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**HARMONIZING HUMAN SETTLEMENTS DEVELOPMENT BY
CLIMBING THE UNCERTAINTY THRESHOLDS**

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Abstract

The recent urban development paradigms have significantly exacerbated the conflict between economic aspirations and social expectations, increasing the degree of uncertainty in approaching, shaping desirable future and assessing the consequences of the occurring changes. Many blunders of the planning system itself are associated with these problems. Global changes in the world economy, taking place against the backdrop of growing social and environmental tensions, are reflected in cities and regions. All these changes impact on the structure and shape of urban places, flows of labor and capital, demands for resources, and finally, all these increase the uncertainty of development prospects. Planning institutions and territorial administrations must find effective forms and ways of solving problems in the context of the ongoing changes. To solve these problems, an appropriate methodological platform is required. The analysis made it possible to classify the thresholds of uncertainty in urban planning, which not only reduce the efficiency of planning, but also have a negative impact on the development process itself. An adequate assessment of the uncertainty in urban planning will contribute to the choice of thoughtful and balanced prospects for the development of cities and regions to meet the global challenges. In the face of ever-increasing uncertainty, only innovative planning and management techniques will provide the necessary opportunities to improve the efficiency of human settlements development.

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Keywords: Human settlements development, urban planning, uncertainty in urban settings, planning system analyses, urban development thresholds



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1. Introduction

Uncertainty was the problem that urban planner tried to ignore for a long time (Christensen, 1985) and nowadays they continue to do this by painting the beauty of urban design proposals in couleur pseudo-confidence and certainty. This is because one of the main goals of planning is to create the illusion of confidence. There are many doubts about the correctness of the previous planning paradigms. Urban planning projects implemented under the guise of pseudo-determinism do not provide a decent solution to current socio-economic problems. It is becoming more obvious now necessity to find opportunities for reliable alternatives in assessing the urban development prospects and build a solid platform for making urban planning decisions in conditions of uncertainty. In these cases, the need for appropriate adaptation of planning tools becomes especially important and relevant. Research has shown that uncertainty unreasonably increases when conflicting goals collide or when development conditions change radically (Gunder, 2008; Gunder & Hillier, 2009). This is very much coincided with the entire state of human settlements.

Uncertainty is getting more and more attention due to several reasons. There are the problems of the world economy, growing tensions in the social and environmental spheres, as well as the emerging difficulties in making political decisions related to the search for mutually acceptable agreements. Today, the tasks of improving the quality of life in cities require dealing with the problems caused by the inadequacy of government tools and the immaturity of spontaneously emerging and unpredictably functioning market mechanisms. Ensuring the viability of the planning system in conditions of uncertainty is associated with the choice of adequate management tools, the formation of coordination mechanisms and the building up of urban planning potential (Moisseev, 2019). Accordingly, the recognition of uncertainty is interpreted as a condition for improving the planning system. Working in conditions of uncertainty is associated with an adequate assessment of possible risks and threats (Penning-Rowsell & Korndewal, 2019).

The question arises about the management of processes that cannot be correlated with the previously known models of system behavior. The new doctrine of urban planning should be more innovative and aimed at creating an environment that provides full conditions for socio-economic development (Moroni, 2004). The planning order is already to a lesser extent dictated by the state, and to a greater extent pursues the solution of tasks put forward by the developing corporate sector and civil society. The improvement of administrative apparatus, as Healey (2006) notes, should contribute to the development of democratic relations, and not hinder the achievement of the intended goals.

Many statements have been made that urban planning does not fulfill its mission without fulfilling a social order and without protecting social interests. At the same time, a lot of arguments have appeared that indicate the uncertainty of public interest and the mystification of the social order. Some researchers linked the tasks of ensuring the "public interest" with the democratization of the urban planning system. The main task of urban planning is to form (through negotiations!) an agreement between all interested parties. He also argued that the "social order" cannot be provided or delivered through market mechanisms.

Governments are no longer considered the sole holders of the "public interest" package of knowledge. Researchers believe that the public interest safeguards in social order the ability of individuals

to maximize what benefits society. Public interest should be correlated with the tasks of ensuring the operation of business, commercial activity using a representative model of democracy in improved paradigms of urban planning.

In the theory of urban planning, attention is increasing to the political analysis of the prospects for spatial development. Thus, analyzing the successes and failures of urban planning, the researchers note that the modern position reflects the changed structure of modern society. At the same time, leftist currents draw attention to the fact that the fundamental socio-economic institutions of capitalist society systematically promote the interests of those circles that manage productive capital, but not all members of society.

If state institutions do not pay due attention to public interests, then this will lead to an aggravation of relations and a violation of the general social and spatial order. Researchers cast doubt on the sustainability of ecological and socio-economic development if the state (supporting the effective accumulation of capital in the private sector) does not achieve a real guarantee of the interests of society. The task of protecting public interests, infringed by various circumstances of the functioning of the market, takes on a special meaning these days. The aggravation of urban planning problems in many regions of the world is associated with deficiencies in the development of infrastructure, the increasing market value of funds that reduce the "affordability" of housing. This requires the replacement of existing market transactions with mechanisms for the comprehensive coordination of investment decisions and the democratization of urban planning decision-making processes (Etereuskaya & Nazarova, 2020).

Uncertainty, it seems to us, is determined by the dynamics of spatial transformations, the growth of environmental tension, an increase in the participants in urban planning activities and, accordingly, decision-makers and determining the prospects for territorial development. Given the changing composition of participants in the urban development process and the dynamics of their priorities, the coordination of private and public interests is becoming an important planning task. The study emphasizes that the decisions made must meet the expectations of optimality and efficiency at both the local and regional and global levels. Emphasizing the growing role of information flows in the formation of strategic guidelines and, accordingly, meaningful forms of coordination, the study notes that a serious threshold is associated with the lack of a methodological basis for decision-making in conditions of uncertainty. Poor feedback mechanisms reduce the effectiveness of information communication.

2. Problem Statement

For successful development in the current environment, the economic growth of cities and regions must proceed in the context of social justice and environmental sustainability. This requires the modernization of the system of urban planning, built on a well-developed and thoroughly substantiated methodological platform. Urban planning can contribute to the development of public institutions, harmonization of the design of the environment and the achievement of environmental standards of living. Overcoming the thresholds of uncertainty will increase the efficiency of the urban planning system and ensure the building up of its potential for a more successful solution to the problems of improving the quality of life of the population and the level of socio-economic development of cities and regions. The analysis made it possible to classify the uncertainty thresholds in the urban planning system. They not only

reduce the effectiveness of planning, but also have a negative impact on the development process itself. The following thresholds for the harmonious and sustainable developments have been identified:

- Thresholds of cognition, or epistemological thresholds of uncertainty, are formed both by the uncertainty of development prospects and by ignorance of ways or means of solving urban planning problems. Avoidance of "limitation crises " can help to overcoming epistemological thresholds.
- Functionality thresholds are associated with the fact that the urban planning system does not fulfill its role. Its important mission is to protect the public interest, and in the context of new tasks it should acquire the function of innovative practice.
- Adequacy thresholds arise due to the discrepancy between the planning system and the level of tasks to be solved. Many regulations on relationships and legal obligations have not been adequately reflected in legislation and the corresponding demarcation of areas of responsibility in the urban space.
- The thresholds of communication are caused not so much by the imperfection of the transmission channels of urban planning information (despite all attempts to provide the information support in urban planning), as by the quality of the transmitted information.
- Competence thresholds impede the development of the planning system and can be overcome by building up urban planning potential, which implies both improving the quality of training of specialists (personnel construction) and improving the institutional structure and regulatory framework.

3. Research Questions

Researchers have long stated that urban planning, built on the orthodox principles of rationality, cannot provide a full-fledged solution to the problems of socio-economic development and the protection of public interest in the organization of urban space. In the mid-1970s, Denis Rondinelli already stated that the principles of rational planning do not work in conditions of political pluralism. Many institutions and organizations contributed to the fixation of ideas about the range of the instrumental base for planning - social, economic, infrastructural, environmental, territorial. At the same time, the political and economic doctrines promoted over the years have emphasized the exceptional importance of market forces in solving urban planning problems.

4. Purpose of the Study

For a long time, countries with economies in transition have adopted the development paradigm of more prosperous countries as models. The same were more concerned with the abolition of state control, privatization, and decentralization of state and municipal administration. Political slogans of freedom from "plan" to please the "market" do not always help to solve problems on the ground. In terms of territorial planning, many hasty decisions were also made, which ultimately increased the degree of uncertainty and contributed to the intensification of the confrontation between conflicts of "interests" and "principles".

Reforms in the system of urban planning management aimed at improving the procedures and methods of decision-making require bringing out of the shadow of uncertainty the tasks of ensuring the long-term interests of sustainable development, correlating them with short-term benefits that sometimes cause serious damage to the social interests of society. The logic of spatial development proceeds from the fact that the normative goals of urban planning policy are built based on a thorough analysis of emerging risks and threats and is guided by agreed principles and standards for choosing prospects. There is an acute question about the behavior of individuals and systems in conditions of uncertainty and their ability to make urban planning decisions (Güneralp & Seto, 2013; Perkova, 2018; Zheblienok, 2018).

5. Research Methods

The trends of recent decades have shown the aggravation of urban planning problems. The potential of cities and regions to mobilize the resources needed for a solution has also changed. Since the acuteness of the problems of urban development is felt everywhere, to the extent that the function of planning as an act carried out for the common good raises many questions everywhere. Urban planning acquires an important mission of harmonizing the post-global spatial arrangement. This requires the initiation of socially oriented programs, and they can be successfully implemented only if the interests of all political forces are secured. Thus, the prerequisites are formed for a serious renovation (improvement) of the entire system of urban planning. Correspondence of the planning system to the level of problem solving is the prerogative for successful spatial development. The debugging of the planning system, as the analysis shows, should ensure it: efficiency; creativity; consistency; informativeness; diligence.

5.1. The efficiency of planning

This quality is formed on an adequate understanding of the problems, clarity in solving problems and assessments of all risks and threats arising in this regard. Serious problems are caused by the inadequacy of the used tools of state and municipal management and the immaturity of spontaneously emerging and unpredictably functioning market mechanisms. Without improving the urban planning apparatus, it is difficult to carry out the entire range of tasks by the city authorities, and the inadequacy of the regulatory framework not only exacerbates the uncontrollability of market forces, but also immensely complicates the promotion of the paradigms of sustainable urban development. Unfortunately, many planning problems did not receive their solution at the theoretical level, and therefore urban planning practice did not receive appropriate guidelines (Christensen, 1985). The conditions of uncertainty are of particular concern in terms of the viability of the practiced paradigms of territorial governance. The key question of the theory of urban planning about how to manage processes that cannot be correlated with previously known models of system behavior is becoming especially topical today.

5.2. Creativity of the urban planning system

The system of urban planning should fully acquire the function of innovative practice. Due to this, in addition to the traditional consolidation of information on resources and needs, it should act as an apparatus for initiating socio-economic development. Creative positioning assumes that the choice of

directions and development goals is correlated with mutually acceptable ways to achieve them. Ensuring creativity and responsiveness in planning systems requires interlinked urban capacity building programs. This presupposes a comprehensive solution to the issues of improving personnel training, developing the institutional structure and regulatory support of the urban planning industry. A comprehensive solution to the problems of building urban development potential will develop the competencies of local authorities, planners, and civil society activists. Noting the positive characteristics of the ongoing changes, the study emphasizes that the improvement of the urban planning system should proceed in the context of an active political process aimed at ensuring sustainable development. Urban planning should appear as a progressive innovative practice, built on the principles of self-learning and self-development.

5.3. Consistency in the operation

Current practice demonstrates many complexities in program implementation. Overcoming them will be unsuccessful if the urban planning system does not acquire appropriate regulatory support and legal powers, including effective monitoring of the quality of the urban environment and control over the implementation of programs and plans. The choice of spatial perspectives and strategic directions of development presupposes close collaboration of various sectors to mobilize the necessary resources and coordinate the financing of various programs. The effective distribution of powers and responsibilities between national, regional, and local levels of government will contribute to the improvement of the planning system. To move in this direction, effective mechanisms for coordination and assessment of management efficiency in terms of environmental quality indicators are required. The thresholds in the system of urban planning are caused not so much by the problems of describing the spatial structure of the city and urban agglomeration, but by the tasks of mobilizing, coordinating, and regulating development. To overcome them, spatial planning documents should become an effective tool for monitoring and supporting initiatives (Yushkova & Alekseev, 2020).

5.4. Informativeness

An attempt is made to solve the urgent problems of urban planning within the framework of strategic plans for the socio-economic and political development of cities. The agreed determination of the prospects and directions of development, the construction of a "road map" within the framework of the concept of indicative planning, and then the choice of "key indicators" for assessing the state of the socio-ecological situation in the city will ensure the transition to new paradigms of spatial development. The solution of this class of problems requires further improvement of the entire methodology of information support through the development of a balanced scorecard. The advantage of the new approaches is ensured by the fact that, together with the choice of ways and directions of development, mutually acceptable ways of achieving them from a political point of view are determined. Thus, it seems possible to avoid distortion of the goal at the lowest levels, since this will be noted in the indicators of the quality of the environment and the level of development (Shi, 2010).

The choice of adequate planning paradigms and appropriate tools for monitoring the development and implementation of the decisions made is extremely important for the modernization of the planning system. In the context of global challenges facing cities and regions, the tasks of the efficient functioning

of the urban planning system become especially urgent. The system of urban planning, being included in the political process, is designed to solve the problems of ensuring business attractiveness and improving the quality of life, determined by a set of factors, in which the characteristics of employment and material well-being of the population are significant. Everywhere there are problems of careful attitude to resources that correspond to the principles of sustainable development. Providing urban planning functionality is becoming a key task in the urban planning system. Its attention should also be paid to improving the quality of the environment through adequate use of available resources with maximum waste disposal.

5.5. The performance efficiency

The effective development of cities can only be ensured by the well-functioning work of the entire planning system, carried out based on determining the priorities and stages of implementation of development programs, which are built considering long-term and short-term goals. In territorial planning and management systems, the strengthening of the legal framework should facilitate the development of negotiation and conflict resolution mechanisms. The methodological platform for reforms, in addition to strengthening institutions for decision-making and resolving conflicts on a collective basis, should also develop mechanisms that facilitate the development of thoughtful plans and the adoption of sound programs. The perfection of the instrumental base of spatial planning systems is also ensured by the development of mechanisms for international and interregional cooperation in urban planning.

6. Findings

Human settlements have faced serious challenges and the growing concern about urban development problems is raised by several topics that deserve special attention. Several among them are associated with the growing resource scarcity with the increasing demands for spatial development. Reconciliation of stakeholders' interests and conflict resolving poses analytical tasks for urban planning. Making urban planning decisions in conditions of uncertainty are required substantial analytical work to assess potential risks and threats. It is required to study in detail the issues of self-improvement of the planning system in the context of anti-crisis management. The tasks of personnel retraining for the modernization of the entire system of urban planning also remain extremely urgent. Overcoming the thresholds of competence presupposes the development of responsibility of the participants in urban planning activities, their involvement in the discussion and adoption of vital decisions, while ensuring full transparency and accountability. The lack of local competencies limits the possibilities for implementing a progressive urban planning policy.

The growing uncertainty does not allow solving urgent problems of urban development within the framework of traditional models of territorial planning. This requires new approaches that could fully ensure progress and respond to the dynamics of society's demands. Recognizing and overcoming the thresholds of uncertainty is becoming an important link in improving the system of urban planning and the formation of strategic plans for the socio-economic and political development of cities and regions. Finding answers to solving urban problems requires improving both social organization and territorial structure.

When analyzing the implementation of reforms in China, four groups of problems are usually noted related to the effectiveness of the functioning of the entire system of urban planning. First, the lack of assessments of the prospects for a common macroeconomic, regulatory platform for territorial planning and scientific assessments of the consequences of the decisions made. China's potential of the planning system is not fully used to regulate development at the macroregional level and for the spatial distribution and management of investment flows within the territory and at the regional level. Secondly, the hierarchical spatial planning system is not provided with mechanisms for coordinating decision-making. Third, the issues of how spatial planning contributes to social development, protection of public interests and support of social stability, rational use of resources, and development of culture have not been worked out. In particular, the specific interests of residents cannot be guaranteed due to the lack of mechanisms for public participation. Fourth, urban planning began to be limited to the tasks of designing space, striving for the "beauty of the plan" as the result of the entire planning process (Moiseev & Tkachenko, 2020).

The tasks of ensuring sustainable development in social, environmental, and economic terms require urgent measures to coordinate interaction, distribute responsibilities between all participants in the urban planning process. These measures will help to understand the essence of risk from natural disasters and ensure its reduction through interaction within civil society. Without an understanding of the real laws of human development, it is impossible to scientifically predict socio-economic processes or to manage them wisely in the interests of the whole society (Gushchina et al., 2017). It is also impossible to prevent crisis processes and catastrophes in which mankind periodically falls due to unknown development trends.

Accordingly, the tasks of building urban planning capacity for disaster risk reduction require appropriate information and software. This work should be carried out constantly to improve personnel training, institutional structure, and regulatory support of urban planning (Zhou et al., 2014). An audit of building codes, rules and principles of spatial planning is required, considering existing risk factors, and ensuring their compliance. The issues of adaptation of urban planning systems to climate change, as well as the tasks of ensuring the protection of ecosystems, together with measures to mitigate the consequences of natural disasters and threats, should be at the center of the urban planning agenda.

The obtained results of the study lay the foundation for building up urban planning potential, including improving the training of urban planning personnel and improving the mechanisms of the city planning system itself. That is why it is viewed not only as a process of consolidating information on resources and needs, but also as a mechanism for the formation of initiatives for socio-economic development. Algorithms for making urban planning decisions in conditions of uncertainty will ensure the improvement of the entire system of urban planning. This, in the context of the ongoing socio-economic transformations, will allow the urban planning system to find its appropriate position, presenting weighted assessments of possible risks and threats associated with uncertainty, and thus giving the right guidelines for sustainability to ensure harmonious and balanced development.

7. Conclusion

Human settlements are now in a front of new challenges and threats. All this cannot but affect the definition of new tasks for the modernization of the entire planning system, including the spatial one. The success of development in the face of challenges and threats depends on the ability to balance the influence

of the “invisible hand of the market” and the “visible hand of the state”. It should be emphasized the importance of measures to support urban development in the face of growing external challenges and uncertainties. A change in development paradigms requires a corresponding reformatting in the management and planning system. However, the practice of carrying out reforms has not yet presented the desired results due to the high degree of inertia of both controlled and control systems. All this reduces the effectiveness and efficiency of the proposed programs. Inadequate accounting of challenges and threats affected the viability of the entire system of urban planning. It should be noted the low efficiency of measures that have been taken so far in terms of assessing the protection of cities in the face of impending climate change and natural disasters.

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