Problems of spatial planning, zoning and urban development in modern Russia

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Abstract. The purpose of this article is a comprehensive review of spatial and urban planning, and zoning in modern Russia. The starting point of the study is the experience of territorial, urban planning and zoning of the Soviet Union, which has achieved significant success in this area of activity. To achieve this goal, we used the books of modern Russian researchers and the author’s publications of this article, as well as materials posted on the Internet, applied philosophical and scientific approaches and research methods: systemic, dialectic, socio-humanitarian, anthropological, environmental, aesthetic and cybernetic approaches, as well as methods of observation, analysis, synthesis, analogy, comparison, generalization. As a result of the study, many negative phenomena and mistakes made in the territorial planning, zoning and urban development of post-Soviet Russia were revealed: the system was lost, the laws of dialectics are violated, there is no synergy between state structures and civil society, there is an excessive concentration of the population in Moscow and the Moscow region, it isn’t possible to provide comfortable and safe living conditions for each person and, the most importantly, environmental problems in cities and neighboring territories become more acute.

1 Introduction

Urban planning in the USSR, as it is known, was carried out on the basis of Marxist-Leninist philosophy. The goal of urban planning policy was to build socialist cities according to drown up plan, among these cities the capital Moscow was assigned the most important place, what was supposed to become an exemplary communist city. However, as a result of the collapse of the USSR and the loss of communist’s power in Russia, as well as in other former soviet republics, there was a rejection of Marxist-Leninist philosophy, construction of socialism, state planning, etc. The systemic crisis that caused the destructive processes in the 90s hit all aspects of former soviet people’s personal and social life.

At that time, post-Soviet Russia had no time for territorial planning, regionalization, integrated urban development, the population’s planned settlement. For a number of reasons, the concept of territorial planning has also substantially changed. The actual Town Planning Code of the Russian Federation notes that «territorial planning is aimed in documents at determining the purpose of territories on the basis of a combination of social,

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economic, environmental and other factors in order to ensure the sustainable development of territories, the development of engineering, transport and social infrastructures, and taking into account citizens and their associations interests, of the Russian Federation, of the entities of the Russian Federation, and municipal units». [1]

Spatial planning is now significantly different from Soviet state planning. The main distinguishing feature is that it doesn’t set goals and objectives of building socialist cities. In the 90s there was a rejection of the concept of a socialist city, and a new concept was never developed. A similar situation has developed with the people’s settling. «In modern post-Soviet society, M. Meerovich writes, no alternative to the Bolshevik theory of settlement has been put forward». [2] We can only talk about a shift in the following priorities: from the construction of mainly industrial facilities to the creation of primarily social infrastructure, from state and departmental housing construction to municipal and individual, from collective forms of people’s life to private, from color and geometric monotony of urban landscape to aesthetic diversity, from the socialist city to the capitalist one.

Modern territorial planning, including regionalization, also doesn’t assign the task of restoring the old industry and creating the new one, aligning the levels of socio-economic development of the country regions, equal population’s distributing, and ensuring the same conditions for the people’s life and work everywhere in Russia. The Town Planning Code of the Russian Federation doesn’t provide for the reconstruction of the State Plan of the USSR or the formation of a similar institution. The Code permits only the creation of the Federal State Information System for Territorial Planning.

In connection with the changes that have taken place, market factors have become widespread in the Russian construction industry. Now, not the state, but the market with its laws dictates the conditions. It all depends on the ratio of the laws of supply and demand. The higher the demand for housing, the higher its price, and, conversely, the lower the demand, the cheaper it is. The essence of market relations in the domestic construction industry is as follows: it is only profitable to build, reconstruct and operate these things which bring high profit, namely: office buildings, shopping malls, residential buildings in large cities, toll motorways.

Thanks to the active using of market factors in urban planning, Moscow and St. Petersburg have become megacities in recent years. However, focusing only on market factors often leads to disproportions between natural and social spaces, an excessive density of the urban population in relation to rural, road and transport problems, etc.

On a national scale the application of pure market factors in urban development is also manifested in disproportions in migration processes: in the movement of the population from the sparsely populated eastern part of Russia to the more densely populated western one; where the main share of financial capital is concentrated. This process began in the 90s and continues to this day.

In connection with the foregoing, the purpose of this study is a comprehensive review of the relationship of territorial planning, regionalization and urban development.

Territorial planning is a totality of actions by state and municipal authorities to locate enterprises in the sphere of material production and non-production one, population, construction and development of cities and rural settlements, development of natural resources and environmental protection. Spatial planning is aimed at creating a rationally (scientifically) sound territorial organization of society.

Zoning is the division of a country territory into regions representing territorial entities with a common economic activity, economic life, industrial specialization, internal production relations, based on the characteristics of natural resources and climate. Zoning is aimed at providing optimal conditions for planning and realization regional socio-economic policies, including urban planning policy.
Urban planning - the theory and practice of planning and development of territories, cities building. Urban planning is oriented towards solving a complex of socio-economic, construction-technical, architectural-artistic, socio-cultural, sanitary-hygienic and environmental problems.

2 Materials and Methods

A lot of problems have accumulated in territorial planning, zoning and urban development of Russia, they are reflected in a number of scientific publications. Among them, it is worth noting such books and monographs published in the latest decade, such as:

«City without Borders» (2011). The book deals with the fact that the issues of territorial development and the problems of urban development are more and more considered in conjunction. This is due not only to an increase of the urban population’s quantity, but also to the blurring of the boundaries between the city and the village. Settlements in which a significant part of the population is engaged in agricultural production are becoming less and less like traditional villages. [3]

«Spatial Development of Urban Systems» (2013). The publication focuses on the processes of spatial and economic restructuring of urban systems in the context of globalization. Based on the identified patterns, the principles and methodological foundations of spatial planning and spatial analysis are formulated. The advantage of the study is the availability of authoring: a university version of the spatial-analytical system UNO. [4]

«Urban Studies. Architecture of urban structures» (2013). This publication sets out the history of urban development, gives the concepts of modern urban studies, considers the formation of the urban environment and the architecture of urban structures, formulates the principles of designing buildings, structures, planning and development of settlements. [5]

«General Plan and the quality of the city environment» (2014). The monograph develops the general plan of the city and the quality of its environment in unity, presents materials, schemes and illustrations from the design works of the Krasnoyarskproekt research institute, the construction companies Krasnoyarskstroy and Krasstroy, as well as photographs taken by students. [6]

«The Study of the influence of climatic factors on the formation of the architectural and artistic image of the city» (2014) discusses the architectural and artistic features of Krasnoyarsk, the principles of the formation of its architecture in conjunction with the natural landscape». [7]

«Spatial development of large Russian cities during the post-industrial transition» (2015). This publication presents scientific and practical research materials on the spatial development of large cities of Russia during the post-industrial transition. A special place is occupied by the study of the formation of the modern urban agglomeration as the territory of accelerated development. [8]

The monograph «Urban art: traditions and innovations» (1916) analyzes architectural and artistic means of creating a comfortable and aesthetically expressive environment of modern cities, the laws of creating urban planning ensembles, the peculiarities of the compositional organization of urbanized and landscape-recreational spaces, innovative techniques used in urban planning practice. [9]

«A book on useful and beautiful architecture. Architectural policy as a driver of urban development» (2016). The main idea of the book is the following statement: the level of architecture of the city depends on the quality of its existing procedures for the development and implementation of projects. On the one hand, the analyzed procedures make possible to build high-quality ordinary buildings, and on the other one, they stimulate the appearance of iconic buildings, architectural dominants. [10]
«Management of the spatial and economic development of the city. Hidden resources» (2016). In this collective study the authors collected relevant urban planning information on eight large cities of Russia, analyzed various factors under the influence of which urban agglomerations were formed. [11]

«Sustainable development of settlements and urbanized territories» (2016). This publication contains an integrated analysis of the urban environment model, the main life support systems of the city, analyzes the principles of creating a planning, architectural and spatial composition to create a comfortable macro and microenvironment, considers the main models of the development process of settlements, their life cycle and developmental characteristics, intellectual systems used in planning and monitoring the sustainable development of settlements. [12]

«The Code of Principles for the Integrated Development of Urban Territories» (2019) defines the key trends and measures for the formation of a high-quality environment in residential and multifunctional buildings in Russian cities, the main approaches to the formation and development of residential and multifunctional buildings in accordance with the needs and demands of residents, and also taking into account the individual characteristics of the development of Russian cities and international practice. [13]

The research was based on the following publications of the author:

«Problems of territorial planning and urban development: the socio-philosophical aspect» (2014). The article discusses the socio-philosophical problems of territorial planning and urban development of the Soviet and post-Soviet times. Particular emphasis is placed on the Soviet experience of the 1920s, when market relations had not yet been completely destroyed, and proposals were formulated to solve modern problems of territorial and urban planning. [14]

In «The Methodological approaches to the study of urban development problems» (2012), the philosophical and scientific research methodology is analyzed and applied, the essence of the systemic, synergetic, social-humanistic, environmental and cybernetic approaches is revealed, it is stated that the use result of these methodological approaches at the stage of urban planning will be significant decrease of possible negative consequences during the construction and operation of the constructed technical objects. [15]

«Modern urban planning: due and existing, ideals and reality» (2010). This publication discusses the content of the concepts of «urbanism» and «anti-urbanism», explores the specific problems of urbanization, the development of the city, urban culture, lifestyle of urban residents. [16]

«Problems of a harmonious correlation of social and natural spaces in urban planning» (2011). The author of the article assigns an important place to terminology, clarifying philosophical and technical categorical and conceptual instruments, identifying problems what arise when crossing social and natural spaces. [17]

The article «Soviet cities as the embodiment of the policy of the territorial development of productive forces» (2019) explores the process of evolution and distribution of productive forces in the USSR. As an integral part of them, the construction of new cities and workers settlements, as well as the reconstruction of old cities are considered. [18]

«Architecture of Modern Timber-Framing Houses» (co-authored, 2015). The purpose of the article is to determine the progressive features of the wooden frame of the architecture that can be used in the construction of modern residential buildings. It is also about improving the approach to the architecture studying of the wooden frame through the use of new architectural concepts. [19]

The study made extensive use of philosophical methodology, inasmuch as the problems of territorial planning, zoning and urban planning cannot be studied in unity and integrity only with the help of methods of scientific knowledge. Together, they used systemic, dialectic, synergetic, social-humanitarian, anthropological, environmental, aesthetic and
cybernetic approaches, as well as methods of observation, analysis, synthesis, analogy, comparison, generalization.

3 Results

The systematic approach, developed in philosophy and then found application in scientific and scientific-technical research, allowed us to consider in integrity the territorial planning, regionalization and urban planning, as they were in the USSR, and the planning of individual territories and cities and urban planning in post-Soviet Russia. Systemacy is lost. Even in Moscow, the systematic approach has not been fully preserved, for example, there is no correlation between the number of cars and transport communications, that’s why traffic jams in the streets have become a chronic disease of the capital metropolis.

The dialectical approach, which is a philosophical method of cognition, is an approach to the study of reality from the point of view of the laws of the development of nature, society and thought, and universal, universal processes, connections, and phenomena. Infringement of the laws of dialectics is manifested, firstly, in disharmony, imbalance between opposites (in urban planning this leads to malfunctions, failures, accidents, technological disasters, etc.); secondly, in the absence of leaps in development, the transition to a new qualitative state (in urban planning there is only quantitative growth, stagnation or decline, poor-quality facilities are being erected); thirdly, in denying the process of progressive development of production (urban development is developing chaotically or in crisis, stagnation, new construction equipment, technologies and materials are acquired abroad).

The synergistic approach was used in the study of the self-organization of urban residents, the development of cities, megacities and metropolitan areas, territories, urban economy, urban culture, urban planning. It was revealed that the modern city, the life and activities of people in urban areas are a very complex, dynamic organism, in which the processes of «random» inclusion of various elements in a non-linear environment constantly occur. As a result of this, sometimes conflicting innovations are constantly being introduced, adjustments are made to already existing master plans for the development of cities, such as, for example, the expansion of the borders of Moscow to the Kaluga Region and renovation. At the private level, self-willed activity is expressed in raiding, self-capture, corruption, kickbacks, etc. In general, there is no synergy between state structures and civil society.

The application of the socio-humanitarian approach helped to identify the relationship between the technical components and processes of territorial planning and urban planning and non-technical: social and economic structures, sociocultural and human factors. The construction of high-rise residential buildings, sealing construction, in fact, form a social community in Moscow under the name «man-made man» (similar to an anthill), [20] against which various bans were introduced in the 80s of the last century, for example, restrictions on admission to work (only for the limit). In turn, the concentration in Moscow of 80% of capital as a magnet attracts people to the capital, for example, with wages that are higher than in most regions of Russia. This is a new big incentive for population migration to Moscow and the Moscow region.

The anthropological approach considers a person as a goal, focuses on the value of a person, his inner space, individuality, communication, personal qualities. However, far from always cities are currently comfortable, cozy, safe for every person, for all people, for their life and health, regardless of their racial, ethnic, economic, social, political, cultural, religious or other differences.

Thanks to the ecological approach, negative consequences are identified, they are associated with the destruction of forests and the development of floodplains,
environmental pollution of various kinds of waste, emissions, garbage. A great contribution to this is the construction of buildings, roads and other structures, inefficient processing and disposal of waste material resulting from the life and work of people.

According to the aesthetic approach, a person, using various natural and artificial materials in construction, creating an urban environment, forms a new, aesthetic reality. The use of modern building structures and materials made possible to move away from the standard rectangular shapes, grayness and wretchedness of architecture, not only in the construction of new, but also in the reconstruction of old buildings and structures. One of the striking examples is the Palace of Farmers in Kazan, built in 2010 according to the architect L.G. Gornik’s project, who managed to combine the traditions of different architectural styles into a single whole. [21]

The cybernetic approach requires that the management of any system, including territory, city, the process of its construction, was based on the consideration of a large number of various parameters: architectural, urban, social, cultural, religious, etc. In addition, this approach focuses on the forward reflection of reality, on the management of future systems and processes. In this regard, forecasting, designing, planning and the technologies used in social management, including the management of the «smart city», are very relevant. [22, 23]

1. Prevision determines urban development phenomena that may arise in the future or are currently unknown, but are now identifiable and used in the theory and practice of city management. For example, such urban development, what is carried out and controlled by robots.

2. Forecasting is a form by which it is possible to identify not only possible options for the development of the city, but also to find the most likely option for its development, based on resources, time and social forces that can ensure its implementation. One option might be cluster cities.

3. Designing is a specific activity, associated, first of all, with a targeted radical change in the specific structural elements of the city or the city as a whole. Such a change may be the transformation of the city into a megalopolis, the creation of an agglomeration, or the construction of a satellite city.

4. Planning is a scientifically sound definition of the goals, indicators, parameters of the development of the city and the main mechanisms and means of their implementation. The urgent task at present is the creation of environmentally friendly cities using renewable energy sources.

5. Social technologies are a combination of sequential operations, targeted impact procedures and the implementation of previously planned plans, programs, development projects of city to achieve an acceptable, optimal social result. By analogy with socialist cities, it is necessary to create social cities as an integral part of the social state, which Russia should become in the future.

4 Discussion

A comprehensive review of the relationship of territorial planning, regionalization and urban development remains relevant to this day. While territorial planning, zoning, urban planning and the development of socialist cities in the USSR were carried out on the basis of class interests, according to which the representatives of the working class had the advantage, in post-Soviet Russia urban planning and urban development are primarily associated with financial flows and the availability of necessary funds by the population. Where funds are insufficient, territories and cities, especially small towns, are declining.

Of course, we cannot talk about a return to the times of the USSR, but Soviet historical experience should be used in relation to modern market conditions. In this case, the
experience of the 1920s would be very useful, when the State Plan for Electrification of Russia (GOELRO) and a new economic policy (NEP) were implemented. In accordance with the GOELRO plan the Soviet state approached to development in a systematic way, namely, built industrial enterprises, cities and workers' settlements, transport communications. The GOELRO plan wasn’t only the first plan of the Soviet state, but also the first state plan for the development of the national economy of the whole country in world history. It was aimed at a comprehensive solution of state, political, economic, social, scientific and technical problems. NEP, in turn, was aimed at the development of trade. «The wave of new economic policy – V.I. Goryushkin writes – whipped the peasants, added them strength, energy. The period from 1921 to 1928 was a period of creation, spiritual growth, large construction in the village. During this short period of time, a new generation of strong, hardworking guys and girls grew up in traditionally large peasant». [24, p. 51-52] As at that time in the cities a significant share was made up in private sector, and many urban residents were engaged in agriculture, the NEP also had a significant impact on urban construction.

The existence of state planning and the corresponding body, the USSR State Planning Commission, was of great importance for territorial planning, zoning, and urban planning. This greatly facilitated the application of a systematic approach, according to which the solution of almost any technical problems, the development of not only large, but also small technical systems was carried out through integration, synthesis of knowledge. In modern urban planning in Russia, it is also necessary to integrate scientific and technical fields of knowledge, mutually coordinate planning, construction, infrastructure, transport communications, etc. In addition, a private business, which occupies a dominant position in the construction industry, must be included in the planning process.

Another important point compared to Soviet times is the task of modernizing the country, reconstructing the old industry and creating a new one, especially in the eastern regions of the country, behind the Urals. This will give a powerful impetus to the development of construction and will lead to an equalization of the levels of socio-economic development of the western and eastern regions of the country and redirect migration flows to the east.

Although Siberia and the Far East account for more than three-quarters of the entire territory of Russia, the population there is only about 36 million people, that is, the population density is only two people per km². Further migration outflow of the population to the west only aggravates the situation and makes impossible to develop the eastern part of the country, creates great difficulties for the construction of cities and industrial enterprises in these regions. In fact, we are talking about the trend of «shrinking» of Russia to its European borders. This extremely negative phenomenon has received the name of «Western drift» in philosophical and scientific literature. [25]

Another unfavorable trend is the migration of the rural population from the western as well as eastern parts to the center of Russia. This trend shows the «shrinking» of the country to the borders of Moscow and the Moscow region. The decision made in 2011 on the large-scale expansion of Moscow to the border with the Kaluga region strengthened the migration sentiment of residents of many regions of the country, gave them new motives for moving to the capital. To change the migration flows, the capital of the country would be more appropriate to transfer to the Urals or even to Siberia.

The indicated tendencies of «shrinking» create intractable problems for the socio-economic development not only of Siberia and the Far East, as well as agricultural areas, but also the country as a whole. Moreover, due to the outflow of population to the western part of the country, Russia’s geopolitical situation behind the Ural Mountains is deteriorating, where its neighbors – China and the states of Central Asia – have a large excess of population.
Finally, the development of urban planning should proceed from an understanding of the environment as an enduring value, without which humanity cannot exist, and strictly follow the laws of social ecology: 1) Everything is Connected to Everything Else; 2) Everything must Go Somewhere; 3) Nothing is given for Nothing (literally - There is No Such Thing as a Free Lunch); 4) Nature knows better. [26] Compliance with these laws creates opportunities to prevent not only natural, but also potential technological disasters.

In this regard, it is necessary to develop methods with which it will be possible to rationally use the territories, predict the process of urbanization, introduce new architectural forms that always correlate with their functional content. First, the beauty of the subject form, which gives a person aesthetic pleasure, is an indispensable element of its functional content. Therefore, it is necessary to include in the utilitarian qualities of construction objects the ability to evoke a sense of aesthetic pleasure in people. Secondly, the beauty of the subject form is the result of its functional perfection. A high degree of perfection of architectural forms, the unity of form and content are the source and cause of aesthetic feelings and pleasure. Thirdly, the beauty of the subject form is the criterion of its functional perfection. This aspect of the relationship between the aesthetics of architectural forms and its functional content needs to be given due attention in construction. If for some reason the building cannot be built in an aesthetically beautiful form, this means the doubtfulness of its functional perfection. If the industrial and residential areas of the city don’t constitute a single and full-fledged ensemble, then this means insufficient expediency of organizing the people’s urban life.

5 Conclusions

The use of the experience of territorial planning, zoning and urban development of the USSR can greatly help in solving similar problems in post-Soviet Russia, of course, when adapting to modern conditions. The application of philosophical and scientific methodology will mitigate the contradictions between the due and the existing, ideals and reality, solve the problems associated with the organization of social space, its bringing into harmonious relations with natural space, etc. It is necessary for this to develop, on the basis of universal values, the most general principles and norms of territorial planning, zoning and urban development, what corresponds to the modern stage of urbanization and a high life quality.

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