04/ed20121008/find?text=%D3%F2%E8%EB%B3%E7%E0%F6%B3%FF#Text>);
- 3) activities related to the processing of toxic substances for the purpose of using a useful effect or processed products that are not toxic substances (Instrukciya pro poryadok rozglyadu zayavok ta nadannya dozvoliv na virobnictvo, zberigannya, transportuvannya, vikoristannya, zahoronennya, znishennya ta utilizaciyu otrujnih rechovin, u tomu chisli toksichnih promislovih vidhodiv, produktiv bioteknologiyi ta inshih biologichnih agentiv,5);
- 4) use of toxic substances or biotechnological products as secondary material or energy resources (<https://zakon.rada.gov.ua/laws/show/z0781-02/ed20130830/find?text=%D3%F2%E8%EB%B3%E7%E0%F6%B3%FF#Text>. втратив чинність);
- 5) processing of animals corpses and confiscated goods into decontaminated technical and feed products (<https://zakon.rada.gov.ua/laws/show/z0524-02/ed20130809/find?text=%D3%F2%E8%EB%B3%E7%E0%F6%B3%FF#Text>);
- 6) processing of animals corpses and confiscated goods into safe technical and feed products (<https://zakon.rada.gov.ua/laws/show/z0085-09/ed20090209/find?text=%D3%F2%E8%EB%B3%E7%E0%F6%B3%FF#Text>);

7) processing of poultry corpses, incubation waste and veterinary confiscated goods into decontaminated technical and feed products(<https://zakon.rada.gov.ua/laws/show/z1277-11/ed20111128/find?text=%D3%F2%E8%EB%B3%E7%E0%F6%B3%FF#Text>).

As a conclusion, it should be noted that different normative legal acts provide different definitions of this terminology. Such a "peculiarity", in our opinion, will lead to a different understanding of this terminology and, of course, to its different enforcement. Therefore, we propose to unify the terminology in this part, which will greatly simplify the understanding of this terminology and avoid its multiple meaning.

Policy of medical waste management

Taking into account conditions of the present time—"pandemic and quarantine", the problem of medical waste management policy remains relevant for the whole world. In particular, in healthcare institutions of Ukraine, the level of medical waste management is low, first of all: the absence of special refrigeration equipment for waste storage and equipment for treatment of medical waste. The problem remains the safe disposal of used medical materials (injection instruments, scarifiers (lancets), cotton tampons, napkins, etc.). According to the State Statistics Service of Ukraine (<http://www.ukrstat.gov.ua/>), the following information is available regarding waste that is generated in the course of human life and human's activity in residential and non-residential buildings and is not used at the place of their accumulation (household and similar waste (HSW)). According to the European Statistical Classification of waste (EWS-Stat), HSW is classified as waste 10.1. Household and similar wastes (HSW)—wastes produced in the process of people activity in the inhabited and uninhabited buildings and that are not used in the place of their accumulation. Household and similar wastes refer to the waste category 10.1 of the European Wastes Statistical Classification (EWC-Stat) (Table 2).

Thus, the statistics remain disappointing, taking into account that the growth of rubbish increases, and its disposal is minimized. As for medical equipment and materials, medical institutions are responsible for their recycling and disposal. So for example, the amount of generated waste according to the classification groupings of the state classifier of waste in 2019: semi-finished products of own production of medical, surgical and orthopedic equipment or the remains of unfinished production of medical, surgical and orthopedic equipment, not suitable for their intended use—0.8; medical, surgical and orthopedic substandard equipment—0.2; medical, surgical and orthopedic equipment contaminated with radionuclides and (or) harmful (dangerous) substances—0.2; damaged, spent or not repairable medical equipment—4.3; medical needles damaged or used—24.6; disposable damaged or used medical equipment and instruments—7.7; other medical instruments (including syringes, thermometers, sets for diagnostic tests, medical instruments, etc.) that do not meet the established requirements, are not properly marked, damaged or used—270.5. The analyzed statistics are disappointing, but these are not considered data from the moment of the maximum spread of the coronavirus disease COVID-19 of further years (2020–2021). Currently, the Ministry of health of Ukraine continues to vaccinate against COVID - 19 in Ukraine, since the beginning of the campaign, only 2,583,468 vaccinations have been carried out (<https://moz.gov.ua/article/news/operativna-informacija-pro-poshirenna-koronavirusnoi-infekcii-2019-cov19>). Consequently, the amount of medical waste increases significantly, which should also lead to an increase in the volume of recycling and disposal.

Waste of this level is considered dangerous. According to paragraph 2 of clause 3 of the License Conditions for carrying out economic activities for the management of hazardous waste, approved by the resolution of the Cabinet of Ministers of Ukraine of 13.07.2016 No. 446 (hereinafter referred to as the License Conditions), hazardous waste is waste that has such physical, chemical, biological or other dangerous properties that create or may create a significant danger to the environment and human health and that requires special methods and means of management of them (Licenzijni umovi provadzhennya gospodarskoyi diyalnosti z povodzhennya z nebezpechnimi vidhodami, 2016). Management of category B hazardous waste (epidemiologically dangerous) requires an appropriate license. However, responsible medical personnel are obliged to decontaminate waste in specially designated areas or where it is directly generated. Such waste that has not been decontaminated is prohibited from being accumulated, temporarily stored and exported outside the health care facility. In addition, other actions have been introduced regarding the waste management policy to comply with licensing requirements and comply with accreditation standards.

So, a component of the sanitary and epidemiological regime when implementing of medical practice is the appropriate organization of work with medical waste, which is the result of medical care in the relevant institutions. Medical professionals who work with waste are obliged to have appropriate skills and comply with sanitary standards. In particular, they have to prevent infections inside the hospital, properly remove and destroy household rubbish and medical waste (paragraph 25 of clause 13 of the License Conditions). Step-by-step management of medical waste—collection, accumulation, marking and transportation of medical waste is an effective system of general rules that any healthcare institution must comply with.

Year	2016	2017	2018	2019
Waste that was collected, thousand tons	11563	11271	11857	11793
Waste that was disposed, thousand tons	6.5	24.7	24.6	0.1

Table 2: Medical waste management in Ukraine (2016–2019).

State policy in the environmental sphere

To overcome any problems as a priority, it is necessary to identify them (outline them) for their further solution. Therefore, appropriate environmental protection programmes are being created at the state, interstate and local levels.

Special attention should be paid to nationwide programmes that are aimed at solving issues in the sphere of ecology, as one of the directions of development of the state or certain regions, have a long-term implementation period and are implemented by executive authorities. Among the programmes working on the territory of our state, the following should be noted: the National Target Programme for the Development of Water Management and Environmental Recovery of the Dnieper River Basin until 2021. Approved by the law of Ukraine No. 4836-VI of May 24, 2012 (<https://zakon.rada.gov.ua/laws/show/4836-17#Text>); Methodology for evaluating the effectiveness of implementing regional environmental protection and state (nationwide) target environmental programmes. Order No. 491 of the Ministry of Ecology and Natural Resources of Ukraine was approved on 15.10.2012. (<https://zakon.rada.gov.ua/laws/show/z2146-12#Text>); State target environmental programme of priority measures to bring the facilities and site of the former uranium production of the "Pridniprovsky Chemical Plant" Production Association to a safe state for 2019-2023. Approved by resolution of the Cabinet of Ministers of Ukraine No. 756 of August 21, 2019. (<https://zakon.rada.gov.ua/rada/show/756-2019-%D0%BF#n12>); Some issues related to the implementation of the Agreement on financing the programme "Support for the implementation of the National Environmental Policy Strategy of Ukraine": enactment of the Cabinet of Ministers of Ukraine No. 877 of August 17, 2011; National Waste Management Plan until 2030. Approved by the Cabinet of Ministers of Ukraine No. 117-R dated 20.02.2019. (<https://zakon.rada.gov.ua/laws/show/117-2019-%D1%80#Text>). In addition, a law-making initiative is being implemented in the sphere of Environmental Protection and Natural Resources (Economic Policy and Rational Environmental Management). It is proposed to develop new normative legal acts or corresponding amendments to the current law of Ukraine, namely: the draft law on amendments to the Code of Administrative Offenses of Ukraine on strengthening responsibility for industrial pollution (in case of adoption of the draft law on prevention, reduction and control of industrial pollution, registered in the Verkhovna Rada of Ukraine for No. 4167 of 29.09.2020);

Draft law on packaging waste; draft law on mining industry waste management; draft law on chemical safety; draft law on territories of the Emerald Network; draft law on ratification of amendments No. 1 and No. 2 to the Convention on Environmental Impact Assessment in a Transboundary Context; draft law on Ukraine's accession to the Minamata Convention on Mercury; draft law on amendments to the National Programme for decommissioning the Chernobyl Nuclear Power Plant and transformation the "Shelter" facility into an environmentally safe system; draft law on ratification of The Nagoya–Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety; draft law on wood market; draft Code of Ukraine on Mineral Resources (new edition); draft law on water and melioration infrastructure management; draft law on amendments to the law of Ukraine "On approval of the National Target Programme for the Development of Water Management and Environmental Recovery of the Dnieper River Basin until 2021"; draft law on ratification of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Use to the Convention on Biological Diversity; draft Code of Ukraine of Conduct for *Responsible Fishing* of Ukraine.

The legislation of Ukraine defines the general principles of development, approval and implementation of state and other target programmes in the sphere of Ecology. Environmental programmes are generally aimed at implementing environmental protection measures, preventing environmental disasters and optimal variants of solution (elimination) of their consequences. The fundamental duties of the state are to guarantee an environmentally safe environment for the life and health of people, the preventive nature of measures to protect the natural environment, the preservation of natural resources and other relations arising in this area.

Analyzing the structure of the European Union legislation in the sphere of waste management, we can define it as following:

1. Horizontal environmental legislation (for example, directives aimed at comprehensive prevention of environmental damage and pollution control);

2. Legislation which regulates waste management (Waste Framework Directive and other directives and regulations);
3. Thematic strategy for waste prevention and recycling;
4. Sustainable Development Strategy of EU and Environment Action Programmes.

The Framework Directive on waste is Directive 2008/98/EU of the European Parliament and of the Council of 19 November 2008 on waste. This directive repealed directive 2006/12/EU of the European Parliament and of the Council of 5 April 2006 on waste, hazardous waste directive 91/689/EU, and spent oil directive 75/439/EU. It sets out general waste management requirements and sets out basic waste management definitions for the EU.

Directive 2008/98/EU on waste provides a framework for coordinating waste management in EU member states in order to limit waste generation and optimize waste management and disposal. "Waste" according to Article 3 of the Waste Framework Directive is "any substance or object that the owner throws away, intends to throw away or needs to throw away" (Directive 2008/98/EC of the European Parliament and of the Council).

At this stage, effective measures are needed to solve the problems of effective waste management. In our opinion, it is necessary first of all to adapt national legislation to the requirements of European legislation. To encourage the implementation of legislation, it is necessary to introduce economic tools for improving waste management. The next step is the creation of new (information centers as for the condition of waste management) and the reorganization of existing authorities (institutional structure) in the sphere of waste management. For employees of specialized authorities, develop programmes to strengthen staff capacity in the sphere of waste management. Carry out active work among the population to raise public awareness of effective waste management.

Conclusions

The issue of waste management requires a comprehensive solution at all levels (state, interstate and local), as the problem of waste is quite acute, which leads or may lead to a threat to the security of the state, society and the environment. Statistical information on Ukraine provides an opportunity to draw conclusions that the condition of waste management has a disappointing tendency. The peculiarity of these statistics is that the volume of waste is growing rapidly, and this leads to their accumulation during previous years. The absence of a management system in this area is one of the most acute problems, so the situation in the sphere of waste management has an unsatisfactory environmental condition, and it is in order to overcome this problem various programmes are being approved to introduce a systematic approach to waste management. To solve problematic issues with terminology, we propose to bring the concepts of "rubbish", "waste" and "disposal" in line with the regulations of international legislation and corresponding European rules. The unification of this terminology will greatly simplify its understanding and avoid its multiple meaning. The organization of work with medical waste is a component of the sanitary and epidemiological regime in the implementation of medical practice. Compliance with the corresponding regulations by medical personnel is an obligatory condition for infection prevention and proper medical waste management policy.

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