

# **PUBLIC POLICY AND SPACE ACTIVITIES: CONCEPTUAL APPROACHES**

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## **ABSTRACT**

*Description: The purpose of the article is to investigate the features of public policy in the area of space activities. The subject of the study is the features of public policy in the area of space activities.*

*Methodology: Research methods are chosen based on the object, subject, and purpose of the study. The study used general scientific and special methods of legal science. Thus, the analysis and synthesis method as well as the logical method were used to formulate a holistic view on public policy in the area of space activities, as well as to study its features and discussion issues. The logical-semantic method was used to establish the meaning of the concept of “public policy for the development of the sector of space activities”, which is formed by categories, such as “public”, “policy”, “space”, “space sector”, “space activities”, and their definition. The comparative method was used when analyzing scientific categories, definitions and approaches to the discussion issues. The system-structural method was applied to determine the elements of public policy in the area of space activities. The legal modeling method was applied to draw conclusions and to develop proposals for improving public policy in the area of space activities.*

*The Results of the Study: This made it possible to analyze the etymology of the concept of “public policy for the development of the sector of space activities”, which is formed by categories, such as “public”, “policy”, “space”, “space sector”, “space activities”, and their definition. It is concluded that a specific feature of public space policy is a balance between public and private interests, which is characterized as follows: it is based on national and international standards and principles; it is under public control and supervision (public component of activity); it involves the private sector into these activities (a private component of the activity).*

*Practical Implications: Many problems related to space activities still remain unresolved. In particular, the current state of space activity and existing mechanisms of its State regulation do not fully meet the urgent national tasks in the area of space activities; there is a limited funding and insufficient State support for space activities in general; delays with the implementation of structural changes in the space industry; absence of the internal market of space services, etc. Therefore, in our view, a modern conceptual approach to defining public space policy will help address these and other problems.*

*Value/Originality: The analysis enables to define the concept of “public policy for the development of the sector of space activities” as follows: these are elements of conceptual unity, aimed at:*

- 1. Creating new potentials of space activities;*
- 2. Developing modern space technologies and implementing space research;*
- 3. Using effectively space potential for further exploration of outer space based on the priority of environmental security and economic interests;*
- 4. Forming the system of targeted activity of the subjects of space program implementation;*
- 5. Ensuring technological modernization of the national economy.*

**Keywords:** Concept, Policy, Public Policy, Space, Sector, Space Activity, Subjects of Public Administration.

## INTRODUCTION

The gradual advancement of humanity into space is of strategic importance for its evolution. The beginning of the development of endless expanse and resources of outer space, the possibility for humanity to enter a new super-global level of security and sustainable development seem no longer unattainable, and for the first time, become an important practical area of its prospective accelerated development. Therefore, a number of different issues, including launching objects and returning them from space, operating a launch site or re-entering and operating space objects and their handling, and others, require regulation. It should be noted that States are obliged to address and control the activities of non-governmental organizations in outer space, as well as to establish administrative and legal mechanisms for regulating national commercial space activities.

Besides, from the very beginning the space activities of States gained international political and military-political significance as an important area of activity in many countries.

Space activity in Ukraine is carried out mainly by enterprises that form the space industry, the foundations of which were laid in the times of the former USSR. For more than 20 years, the focus has been on maintaining the space industry and executing mainly international space projects aimed primarily at upgrading the existing spacecraft's and adapting them to new launch sites. The main emphasis in the spacecraft segment was on completing the production of spacecraft of the previous versions. The introduction of modern technologies for the production of spacecraft was carried out at a very slow pace. Other ministries and agencies, enterprises of other sectors of the economy were not truly involved in the area of space activity.

The reason for this was the orientation of the enterprises of the branch to financing at the expense of the State budget or attracting credits under the state guarantees, which did not allow to provide sufficient financing in the conditions of chronic scarcity.

Because of this situation space activities in Ukraine did not become an effective instrument for achievement of the State's geopolitical goals; the provision of independent geospatial data, navigation information and satellite communications are not provided promptly. Besides, the role of space activities in the innovative development of the economy is insufficient.

At the same time, space activities in developed countries have a significant positive impact on the development of high-tech industries and information systems, and contribute to improving the quality of life. Understanding this and aiming to achieve the current technological

level of transition and developing countries Ukraine is trying to create their own space industry and to activate space activities.

## MATERIALS AND METHODS

Research methods are chosen based on the object, subject, and purpose of the study. The study used general scientific and special methods of legal science. Thus, the analysis and synthesis method as well as the logical method were used to formulate a holistic view on public policy in the area of space activities, as well as to study its features and discussion issues. The logical-semantic method was used to establish the meaning of the concept of:

*“Public policy for the development of the sector of space activities, which is formed by categories, such as public, policy, space, space sector, space activities, and their definition.”*

The comparative method was used when analyzing scientific categories, definitions and approaches to the discussion issues. The system-structural method was applied to determine the elements of public policy in the area of space activities. The legal modeling method was applied to draw conclusions and to develop proposals for improving public policy in the area of space activities.

The materials studied are the scientific works of domestic and foreign scholars, related to the issue under consideration.

### **Scientific Phenomena: “Concept”, “Notion” and “Meaning”**

The term of “*concept*” has not yet widespread in legal science. It is used mainly in philosophy, linguistics (mostly here) and cultural studies (Kharitonov & Kharitonova, 2014), and any attempt to grasp its essence reveals the existence of a number of related concepts and their designations. It is known that in real textual use scientific phenomena such as “*concept*”, “*notion*” and “*meaning*” often function as synonyms, replacing each other to avoid monotonous repetition (Golovanova, 2011; Sadovnikova, 2014).

Considering the range of variations of its understanding and avoiding scientific controversy and discussion regarding the possibility of its use in legal science, it should be noted that the linguistic approach is the most appropriate. According to them, the concept exists for every dictionary meaning and it should be considered as an algebraic expression of meaning. In general, advocates of this perspective understand the concept as the full potential of the meaning of a word, together with its connotative element (Litiaha, 2013).

For example, if a word, by its meaning, is part of a concept, then it is appropriate to examine it through the word, since the concept is a relatively stable trace of a real object connected to the word more than to a meaning, which contains many different layers to the main content-the nucleus (Maslova, 2004). Therefore, the structure of the concept can be identified, separating the core from the periphery. According to Babushkin (1996), the concept is verbalized, and a set of seams will enable to study the cognitive parameters of the word, that is, the concept should be analysed as a cognitive unit consisting of different semes. Yu. Stepanov (1997) suggests a three-component model of the concept, which contains:

1. A basic, relevant feature;
2. Additional or several additional “*passive*” features, no longer relevant, but “*historical*”;
3. The internal form, which is usually not realized, remains in the external form.

From the point of view of Karasik (1996), no less interesting is the analysis of the structure of the concept, which reveals that the concept is separate operational units of different scope rather than components of a single concept (Yuzhakova, 2010).

In other words, as a term, the definition of a concept is to convey the meaning of a word which designates this concept in accordance with elements that form this concept (Kharitonov & Kharitonova, 2014).

Why is this approach justified to be used in this study? For example, if we were to reveal the concept of law or the concept of the State, it would be not a term, but rather the initial constructive features of a real phenomenon and the mental representation of established images.

We do not consider the concept of “*public policy for the development of the sector of space activities*” as a perception of the concepts themselves, as a subjective factor in human interpretation and perception of the world, processes and phenomena. In this case, it is more about “*term*” or “*notion*”.

To be precise, according to currently dominant scientific idea, the notion and term are interchangeable synonyms used by scientists to refer to the same phenomenon. In addition, the “*notion*” is obsolete in terminology and is displaced from scientific vocabulary. For example, according to Babushkin, for today, linguists hardly use the term “*notions*” in its classical meaning and involve mental structures called concepts. “*Concept*” is analogous to “*notion*” Babushkin, (1996). Similarly, Shvedova defines the concept as:

“*A notion termed by language in the form of a lexical meaning of words*” (Shvedova, 2006).

However, the above-mentioned constructions are unified and harmonious substantively and essentially, that is, even in the aggregate presence of elements, it is a coherent formation in the form of a special word denoting something new or replacing an existing name with another. In turn, the concept is formed by elements that give rise to a qualitatively new semantic load of a separate structure, explaining the essence of independent units of its structure, and gives an idea of it in an abstract form, describing not only the essential features and all possible factors that influence its content without direct change of the form (that is, the name of the phenomenon).

In other words, the notion or term refer to the phenomena, processes or actions of one semantic dimension, the essence of which is based on one stable characteristic that forms the core of its understanding. Meanwhile, the concept combines several characteristics different in nature and area, denoting one specific reality that is directly described.

Therefore, the difference between a notion and a term is that the former denotes the constant characteristics of an object that has a specific meaning, and the latter describes it in a given course, in particular, for example, in a certain sector or process. Accordingly, the difference is that the notion is permanent, and the terms may vary to meet the requirements of its application.

The notion of meaning has two substantive spheres that define the basic aspects of the definition of the term. The first aspect implies that a certain phenomenon is seen as an expression of a certain meaning, in essence. In this perspective, one speaks about the meaning of a sign, a

text, and a work of art. The second aspect implies that a certain phenomenon has a purpose or value. Thus, this could involve the meaning of creation, action, human life. In both cases, the phenomenon is viewed in a broader context, on the basis of which its essential characteristics, i.e. meaning, are determined.

Since the concept of meaning correlates with the essential characteristics of the phenomenon, it is the subject of analysis of philosophical ontology, epistemology, axiology, teleology. As it relates to human cognition and life, meaning is the subject of psychology research. Meanings of signs and text messages are studied in linguistics, semantics, and hermeneutics. A wide range of interpretations of the concept of “*meaning*” is presented in philosophical and psychological concepts.

### **The Concept of Public Policy for the Development of the Sector of Space Activities: Discussion Issues**

Considering that the above statement is debatable (due to examples of their dual application both in the doctrine of legal science and in the provisions of law), in order to avoid scientific controversy, criticism and to substantiate our opinion, the concept is understood as a range of independent categories with their features that together form a qualitatively new abstract legal construction. This is the public policy for the development of the sector of space activities.

Accordingly, this concept derives from categories such as “*public*”, “*policy*”, “*space*”, “*space sector*”, “*and space activities*”.

The analysis of their specificities in terms of grouping enables to formulate a definition of the concept of “*public policy for the development of the sector of space activities*”, thereby, to reveal its meaningful and essential categorical content, and consequently, to describe the structure of knowledge about it.

Therefore, the analysis of the structure of the concept under study requires to clarify the sector of its direct application.

In this study, a direct analysis of the features of elements that constitute the structure of the concept of “*public policy for the development of the sector of space activities*” starts with the terms “*politics*” and “*public policy*”.

Traditionally, policy is considered a multifaceted phenomenon. There are many types and varieties of policy: internal, external, social, national, economic, scientific and technical, cultural, financial, military, personnel, environmental, etc. In everyday life, they talk about “*big*” and “*small*” politics, public and behind-the-scenes (“*byzantine*”, hardware) politics. Moreover, a “*shadow*” politics exists. In a substantive aspect, it can be progressive and regressive, objectively predetermined and voluntary, corresponding or contradicting to the urgent needs of social development. History has known numerous examples of deeply flawed policy, arbitrary, reactionary, adventurous, anti-national, which have led to suffering and human casualties. It has long been confirmed that a mistake in policy is worse than a crime because the consequences of such a mistake can be irreversible, and for millions of people (Kovbasiuk, 2014).

Generally, policy means a strategy of behaviour of a social group or individual formed on needs and interests, which includes the position and specific actions regarding other social structures of society (Mosondz, 2012).

Moreover, there is an opinion that this term was extended due to Aristotle’s work “*Politics*” which in translation is referred to as “*what is related to the State*”. It should be noted

that as early as the beginning of the twentieth century, Tytarenko identified the essence of politics as the scope of relations and activities for governing (administrating) society (Tytarenko, 2015). However, this perspective has also been criticised.

In contrast to the perspective of Tytarenko, who argues that politics is purely a matter of practice, a number of scholars consider legal policy as a field of research. Legal policy theory seeks answers to questions regarding what the law should become and how to achieve the desired change. Moreover, legal policy is considered as a science, designed to evaluate existing law and legislation and to promote the creation of more effective law and legislation. In the cognitive dimension, legal policy is the art of realizing values. This interpretation reveals the axiological essence of this phenomenon and the meaning of legally significant values.

However, when defining the concept of “*public policy*” it is necessary to distinguish between state politics as an area of (state of affairs in) development of the State and society in a certain time period of functioning of the State, and different types of state activities (process) that are related to public policy, in particular, the formation of public policy (political process) and its implementation (performance). The determining factor for public policy is the result of its implementation, that is, the quantitative measurement of its goals (Soroka, 2019).

From the doctrinal perspective, public policy is:

1. Political activities of the State and its institutions, aimed at ensuring order in society, harmonizing and subordination of various social interests, achieving social harmony and organizing the management of social process development (Lohunova et al., 1999; Mosondz, 2012);
2. Such actions of public authorities on solving the problems that best contributes to the realization of the interests of society. This is an activity aimed at solving problems of social development (Valevskiy, 2001). According to Andriiash (2013), social development is a key factor in the development of public policy, but it does not exhaust all possible definitions of the term of public policy;
3. Relatively stable, organized and purposeful activity (inactivity) of public institutions, carried out by them directly or indirectly in relation to a particular problem or set of problems affecting the life of society (Soroka et al., 2019; Mosondz, 2012);
4. The way of action or refraining from it, chosen by public authorities to solve certain or a set of mutually related problems (Pal, 1999; Petrenko, 2011)
5. A system of interrelated, consistent governing influences, united by a single purpose, object and principles of activity (Petrenko, 2011);
6. The political process of, mainly, executive public institutions’ managerial influence on the key sectors of society, which relies on the direct application of public authorities both during the development and during the implementation of the strategy and tactics of regulatory and organizational influence on all components and aspects of the functioning and development of the economy, social sector and other subsystems of society through the allocation of resources, distribution, redistribution of public goods and other measures (Smorgunov, 2006);
7. Conscious activity of governmental structures and institutions of public administration at different levels, aimed at regulating public relations, ensuring their stability and development in accordance with defined goals, it is a way of social governance, which involves the design and implementation of political programs of economic, social, cultural and political development (Kolodii et al., 2000);
8. The set of goals and objectives practically implemented by the State and the means used for this (Petrenko, 2011);
9. Strategy and tactics of relations of the State, represented by authorized bodies, with social formations in order to ensure stable establishment and development of the country (Mosondz, 2012).

Accordingly, scholars argue that public policy is:

1. A certain order;
2. The method for regulating a certain range of social relations;
3. Clearly formed and targeted activity of public administration;
4. The way of influencing the life of the masses;
5. The area of action of authorized institutions;
6. Cumulative managerial effect;
7. The tactical and strategic area of realization of public objectives;
8. The mechanism of the arrangement of social components and subsystems and individual values;
9. The representation of the practical manifestation of the goals and objectives of the state;
10. An element of sustainable development of the state and society;
11. Public response to transformation, modernization, including negative factors and trends;
12. An element of interaction between the state and society.

With regard to the second part of the term under analysis, “*the development of space activities*,” it should be noted that outer space is not just something unknown, untouched by the average person, but it is primarily a value. It is a potential value, as long as humanity has no technology to use it, and it is a real material value, as soon as such technologies occur (Kobzar, & Danylenko, 2019).

Accordingly, in this study, the sector of space activities is considered as the totality of all types of space activities, both public and private entities involved in the development of space products (technologies) and the provision of space services, while “*space activities*”, in particular, is considered as any activities either in space or on earth but related to space.

A specificity of public policy in the sector of space activities is not only the requirement to be based on national and international standards and principles (Soroka & Kurkova, 2019). What is more, firstly, it is to be carried out under public control and supervision (public component of activity) and secondly, in the terms of commercialization of space activities, to ensure involvement of the private sector to it (private component of activity). That is, public space policy should strike a balance between public-private interests.

Moreover, it should be noted that development is understood as the occurrence of new qualitative states, new types of organization, systems deriving from previous systems. These changes are unfolding opportunities found in previous qualitative states.

## CONCLUSION

In compliance with requirements of this study, public policy for the development of the sector of space activities can be defined as:

1. Firstly, the strategic approach of the State to the creation of new opportunities for space activities, the development of modern space technologies and implementation of space research, the effective use of space potential for the further exploration of outer space based on the priority of environmental security and economic interests of Ukraine;
2. Secondly, the set of mechanisms of public administration activity that are objectified in target space programs as goals, objectives, measures, means, etc.;
3. Thirdly, the factor of technological renewal of the national economy.

Therefore, the conducted analysis enables to formulate the concept of "*public policy for the development of the sector of space activities*" as follows: these are elements of conceptual unity, aimed at:

1. Creating new potentials of space activities;
2. Developing modern space technologies and implementing space research;
3. Using effectively space potential for further exploration of outer space based on the priority of environmental security and economic interests;
4. Forming the system of targeted activity of the subjects of space program implementation;
5. Ensuring technological modernization of the national economy.

This abstract concept means comprehensive coverage by the State's authority of all mechanisms, processes, phenomena, and facts within all types of space activities, both public and private. In this aspect, the fundamental idea is the need for public control and supervision and the inability to comply with national and international legislation, the availability of a permissive opportunity to choose a model of behaviour and the need for constant strategic planning for the development of the sector of space activities.

## REFERENCES

- Andriash, V.I. (2013). Public policy: Conceptual aspects of identification. *Public Administration: Improvement and Development*. Retrieved February, 05 from [http://nbuv.gov.ua/UJRN/Duur\\_2013\\_9\\_6](http://nbuv.gov.ua/UJRN/Duur_2013_9_6)
- Babushkin, A.P. (1996). *The types of concepts in lexical and phraseological semantics of the language*. Voronezh: Voronezh State University.
- Golovanova, E.I. (2011). *Introduction to cognitive terminology*. Moskow: Flinta. Nauka.
- Karasik, V.I. (1996). *Cultural dominants in the language*. Linguistic personality: Cultural concepts. Volgograd: Peremena.
- Kharitonov, E.O., & Kharitonova, O.I. (2014). Private Law as a concept: problem statement. *Bulletin of the Southern Regional Center of the National Academy of Law Sciences of Ukraine*, 1(1), 68-77.
- Kobzar, O., & Danylenko, A. (2019). International and national provisions of space law regulating the use of outer space. *Advanced Space Law*, 3(1), 48–62.
- Kolodii, A., Kharchenko, V., Klymanska, L., & Kosmyna, Y. (2000). *Politology: Politics and State*. Kyiv: Elha-N; Nika-Tsentr.
- Kovbasiuk. (2014). *State policy*. Kyiv: National Academy of Public Administration under the President of Ukraine.
- Litiaha, V.V. (2013). The notion of concept in the paradigm of modern linguistic research. *Bulletin of Taras Shevchenko Kyiv National University*, 46(1), 48-50.
- Lohunova, M.M., Shakhov, V.A., & Shevchenko, M.F. (1999). *Conceptual foundations of political theory*. Kyiv: UADU.
- Maslova, V.A. (2004). *Cognitive linguistics*. Minsk: Tetra Systems.
- Mosondz, S.O. (2012). *Administrative and legal foundations of public policy of Ukraine in the area of science*. Published Doctoral Dissertation. National Academy of Internal Affairs.
- Pal, L.A. (1999). *The analysis of public policy*. Kyiv: Osnovy.
- Petrenko, I. (2011). The essence of public policy and public target programs. *Viche*, 10(1), 23-25.
- Sadovnikova, H.V. (2014). Correlation of the categories of concept, notion and meaning in cognitive terminology. *Bulletin of the Kyiv National Linguistic University. Philology*, 1(17), 156–164.
- Shvedova, N.Y. (2006). *On the definition of a concept as a subject of linguistics*. Language personality: text, dictionary, image of the world. Moskow: PUDN Publishing House.
- Smorgunov, L.V. (2006). *Public policy and management*. The concepts and problems of public policy and management. Moskow: Russian Political Encyclopedia (ROSSPEN).
- Soroka, L. (2019). Public regulation of space activities in Ukraine. *Advanced Space Law*, 4(1), 68-79.



- Soroka, L., & Kurkova, K. (2019). Artificial intelligence and space technologies: legal, ethical and technological issues. *Advanced Space Law*, 3(1), 131–139.
- Soroka, L., Riabchenko, O., Zamryha, A., & Korotun, O. (2019). Public policy in the area of energy efficiency. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*, 4(1), 141-147.
- Stepanov, Y.S. (1997). *The constants: Dictionary of Russian culture*. Research experience. Moscow: Languages of Slavic Culture.
- Tytarenko, T.H. (2015). The concepts, the essence and content of State policy on regulation of land relations in Ukraine. *Public Administration: Improvement and Development (E-Journal)*. Retrieved February, 05 from <http://www.dy.nayka.com.ua/?op=1&z=873>
- Valevskiy, O.L. (2001). *Public policy in Ukraine: Methodology of analysis, strategy, mechanisms of implementation*. Kyiv: NISD.
- Yuzhakova, O. (2010). The concept as the main unit of cognitive linguistics in the analysis of terminology (on the example of refrigeration terminology). *Bulletin of the National University Lviv Polytechnic*, 675(2), 57 – 64.