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## Assessing the quality of urban development by analysing indicators at the local level

*Abstract:* Territorial development is a basic concept of urban planning and spatial planning. This concept is complex in nature, as it includes indicators such as design, surveying, economic and social development of territories, environmental issues, humanitarian aspects, and others. Therefore, to ensure the fullest possible identification of factors influencing urban systems to improve the quality of the environment, it is advisable to develop a set of indicators that would meet the parameters of the task at different stages of urban development. The article analyses the approaches to the formation of a system of indicators for assessing the quality of the urban environment. The author proposes a comprehensive system of indicators that allows the most complete description of urban development processes, to develop proposals for their improvement. The article is based on an in-depth analysis of regulatory and legal support of urban planning processes, analysis of periodical scientific literature, and leading world experience that can be implemented in the system of national urban planning. The grouping of factors for assessing the quality of the formation of the urban environment is carried out. Each group of factors is structured and described. Descriptions of the group of factors allowed to determine their impact on the urban planning system and the environment. An analysis of the relationship between the factors in assessing the quality of the urban environment, allowed us to determine their systemic and mutual influence. It is determined that only by using a set of factors and their rational structuring it is expedient to ensure the effectiveness of the processes of formation of the urban environment, which would meet the requirements and demands of the population at each stage of society.

*Keywords:* urban planning, territorial planning, territorial management, assessment of territorial development.



### Introduction

In the face of external challenges, social systems are being restructured to meet new demands. After the end of martial law in Ukraine, the system of public inquiries will not change, but the mechanisms of its implementation will change. It is expedient to talk about new opportunities related to restructuring and the possibility of using innovative technologies in construction, the use of new urban planning processes, which will upgrade urban planning systems. At the same time, the need for residential real estate, the need to restore those buildings that can be restored, and the construction of new housing will be acute. Its placement and planning should be carried out in accordance with the modern needs of the population: large flows of transport, developed social, trade, entertainment infrastructure. New requirements must

also be set for infrastructure. In particular, the installation of new power lines and their maintenance in accordance with the additional needs of the population according to the number of gadgets and household appliances used today. Thus, in the context of new challenges, it is advisable to identify new mechanisms to improve the quality of the urban environment, noting that public demand does not depend directly on external challenges, they remain stable, changing only the ability to meet these needs.

The study purpose is to determine the system of factors to improve the quality of the urban environment in the face of new challenges and prospects.

The study tasks are:

- determining the population’s demands to ensure the quality of the urban environment;
- determination of factors influencing the quality of the urban environment;
- analysis of ways to assess the quality of the urban environment.

The study was conducted on the basis of the work of such scientists as T.V. Zhydkova, S.N. Chepurna, O.A. Popova, P.M. Chabonenko (*Zhydkova et al., 2018*), Kostiantyn Mamonov, Iurii Sklyar, Maryna Pilicheva, Vladimir Kasyanov, Eduard Shyshkin (*Mamonov et al., 2021*), T. Pavlenko, T. Lytvynenko, Ivashenko V., A. Zyhun (*Pavlenko et al., 2022*), I. Lynnyk, K. Vakulenko, E. Lezhneva (*Lynnyk et al., 2021*), etc. It is also advisable to analyse practical examples of territorial development, which are presented on the official website of the Ministry of Community Development and Territories of Ukraine (*The Ministry of Community and Territorial Development*).

### **The results**

According to the current legislation of Ukraine, a set of indicators has been identified as a system of factors for urban development. According to the Resolution of the Cabinet of Ministers of Ukraine “On Approval of the Procedure for Development, Updating, Amendments and Approval of Urban Planning Documentation” (*Resolution of the Cabinet of Ministers of Ukraine*) “indicators – defined by task.... indicators of development of the territory which can be calculated based on values of attributive data of a geodatabase and achievement of which is the purpose of realization of design decisions of town-planning documentation” (*Resolution of the Cabinet of Ministers of Ukraine*).

The system of regulatory and legal support for the set of factors of the urban environment can be represented by the following regulatory and legal documents (*The Ministry of Community and Territorial Development; Resolution of the Cabinet of Ministers of Ukraine*):

- Code of Civil Protection of Ukraine,
- Land Code of Ukraine,
- Water Code of Ukraine,
- Laws of Ukraine:
  - On Regulation of Urban Development,
  - On the Basics of Urban Planning,
  - On Architectural Activities,
  - On the General Scheme of Planning of the Territory of Ukraine,
  - On Land Management,

- On the Protection of Cultural Heritage,
- On Environmental Protection,
- On the Nature Reserve Fund of Ukraine,
- On the Improvement of Settlements,
- On the Protection of Archaeological Heritage,
- On Strategic Environmental Assessment,
- On the National Infrastructure of Geospatial Data,
- On Electronic Documents and Electronic Document Management,
- On Electronic Trust Services.

Considering the analysis of regulatory documentation, the following stages of development of the system of urban environment formation were identified, in particular (*Zbydkova et al., 2018; Mamonov et al., 2021; Pavlenko et al., 2022; Lynnyk et al., 2021*):

- integrated planning – planning decisions on the long-term use of the entire territory of the territorial community (*The Ministry of Community and Territorial Development*),
- general planning – is designed to justify the long-term strategy of planning and development of the settlement (*Resolution of the Cabinet of Ministers of Ukraine*),
- detailed planning – within the territory of the territorial community detail the provisions of the master plans of settlements (*Resolution of the Cabinet of Ministers of Ukraine*).

At each stage, it is advisable to identify indicators. In particular, it is advisable to determine the structure of indicators at the stage of development of a comprehensive plan of territories:

- planning decisions, plans of territories, detailed plans of territories (including land formation), the definition of engineering infrastructure, social infrastructure (education, health, culture, housing, and communal services);
- alienation of land plots on the grounds of public necessity or change of functional purpose of lands, other objects specified in the design task.

The general planning stage involves the development of a system of indicators for social infrastructure (education, health, culture, housing and communal services, protection); objects provided by the General scheme of planning of the territory of Ukraine and the scheme of planning of the region and other objects.

Planning decisions of detailed plans of territories on which placement of the listed objects is provided are developed as a part of the general plan of the settlement in case they are not developed as a part of the complex plan.

The stage of detailed planning involves a set of indicators related to the assessment of structural and planning elements of the settlement (residential areas, neighborhoods of new buildings, areas of complex reconstruction of neighborhoods of obsolete housing, industrial, recreational and other buildings) ensuring their system city, ensuring the complexity of building the territory; details of the planning structure, clarification of red, yellow, blue, green lines and lines of building regulation, boundaries of protection zones of cultural heritage sites; determination of building parameters and urban conditions and restrictions (*Resolution of the Cabinet of Ministers of Ukraine*).

Thus, three main directions of formation of indicators of town-planning development by the analysis of normative-legal maintenance of town-planning activity are defined. The author has developed a system of specific indicators for each item. The results of the consolidated analysis are presented in table 1.

Table 1. A set of indicators for assessing the quality of the urban environment

Group	Influencing factors	Indicators
Comprehensive planning	Planning and design,	Distances of territorial location, directions of placement,
General planning	Land planning, geodetic measurements, delimitation, and boundaries	Boundaries of territories and their characteristics
Detailed planning	Objects of engineering, information, social infrastructure, housing development, commercial development, industrial real estate, transport infrastructure	The number of infrastructure facilities per capita, residential, commercial real estate (per square meter) per capita on average. It is advisable to take into account both the volume of infrastructure and real estate and their quality characteristics.

Thus, the results of the analysis identified a list of indicators and factors influencing the assessment of the quality of the urban environment.

### Conclusion

As a result of the research, the article identified the formation of public demand for quality assurance of the urban environment. Determining the factors influencing the quality of the urban environment was carried out by analyzing the system of regulatory and legal support, in accordance with the analysis, a system of indicators was proposed to assess the quality of the urban environment.



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