

MODERN PRINCIPLES OF SUSTAINABLE SPATIAL DEVELOPMENT OF INNOVATIVE TERRITORIAL SYSTEMS IN UKRAINE

Olha Komelina

**National University «Yuri Kondratyuk Poltava Polytechnic»
(Poltava, Ukraine)**

Hanna Kondratieva

**National University «Yuri Kondratyuk Poltava Polytechnic»
(Poltava, Ukraine)**

Abstract. The article is devoted to topical issues of sustainable spatial development in the context of Ukraine's European integration. The evolution of theoretical approaches to the formation of a modern model of sustainable spatial development is studied. The main concepts related to territorial and spatial development have been delineated. The expediency of introducing the concept of innovative territorial systems into scientific circulation is substantiated. The European experience of sustainable spatial development of territorial communities is summarized and systematized. A conceptual approach to the sustainable spatial development of the territories of Ukraine in modern conditions has been developed.

Keywords: space, sustainable spatial development, territorial communities, concept, comprehensive plan.

The formation of Ukrainian statehood in the late twentieth and early twenty-first centuries was repeatedly tested for its ability to create appropriate conditions for the spatial development of territorial communities at the intersection of geopolitical vectors and influences. Ukraine's desire to approach European standards, its declarative openness to global interaction in the absence of balanced mechanisms to ensure it, and many other differences have led to several gaps in the spatial development of territorial systems in Ukraine. An equally important problem throughout the period of Ukraine's independence has been the imperfection of state policy and the lack of a harmonized, holistic, and consistent concept of spatial development of territories integrated into existing European documents and decisions of global UN Summits. Today, Ukraine is in the process of irreversible global transformation of its entire social life. Its integral part is the restructuring of the constitutional and institutional structure of public administration, integration into the European and global space.

Modern theoretical concepts of spatial development of territories of different ranks are the result of a dynamic change in the system of scientific theories and views on social values, as well as goals, priorities, mechanisms, tools and tasks to ensure their implementation, which depends on the level of development and capabilities of national economies and objectively existing constraints. The theoretical basis for the development of modern approaches to spatial development is a set of theories and concepts, among which are the following theories of systems, endogenous growth,

regional development, sustainable development, balanced development, public administration, and others. Generalization and systematization of scientific works within the framework of these theories makes it possible to trace the evolution of views on the content of the conceptual apparatus, essence, principles, patterns of spatial development and its management.

The term «spatial development» was established in Europe, Canada, and the United States in the early 1970s, and it has been included in Ukrainian glossaries since the mid-1990s. In the broadest sense, spatial development is seen as a policy (system of policies) or a set of conscious actions to manage the elements and interrelationships of a certain territory aimed at optimizing positive changes. A significant contribution to the study of SD was made by such Ukrainian scholars as S.I. Dorohuntsov, M.I. Dolishnyi, B.M. Danylyshyn, V.P. Semynozhenko, V.I. Pyla and others who consider this category comprehensively. Research on the problems of SD is constantly in the focus of attention of leading Ukrainian scholars, in particular, Y.I. Boyko, L.M. Zaitsev, V.S. Kravtsiv, A.G. Mazur, I.R. Mykhasiuk, N.A. Mikula, V.I. Pavlov, S.A. Romanyuk, L.T. Shevchuk and others.

The diversity of approaches to the interpretation of the concept of spatial development indicates the need for further research into its content and essence in the system of new national and global challenges. Some scholars believe that «spatial development» is a reproductive process of space elements that functions as a system of material and energy flows («raw materials, goods, services, organizational, financial and human capital» by L. Morozov¹²⁶). Y. Pavliuk¹²⁷ points to the managerial content of this concept and suggests interpreting spatial development as «a set of organizational measures for managing the elements and connections of territories, a system of actions aimed at optimizing spatial changes. Spatial development should be consistent with the state regional policy, in the process of which the interests of individual regions are combined with the national ones, mechanisms are formed that ensure the economic conditions for the integrity of the country and prevent unjustified territorial and economic isolation and separation». A. Pandas¹²⁸ points out the cyclical nature of the process of spatial development caused by the contradictory consequences of transformations in the socio-cultural or material environment, the subjects of which are the population, property owners, developers, local authorities, united by the interests of living together and doing business within the boundaries of local urban areas. M.P. Butko¹²⁹ considers «sustainable spatial development as ensuring by self-government bodies, regional and state management entities of effective interaction and rational combination of social, economic and environmental elements of the space of human activity for full and affordable satisfaction of the diverse needs of all segments of the population».

¹²⁶ Morozova L.V. (2013). Pryntsyпы prostorovoho rozvytku sotsialno-ekonomichnoi systemy Ukrainy, p.13.

¹²⁷ Pavliuk Y.Y. (2011). Prostorovyi rozvytok rehionalnoi-ekonomichnoi systemy, p.11.

¹²⁸ Pandas A.V. (2015). Metody analizu ta rehuliuвання prostorovoho rozvytku velykoho mista, p.15.

¹²⁹ Butko I.P. (1992). Deiaki problemy stanovlennia i rozvytku terytorialnoho samovriaduvannia v Ukraini, p.92.

The SD covers all spheres of human life, and its provision and effective management of space changes requires the study of all components of its functioning, historical, geographical, demographic, economic, environmental, cultural, political, ethnic, spiritual and religious and other objective and subjective factors and their impact on the configuration of the space of a particular territory.

In the Ukrainian scientific literature, the concept of territorial development is often used alongside the concept of spatial development. «The concept of «territorial development» refers to changes of socio-economic, environmental and other nature that occur in a particular territory, and «spatial development» is used when it comes to changes in the morphology (structure) of a territorial system of a certain level» (L. Kazmir¹³⁰). Territorial development reflects a set of relevant policies (social, economic, environmental, innovative), the implementation of which is accompanied by appropriate changes in the development of territories.

The modern concept of spatial development should ensure the formation of a favorable geospace for the population of territories of different ranks (national, regional, local), which can use both the competitive advantages of the territory to form their self-sufficiency and ensure a decent standard of living for the community's population, considering national and global goals. Spatial development is a process that has a global context but is implemented locally and ensures harmonious social changes in the territory along with the development of material and spiritual needs of the residents because of the most efficient and rational management and use of natural resources, not only stopping environmental degradation but creating conditions for increasing the natural resource potential of social production¹³¹.

Comprehending V. Vernadsky's theory of planetary development, scientists note that the global goal of the development of a region or territory should be coordinated and joint development (coevolution). The coexistence of nature and an overly technologically advanced society is possible only if there is a scientifically based compromise between the laws of nature and the laws of human development with its achievements and problems. Such an approach necessarily necessitates the formation of innovative territorial systems, the innovativeness of which is determined by the need for both development and preservation of space and requires continuous improvement of innovative approaches to human development management.

It should be noted that while sustainable development is a global concept, spatial development (territorial development) is a comprehensive system of organizational measures for managing the elements and connections of territories aimed at optimizing spatial changes within the framework of the UN Global Sustainable Development Goals, which are primarily aimed at protecting the interests of humanity in the present and future world. This is a new stage in the evolution of environmental and economic relations associated with building a harmoniously organized society that can ensure an equilibrium and balanced interaction of

¹³⁰ Kazmir L.P. (2006). *Upravlinnia prostorovym rozvytkom rehionu i terytorialnyi marketynh*, p.130.

¹³¹ Dunaiev I.V. (2018). *Mekhanizmy modernizatsii rehionalnoi ekonomichnoi polityky v Ukraini v umovakh intehratsiinykh protsesiv*, p.18.

environmental, social, and economic factors of development. In modern conditions, the goals and principles of sustainable development established at the global level are becoming the basis for defining national, regional, local goals and strategies for sustainable spatial development of civilized countries. At the same time, ensuring the effectiveness of the process of sustainable spatial development requires the introduction of innovative mechanisms for long-term beneficial interaction between social systems (society, production, economic sectors, academia, civil society institutions) and the environmental systems in which they operate (land resources, geographical features, climatic zones, water resources and forests, etc.)¹³².

According to American scientists, the further development of the theory of sustainable spatial development is closely linked to the formation of innovative territorial systems, as well as their new spatial and temporal models of implementation in the context of increased competition and increased spatial constraints (land, climate, environmental, etc.)¹³³.

The European experience of developing and implementing the European Spatial Development Perspective (ESDP) (1999), which is recommended and based on the principles of balanced and sustainable development of territories, is worthy of note. The EU experience shows that in times of crisis, spatial planning systems are more effective when new land use rights are assigned more quickly only after public scrutiny of development projects and their distribution.

It should be emphasized that the combination of instruments to ensure sustainable spatial development of the EU as a whole and instruments to stimulate regional development (for example, the European Regional Development Fund (ERDF), etc.) makes it possible to strengthen the innovative nature of territorial systems, ensure positive dynamics of job creation, and promote their territorial cohesion. For example, the European Regional Development Fund's funding of innovative pilot projects in large transnational regions of Europe serves as a tool for testing innovative regional planning processes and forms of cooperation.¹³⁴

In general, the transition to a model of sustainable spatial development should be accompanied by innovative shifts, in particular: improving the availability and quality of services while preserving the ecological potential of the territories; encouraging businesses to innovate; growth of the knowledge-based economy, which requires further development of research and innovation capabilities; widespread use of information and communication technologies; creation of more and better jobs that provide more profitable income. At the same time, specific issues of spatial development of the EU countries, their regions and local territorial systems remain the exclusive prerogative of regional governments and territorial communities that plan and manage sustainable spatial development.

In the EU, common spatial strategies have been discussed since 1993. The accumulated experience of spatial development, as well as the practices of spatial

¹³²Desmet K., Rossi-Hansberg E. (2014). Spatial development, p.14.

¹³³ Berisha E. et al. (2021) Spatial governance and planning systems in the public control of spatial development: a European typology. p.191.

¹³⁴ Rivoli J. U. (2017). Global crisis and the systems of spatial governance and planning: a European comparison, p.17.

planning and urban management, ultimately determine the sustainability of development of territories of different ranks. This makes it possible to typologize spatial strategies, analyze their effectiveness, study the efficiency of their implementation tools, form a set of indicators and metrics that consider different conditions in the EU, and identify the causes of potential conflicts and compromises in the implementation of strategies¹³⁵. Thus, the results of comparing the effectiveness of different strategies, exchange, and cooperation between territories to improve them can be the basis for adjusting the recommended international spatial development strategies.

In this context, the experience of specific EU countries in developing and approving a comprehensive plan for the spatial development of territorial communities is convincing. For example, in Poland, decisions on spatial planning are made at the local level, considering specific measures of regional or national importance. Spatial planning is based on a legal basis and is a mandatory task of the gmina (Law of 08.03.1990 «On Territorial Self-Government»¹³⁶). Since 2015, the country has legislated the content part of spatial planning in accordance with the principles of sustainable development. Accordingly, new spatial structures should be formed in such a way as to minimize transportation costs, maximize the use of public transport as the main means of transportation, and the location of new residential facilities should not impede the movement of pedestrians and cyclists. The Law on Revitalization was also adopted, which introduced a new type of spatial planning documentation – a local revitalization plan. Planning activities begin with the preparation of a program to revitalize the development of territories, which diagnoses existing problems and potentials, develops goals, and describes planned areas of action, projects, as well as financial and organizational measures. Spatial transformations bring about positive changes primarily in the social, economic, technical, and environmental aspects of community life. This approach helps to bring degraded areas out of crisis situations and can be applied in any urbanized space. At the gmina level, documents on the organization of spatial planning, namely: study of conditions and directions of spatial development – covers the entire territory of the gmina and reflects its spatial policy, is an act of internal management for the head of the gmina; local revitalization plan – as a special form of local territorial development plan, which is formed on the basis of the gmina revitalization program; local spatial development plan – local plans are binding local regulations, public institutions and all citizens; landscape resolution – is a binding conditions for the placement of temporary street objects (billboards, devices, fences).

In today's context, global economic integration and the deepening internationalization of life have changed the content, roles and functions of the main stakeholders at the regional, national and global levels, and led to a redistribution of the responsibility of the state and communities for local economic development. Territorial communities are transforming from objects to subjects of management,

¹³⁵ Cortinovis C. et al. (2018). Is urban spatial development on the right track? Comparing strategies and trends in the European Union, p.28.

¹³⁶ Strategia rozwoju gminy krok po kroku, p.21.

which makes them agents of change responsible for organizing and planning sustainable spatial development, socio-economic growth, and environmental protection in their territories¹³⁷.

After gaining the status of an EU candidate, Ukraine must build its own concept of sustainable spatial development, taking into account the experience of European countries. Unfortunately, the lack of a consistent state policy in Ukraine aimed at sustainable SD of territories, considering the environmental and economic characteristics of the functioning of economic complexes, has been accompanied by an increase in regional disparities in key socio-economic indicators. The administrative-territorial reform in Ukraine carried out in 2020 has already provided certain conditions for the creation of innovative territorial systems capable of flexibility, adaptation to changing conditions of the external and internal environment, and the ability to provide for themselves based on self-development and their own resources.

For Ukraine, the creation of effective territorial communities is extremely important. When studying the processes of community formation in the times of Kyivan Rus, M. Hrushevsky noted: «People have long been accustomed to unite to collectively solve problems and meet their own needs and interests», and Ivan Franko¹³⁸ considered the community as a basic unit of administrative and territorial structure and believed that the development of the state depends on the local development of the community. And the state, which is represented by executive bodies, carries out state regulation of the spatial development of territorial communities through financial, organizational, informational, and methodological support and stimulation of community self-development by creating conditions for community cooperation, tax incentives for their activities, decentralization of power, and the use of modern management methods. The newly created territorial communities have a certain set of resources (human, natural, technical, technological, informational, financial, etc.) that form the competitive advantages of the territories, as well as rights with responsibility for delegated powers¹³⁹.

Thus, the study on the theoretical foundations of spatial development of territories and generalization of the European practice of its organization makes it possible to formulate conceptual approaches to sustainable spatial development of territories as innovative systems that should become the basis for the development of a comprehensive plan for sustainable spatial development of the territory (hereinafter – the CPSSDT).

The concept of sustainable spatial development of territories (hereinafter – the concept) as innovative systems should unite the system of views of the territorial community itself and its potential stakeholders interested in ensuring sustainable spatial development, form common principles for understanding the phenomena and processes related to the specifics of the territory. This makes it possible to identify

¹³⁷ Buzun O.O. (2018). Kontsept intehrovanoho rozvytku samovriadnykh terytorii, p.18.

¹³⁸ Franko I. (1985). Shcho take hromada i chym вона povynna buty?, p.85.

¹³⁹ Ivanov Y., Ivanova O., Laptiev V. (2021). Rehionalni aspekty rozvytku produktyvnykh syl Ukrainy, p. 21.

their common interests, combine their interests into a single, defining idea for the spatial development of territories on an innovative basis. The concept can be developed for administrative units of different scales (individual settlements of the region (city, village, town, etc. or administrative district, region) or interregional entities (e.g., interregional clusters), and, based on integrated and strategic approaches to spatial planning, consider the interests of stakeholders and final beneficiaries, if possible.

The concept should reflect the strategic directions of the territory's development and consider key areas of life – social, economic, mobility, environment, landscape, culture, historical heritage, education, healthcare, etc. The concept is a prerequisite for further strategic planning, which defines long-term spatial and socio-economic priorities for the development of the territory, corresponds to state and regional development programs, considers the available resource potential for the development of territories, and contains clearly defined prospects for spatial blurring, which create the basis for designing and implementing sustainable development goals and their innovation and investment support.

The concept is one of those documents, the development and implementation of which, unlike urban planning documents, is not strictly regulated by law, but allows for unity of approach to spatial and economic planning of territorial development and the simultaneous development of a comprehensive integrated development plan. The concept should be developed for a period of 10-15 years, during which it is expected to achieve full (or partial in a certain part) implementation of the community development perspective.

The main principles on which the concept is based include: systemicity; rationality; subordination; optimality; subsidiarity; priority; complementarity; accessibility; sustainability; openness; transparency; respect for the interests of all subjects of territorial relations; comprehensive and integrated approach; perspective; partnership; flexibility; adaptability; efficiency; and focus. The concept of sustainable spatial development of territories as an open system is based on a synergistic paradigm, which has the following properties: lack of its full formal description; dynamism; synergistic effect; instability and nonlinearity; adaptability; multivariance; and alternative self-development. When studying the essence of this paradigm, it is necessary to consider the nonlinearity of the development of a territorial community.

In view of the above, it should be noted that the approaches to spatial development of territories within the concept are a systemic approach (considering territorial communities as an innovative system with interconnected and interdependent elements, the management of which leads to changes in the system as a whole, allows to consider each community resource in interaction with other resources-element of the system) and an integrated approach (spatial development of territories should be aimed at the interests of comprehensive development of all resources of the community, regions and the country).

A key component of the comprehensive plan for sustainable spatial development of territories is urban planning and land management documentation that defines the planning organization, functional purpose of the territory, basic principles and directions for the formation of a unified system of public services, road

network, engineering and transport infrastructure and improvement, civil protection, environmental protection, formation of ecological networks, protection and preservation of cultural heritage, as well as the sequence of implementation. The CPSSDT is developed for the entire territory and provides for coordinated decision-making on the integral (comprehensive) spatial development of settlements as a single settlement system and the territory beyond their borders, and is approved with due regard for state, public and private interests. The CPSSDT regulates the distribution, use, and protection of land of all forms of ownership; the basis for investment in construction, use of territories, and implementation of community projects; and the possibility of considering the interests of all segments of the community's population.

Modern practice shows that a well-designed territorial CPSSDT can launch a chain of positive cybernetic recursive influences and incentives: growth in the capacity of the internal regional market, production, labor productivity, improvement of the quality of investment and innovation infrastructure, investment attractiveness, and employment. If the CPSSDT contains streamlined and systematized existing urban planning and land management documentation, it allows for: transparent open access to the resource base and potential of the community; avoidance of possible social conflicts over the use of territories; outlining the immediate prospects of existence and stabilizing future steps for the development of territories within and outside settlements; ensuring investment attractiveness and increasing the amount of revenues to the community budget through new investments; consolidating the community, stakeholders. Thus, the uneven spatial development of Ukraine's territories increases the differentiation in the quality of life of the population, intensifies internal and external migration processes, which significantly affect the asymmetry of population distribution. In our opinion, the main challenges to ensuring sustainable spatial development of Ukraine's territories in the future will be regionalization, urbanization, and globalization. The development of the Concept and, accordingly, a comprehensive plan for sustainable spatial development of territories is important from the standpoint of ensuring the systematic implementation of sustainable development goals and the integration of society around significant national and territorial development goals. New integrated mechanisms for combining the goals of economic, social, environmental, and innovative activities of the respective territories, their mutual influence and interaction should become one of the priority tasks for the Ukrainian state regional policy on SD. Spatial policy is manifested through the targeted activities of the state to manage the social, economic, and environmental development of the regions.

A territorial community is a part of the country's unified space, which is formed by close interaction and interdependence of political, economic, and social relations. Sustainable space and the success of territorial communities within any territory is formed based on the effective combination and use of local natural factors of production and human potential. The desire to contribute to the implementation of the Sustainable Development Goals is a certain guarantee and guideline for sustainable spatial development, and the organization of spatial planning is one of the most important activities in the development of modern Ukrainian society.

Further study of the spatial development of innovative territorial systems requires clarification of the content and essence of the following concepts: innovative territorial system from the standpoint of realization of sustainable development goals and its spatial organization, which should ensure social, economic, environmentally balanced development of the territorial community; local economic development through the prism of synergy of actions of the business community, government, civil society and the scientific environment; spatial planning as a system of methods and approaches used.

References:

1. Berisha E., Cotella G., Rivolin U.J., Solly A. (2021). Spatial governance and planning systems in the public control of spatial development: a European typology, *European Planning Studies*. 29:1, 181-200, DOI: 10.1080/09654313.2020.1726295.
2. Butko I.P. (1992). Deiaki problemy stanovlennia i rozvytku terytorialnoho samovriaduvannia v Ukraini. № 3, 6-10.
3. Buzun O.O. (2018). Kontsept intehrovanoho rozvytku samovriadnykh terytorii. 4 (39), 159-165.
4. Cortinovis C., Haase D., Zanon B., Geneletti D. (2018). Is urban spatial development on the right track? Comparing strategies and trends in the European Union, *Landscape and Urban Planning*. Volume 181, 22-37. DOI: 10.1016/j.landurbplan.2018.09.007.
5. Desmet K., Rossi-Hansberg E. (2014). Spatial Development. *American Economic Review*. 104 (4): 1211-43. doi: 10.1257/aer.104.4.1211.
6. Dunaiev I.V. (2018). Mekhanizmy modernizatsii rehionalnoi ekonomichnoi polityky v Ukraini v umovakh intehratsiinykh protsesiv, Dissertation of the Doctor of Sciences in Public Administration: 25.00.02. Kharkiv, 440 s.
7. Franko I. (1985). Shcho take hromada i chym vona povynna buty? Collected works: [y 50 t.]. K., T. 44. KH. 1. 175 p.
8. Ivanov Y., Ivanova O., Laptiev V. (2021). Rehionalni aspekty rozvytku produktyvnykh sy Ukrainy. № 26. URL: <http://surl.li/ehhtu>.
9. Kazmir L.P. (2006). Upravlinnia prostorovym rozvytkom rehionu i terytorialnyi marketynh. Materials and International scientific and practical Internet conference «Science-2006». Lviv: Ukrainian Technologies, 129-133.
10. Morozova L.V. (2013). Pryntsyipy prostorovoho rozvytku sotsialno-ekonomichnoi systemy Ukrainy. Collection of scientific works of the Kharkiv University of the Air Force, release. 4 (37), 174-178.
11. Pandas A.V. (2015). Metody analizu ta rehuliuвання prostorovoho rozvytku velykoho mista. Kyiv, TK Meganom LLC, Scientific review. № 7 (17).
12. Pavliuk Y.Y. (2011). Prostorovyi rozvytok rehionalnoi-ekonomichnoi systemy. Collection of Scientific Works of VNAU. Series: Economic Sciences. №2 (53).
13. Rivolin J., Umberto. (2017). Global crisis and the systems of spatial governance and planning: a European comparison. *European Planning Studies*. doi: 1080/09654313.2017.1296110.
14. Strategia rozwoju gminy krok po kroku. (2021). <http://surl.li/ehhtt>.