

LEGAL MEANS OF ENSURING LIFE SAFETY IN THE CONTEXT OF THE DIGITALIZATION OF PUBLIC ADMINISTRATION AND THE ECONOMY

Dmytro Bondar¹

Abstract. The scientific publication deals with legal means of ensuring life safety amidst digitalization, which will significantly optimize public administration processes. It is noted that legal means are a universal legal category and a basic element of the mechanism of legal regulation. The author classifies legal means of ensuring life safety, which are proposed to be divided into substantive and procedural, imperative and dispositive, permanent and temporary, and normative and individual. The importance of administrative law regulation of using information technologies in the field of life safety through administrative law means is emphasized. It will allow unifying the procedure for applying innovative digital tools and sharing the positive experience of their practical implementation throughout the state. It is formulated proposals for amending the current national administrative legislation in terms of using artificial intelligence tools and the potential of mobile applications for ensuring life safety.

Keywords: economy, legal means, instrumental theory, administration, public administration, life safety, informatization, information technology, artificial intelligence, mobile application, legal regulation.

JEL Classification: K10, K32, O30

1. Introduction

The current state of legal regulation in the field of life safety needs improving because modern information technologies offer options for using new tools to warn about emergencies and emergency recovery, mobilize human and technical resources, etc.

As it is known, the mechanism of legal regulation, including in the field of life safety, consists of legal means. The theory of state and law even has an individual instrumental theory of law, which uses the category of "legal means" to describe virtually all legal phenomena and processes and proposes considering law not as a system of prohibitions, obligations, and permits imposed by the state but as a system of effective legal instruments (means) to achieve a public or private goal of participants in public relations.

Given the above, the study of legal means of ensuring life safety amidst further digitalization of public administration is of both theoretical and practical significance and is a relevant area for scientific inquiry.

Topical issues of civil protection, that is, the protection of the population and territories from emergencies, have always sparked scientific interest. Thus, such well-known scientists as F. Apshay (2021), T. Hryniuk (2013), K. Marchenko, O. Oryshaka (2023), O. Ostapenko (2021), O. Khalak (2021). O. Khytra

(2022), O. Chekryhin (2023), and others devoted their works to the issues of life safety.

The concept of legal means and their place in the mechanism of legal regulation was studied by legal theorists: A. Ahanina, O. Hanzenko, A. Denysova, O. Onufrienko, I. Pavliukov, L. Udovyka, and other famous scientists.

The legal regulation of using information technologies (digitalization) in various spheres of public life was covered by such well-known scientists as M. Babyk, V. Bevzenko, D. Bilenka, O. Bernaziuk, M. Vikhliaiev, O. Hunbina, K. Dubova, S. Yesimov, T. Kovaleva, T. Kolomoiets, O. Komarov, A. Komziuk, A. Krakovska, I. Lopushinsky, K. Oksiutenko, A. Omelchenko, M. Serebro, R. Stefanchuk, I. Tyshchenkova, and others.

However, legal means of ensuring life safety under the digitalization of public administration have not yet been the subject of an individual scientific analysis, which actualizes the need to prepare the present publication.

The purpose of the article is to study the relevant concept and classify legal means of ensuring life safety in the context of the digitalization of public administration.

The methodology of the present work traditionally unites three groups of scientific inquiry methods.

¹ Lviv State University of Life Safety, Ukraine
E-mail: d.bondar.ldubgd@gmail.com
ORCID: <https://orcid.org/0009-0004-9571-7828>



The first group consists of philosophical methods, namely, the dialectical method, its laws and techniques, and the method of metaphysics. Among the general scientific methods (the second group of methods), the methods of logic (analysis, synthesis, deduction, induction, and comparison), systemic approach and structural functionalism are more widely used. The third group comprises specific legal research methods, among which the formal legal method and the method of legal modeling prevail.

2. Definition and Classification of Legal Means

Theoretical and methodological groundwork for the study of legal means of ensuring life safety under the digitalization of public administration consists of scholarly publications and monographs devoted to certain aspects of life safety, the theory of legal means, and the administrative law basis for using information technologies in various spheres of public relations.

From the latest research on life safety, it is worth noting the following: L. Volovyk and K. Kovalska "Public safety in the context of globalization" (Volovyk and K. Kovalska, 2016), A. Voronin "Modern Problems of Life Safety" (Voronin, 2022), M. Zavadzka and Ye. Osypenko "Ensuring the Safety of Human Life in Extreme Situations" (Zavadzka and Osypenko, 2016), L. Kalashnikova "Life Safety as a Subject of Sociological Analysis: Specification of the Concept" (Kalashnikova, 2017), A. Kachynskiy "Life Safety of an Individual, Society and the State: Threshold Conditions" (Kachynskiy, 2013), A. Polezhaiev and S. Kovzhoha "Features of the "Human Life Safety" System as an Object of Management" (Polezhaiev and Kovzhoha, 2012).

Recent studies of the features of public administration and legal regulation in the field of life safety are represented by the publications of F. Apshai and O. Khalak "Analysis of the Legal Framework for Life Safety" (Apshai and Khalak, 2021), V. Hlukha and A. Pomaza-Ponomarenko "Statutory Support of Public Administration in the Field of Life Safety" (Hlukha and Pomaza-Ponomarenko, 2016), A. Denysova "Areas of Administrative Supervision in Ensuring the Safety of the Population's Vital Activity: Systematization Issues" (Denysova, 2017), and O. Ostapenko "Administrative Law Nature of Security of the Population of Ukraine" (Ostapenko, 2021).

Scientific works devoted to the definition of the concept and classification of legal means deserve special attention in the context of the research topic. Thus, it is essential to highlight the publications of A. Denysova "Legal Remedies: Concept and Types" (Denysova, 2010), O. Hanzenko "Theory of Legal Means in the Context of Instrumental Theory of Law" (Hanzenko, 2016), M. Loshitsky "Administrative

Law Means in the Mechanism of Environmental Protection" (Loshitsky, 2015), and O. Oliinyk "Administrative law means of ensuring information security" (Oliinyk, 2015).

O. Onufriienko devoted a separate dissertation study to legal means amidst the instrumental theory of law (Onufriienko, 2004). In his opinion, legal means are a system of substantial and active legal phenomena which help specific subjects of legal relations achieve private and public goals (Onufriienko, 2004).

The above definition is the most concise and renders the essence of the category "legal means".

A. Denysova defines legal means (using the concept of "legal techniques" as a synonym for the former) as legal phenomena that are reflected in tools (resolutions) and actions (technologies) through which the interests of legal entities are satisfied and the achievement of personal and public goals is ensured.

According to A. Denysova, legal means comprise the following features:

- legal means are the basic tools of legal entities to pursue personal and public interests and achieve their goals;
- legal means render social, instrumental, and personal values of law;
- legal means determine, specifically combining, branch legal regimes;
- legal means are the key elements of legal influence, the mechanism of legal regulation;
- legal means are special and general ones which ensure the operation of the legal system as a whole;
- legal means lead to legal consequences (specific outcomes);
- legal means ensure the effectiveness of legal regulation through constant interaction with each other;
- legal means are provided and supported by the state (Denysova, 2010).

The above features of legal means most fully convey their legal nature and demonstrate the universality of legal means as regulators of public relations.

Following the classification of legal means, A. Denysova attributes obligations, permits, prohibitions, incentives, privileges, rules of law, principles of law, etc. to the substantive legal means (means-actions, technologies), and law enforcement acts, acts of law application, acts of interpretation of law, and all processes of legal activity – to effective (means-actions, technologies).

She holds that all legal means are divided into legal incentives and legal restrictions as a result of their generalization (transformation). Therefore, the legal incentive is a means of forming the desired law-abiding behavior in the subject by creating the necessary conditions for satisfying subjective interests through implementing legal regulations. At the same time,

legal restrictions are a legal means of deterring a person from committing an illegal act, which creates conditions for satisfying the interests of authorized power entities and public interests in protection and defense (Denysova, 2010)

The above classification of legal means most fully renders their diversity and universality as regulators of social relations.

According to O. Hanzenko, "legal means" are a key category of the instrumental theory of law and, in the most general sense, is a system of legal forms, methods, and ways to achieve private or public goals by subjects of legal relations. In O. Hanzenko's opinion, such an approach to understanding law makes it possible to regard it not as a set of prohibitions, obligations, and permits imposed by the state but as a system of valid tools for meeting needs, pursuing the interests of the individual, society, and the state as a whole (Hanzenko, 2016).

In general, we should agree with the above standpoint because the instrumental approach to the essence of law allows us to unleash its full potential and establish the full range of legal means that can be used to achieve the desired result.

Scientists usually consider legal means as the universal means of legal regulation, which include all instruments of public administration bodies' legal influence on participants in public relations. To support this statement, it is necessary to cite the definition of the mechanism of legal regulation – which is common in the theory of state and law – as a system of legal means regulating public relations.

Thus, legal means include norms of law, principles of law, modes of legal regulation (prohibitions, obligations, and permits), methods of legal regulation (imperative, dispositive, advisory), normative legal acts, acts of law interpretation and enforcement, implied acts (norms-actions), and atypical norms of law.

Accordingly, it is expedient to classify legal means by different criteria:

- by the subject of legal regulation: constitutional, administrative, financial, criminal, civil, etc.;
- by the mode of legal regulation: legal means that prohibit, oblige and allow;
- by the method of legal regulation: imperative, dispositive, recommendatory;
- by the territorial limits: local and national;
- by duration: permanent, temporary, and periodic actions;
- by the method of psychological influence on the participants of legal relations: restrictive and stimulating;
- by the level of specification (by the number of subjects they affect): general (normative), applicable to a certain group of persons, and individual;
- by complexity: simple and complex (those that operate only in a certain aggregate);

- by the purpose (scope) of legal regulation: public-law and private-law.

It should be noted that administrative law means as a kind of legal means differ in a specific order of application because the subjects that ensure their practical implementation are power entities of public administration bodies. The latter operate following a special permissive principle of legal regulation – "what is expressly provided by law is allowed." Consequently, administrative law means are of an imperative (authoritative) nature and their effect extends, as a rule, throughout the state.

Therefore, considering the above classification of legal means, legal means of ensuring life safety are mostly administrative, permanently valid throughout the state, general, public, imperative, more binding and prohibitive, and restrictive.

3. Legal Regulation of Artificial Intelligence Use

Particular attention should be paid to legal means of ensuring life safety under the active digitalization of public administration processes in the relevant area of public relations. Such legal means are, in particular, means of legal regulation of using information technologies in the field of life safety.

Administrative law regulation of using information technologies in the field of life safety through administrative law means makes it possible to unify the procedure for applying innovative digital tools (which in turn ensures the compatibility of software during the interaction of various entities in the civil protection system), as well as to spread the positive experience of their practical implementation by individual power entities within the state.

As of now, a comprehensive administrative law regulation requires the procedure for applying AI tools which significantly optimize the processes of public administration in the field of life safety.

It is worthwhile to mention that Ukraine currently lacks proper legal regulation for using artificial intelligence technology – relevant draft regulations are under development. Only a general program document has been adopted. Thus, the Concept of Artificial Intelligence Development in Ukraine was approved by Order No. 1556-r of the Cabinet of Ministers of Ukraine dated December 2, 2020 (The Verkhovna Rada of Ukraine, 2020).

As a result, scientists and public administration bodies in Ukraine are faced with the task of formulating and adopting an appropriate national law on artificial intelligence, which will regulate all possible aspects of its use in various spheres of public relations, including life safety. Specified legal regulation of relevant legal relations should be ensured within the resolutions of the Cabinet of Ministers of Ukraine, by-laws, departmental regulations.

4. The use of Mobile Apps in the Field of life Safety

The administrative law regulation of using mobile applications in the field of life safety also deserves special attention. Thus, with the help of a custom-designed mobile application, it is possible to reach everyone who wants to be involved in emergency response and remediation, that is, potential volunteers. To this end, it will be enough to create a database of citizens who will provide their personal data via the mobile application, consent to emergency response and remediation, as well as data on their location (access to geodata). Thus, the mobile phone or laptop of potential volunteers will be tied through the mobile application to the relevant database and control center, which will be administered by authorized officials of the public administration body that implements the state policy on civil protection. Currently, such a body of public administration is represented by the State Emergency Service of Ukraine.

Therefore, in the event of a threat or the immediate occurrence of an emergency (fires, floods, destruction of critical infrastructure facilities, etc.), volunteers registered in the program will be urgently informed about the option of joining remediation activities via the mobile application. Moreover, thanks to geolocation, those registered volunteers who are near the place of occurrence or spread of emergency consequences will be firstly informed.

In the future, the operators of the mobile application's control center will be able to coordinate in real-time the activities of registered volunteers who responded to the call and arrived at the scene, provide advice, receive up-to-date information from the scene, including the broadcast of online video, that is, maintain constant two-way communication.

Developing and using the above mobile application for mobilizing human and technical resources to eliminate emergencies and their consequences requires administrative law regulation within a by-law. Thus, it is advisable to regulate such public relations by a joint order of the Ministry of Internal Affairs of Ukraine and the Ministry of Digital Transformation of Ukraine, which shall approve the procedure for using the "Emergency" mobile application (the specific name will be determined by the developers).

The joint order shall determine the rights and obligations of administrators and operators of a special mobile application, as well as the rights and obligations of volunteers who register as potential participants in emergency response, the procedure and conditions for providing volunteers with protective clothing and special tools, as well as compensation for transportation and other costs associated with arriving at the scene.

At the level of by-law (departmental) regulations, it is also expedient to regulate the development and

use of an individual mobile application to notify the population about the threat of an emergency and its immediate onset by analogy with the available Air Alert app. In modern conditions, when most of the population of the state are users of smartphones with the option of using high-quality software, such a legal means of public notification will be a rational and convenient increment to the national system of threat or emergency alert, which is provided for by the Regulation on the Organization of Alerting on the Threat or Occurrence of Emergency Situations and Organization of Communication in the Field of Civil Protection by the Cabinet of Ministers of Ukraine dated September 27, 2017 No. 733 (The Verkhovna Rada of Ukraine, 2024).

5. Conclusions

The study of legal means of ensuring life safety in the context of the digitalization of public administration makes it possible to conclude that they are mostly administrative, permanent throughout the state, general, public-legal, imperative, more binding and prohibitive, and restrictive.

It is essential to note that the administrative law regulation of using modern information technologies in the field of life safety through administrative law means will unify the procedure for applying innovative digital tools, which in turn ensure the compatibility of software during the interaction between various entities in the civil protection system and promote the spread of positive experience in the practical application of these digital tools by individual power entities throughout the state.

In addition, following research findings, it should be emphasized the need to amend the current national administrative legislation in terms of legal regulation of using artificial intelligence tools and mobile applications in the field of life safety. In particular, it is proposed to formulate and adopt an appropriate national law on artificial intelligence, which will regulate all possible aspects of using the relevant information technology in various spheres of public relations, including life safety.

It is also proposed to approve the procedure for using the promising mobile application "Emergency", designed to mobilize human and material resources in order to eliminate emergencies and their consequences, by a joint order of the Ministry of Internal Affairs of Ukraine and the Ministry of Digital Transformation of Ukraine.

The prospect of further research is driven by the need to study foreign experience in developing and applying legal means of ensuring life safety to identify its positive elements and determine the scope and feasibility of their implementation in national legislation and legal practice.

References:

- Apshai, F. V., & Khalak, O. V. (2021). Analysis of the legal framework for life safety. *Journal "ScienceRise: Juridical Science"*, Vol. 1 (15), p. 4–7. DOI: <https://doi.org/10.15587/2523-4153.2021.228246>
- Hryniuk, T. O. (2013). Human safety as an integrated approach to occupational health and safety, life safety, civil protection and fire safety. *Psychological and pedagogical foundations of the humanization of the educational process at school and university: a collection of scientific works*, Vol. 2 (10), p. 38–43.
- Marchenko, K. M. & Oryshaka, O. V (2023). Information security of human and societal life in wartime. *Central Ukrainian Scientific Bulletin. Technical sciences*, Vol. 7 (1), p. 16–21.
- Ostapenko, O. I. (2021). Administrative law nature of security of the population of Ukraine. *Scientific Notes of Lviv University of Business and Law. Economic series. Legal series*, Vol. 30, p. 234–246.
- Khytra, O. L. (2022). Peculiarities of the State Emergency Service's activities in implementing the state policy on civil protection of the population. *Scientific Notes of Lviv University of Business and Law. Economic series. Legal series*, Vol. 32, p. 212–219.
- Chekryhin, O. M. (2023). Principles of the activity of the State Emergency Service of Ukraine for Disaster Prevention. *Legal scientific electronic journal*, Vol. 2, p. 637–641.
- Volovyk, L. M., & Kovalska, K. V. (2016). Public safety in the context of globalization. *Young Scientist*, Vol. 9 (1), p. 34–37.
- Voronin, A. S. (2022). Modern problems of life safety. *Notes of modern science*, Vol. 3, p. 65–66.
- Zavadzka, M. M., & Osypenko, Ye. V. (2016). Ensuring the safety of human life in extreme situations. *Young Scientist*, Vol. 11 (1), p. 33–36.
- Kalashnikova, L. V. (2017). Life safety as a subject of sociological analysis: specification of the concept. *Bulletin of Odesa National University. Sociology and political sciences*, vol. 22, issue 1, p. 54–65.
- Kachynskiy, A. B. (2013). Life safety of an individual, society and the state: threshold conditions. *Strategic priorities*, Vol. 2, p. 111–119.
- Polezhaiev, A. M., & Kovzhoha, S. O. (2012). Features of the "Human Life Safety" system as an object of management. *Information processing systems*, Vol. 3 (2), p. 245–247.
- Hlukha, V. V. & Pomaza-Ponomarenko, A. L. (2016). Statutory support of public administration in the field of life safety. *Public administration: improvement and development*, Vol. 2. Available at: http://nbuv.gov.ua/UJRN/Duur_2016_2_4
- Denysova, A. V. (2017). Areas of administrative supervision in ensuring the safety of the population's vital activity: systematization issues. *Scientific Bulletin of Uzhhorod National University. Series: Law*, Vol. 45 (1), p. 156–159.
- Denysova, A. (2010). Legal remedies: concept and types. *Law of Ukraine*, Vol. 7, p. 190–195.
- Hanzenko, O. O. (2016). Theory of legal means in the context of instrumental theory of law. *Bulletin of Zaporizhzhia National University: Collection of scientific papers. Legal sciences*, Vol. 3, p. 36–42.
- Loshytskyi, M. V. (2015). Administrative law means in the mechanism of environmental protection. *Customs affairs*, Vol. 1 (97), p. 79–85.
- Oliinyk, O. V. (2015). Administrative law means of ensuring information security. *Legal Bulletin*, Vol. 1 (34), p. 65–69.
- Onufriienko, O. V. (2004). Legal means in the context of the instrumental theory of law. (PhD thesis), Kharkiv: National University of Internal Affairs.
- On Approval of the Concept for the Development of Artificial Intelligence in Ukraine: CMU Order of December 2, 2020, No. 1556-p. Available at: <https://zakon.rada.gov.ua/laws/show/1556-2020-%D1%80#Text>
- On Approval of the Regulation on the Organization of Alerting on the Threat or Occurrence of Emergency Situations and Organization of Communication in the Field of Civil Protection: Resolution of the Cabinet of Ministers of Ukraine of September 27, 2017, No. 733. Available at: <https://zakon.rada.gov.ua/laws/show/733-2017-%D0%BF#Text>

Received on: 24th of September, 2024

Accepted on: 21th of November, 2024

Published on: 17th of December, 2024