

Development of Management System of the Land and Property Complex of a City as an Ensuring Mechanism for its Sustainable Development

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Abstract—In this study we analyze the state and use of the land and property complex using the example of the city of Omsk: we assess the ecological state of land use under the influence of natural and human impacts, identify modern issues in managing land and property use that create a critical environmental situation and reduce the standard of living, review modern land policy and the causes of imperfection in the system of land management and urban land use. Due to the fact that a significant proportion of the city's land is not differentiated by ownership, instability of property relations arises. The reasons that impede the full-scale application of principles of a market economy in the field of land management of the city and ensure their most efficient use are established. It is proposed to consider the land policy of the city as the basis for the ongoing management of the land and property complex and the development of commercial real estate in the city. It defines the most important guidelines in the development of municipal land relations, the main elements of the land and property complex, and, as a result, the main directions of development of urban land use, the principles and tasks of forming land policy at the present stage, which ensures increased sustainability in the development of the city.

Keywords—*land and property complex, management, land policy, land relations, sustainable development, land use.*

I. INTRODUCTION

The land transformations carried out in recent decades have allowed the formation of a new socio-economic phenomenon – the land and property complex. Its significance and content are associated with the tasks of the development of a society in a certain territory. Therefore, we can consider the land and property complex of an administrative-territorial formation, for example, a city, a municipal district, an economic entity and isolated land use. Territories are the basis for the formation of both multilateral and specialized land and property complex [1].

In the city, land is a special multifactorial resource, since it acts as a space for the life of the population. In this regard, it is the territorial basis for the placement of all types of activities, buildings and structures, the implementation of investment projects related to the functioning and development of the city, which in a market economy appear as a land and property complex and an object of taxation and levying for its use. A feature of the land and property complex is that it is not just a certain composition of land

and property objects, but their totality to ensure the livelihoods of people, which determines its systematic nature and social orientation [2].

The land and property complex includes not only land plots, but also buildings, structures that ensure its use and have different legal status. These include facilities that directly affect the use of surrounding land. They, together with various structures, determine the use of urban areas and are a kind of territorial and property framework of the city.

Improving the management of land and property relations depends on the rational distribution of powers and interactions between authorities in the management of property, which is currently jointly carried out in many cases [3]. The state and municipalities, participating in legal relations regarding land, act in two qualities: as an authority and as the owner of state-owned lands [4]. Moreover, the strategic role of the state in managing the land and property complex is to create a regulatory framework for regulating land relations for the purpose of solving a set of managerial tasks [5], and local governments, endowed with certain powers in the field of land relations, plan the land use, organize land management, draw up land ownership rights, participate in monitoring and also charge a fee for land [6].

II. METHODS

The land and property complex of large cities is an extremely multifaceted phenomenon, in which tens of thousands of property objects and using processes function.

Analyzing the land resources of Omsk, we can conclude that the main areas are building land – 22383 hectares (40%); 8508 hectares (15%) are occupied by roads, streets and squares, but at the same time up to 20% of land is the agricultural land, including: 4363 ha of arable land; 5749 ha of perennial plantings; 1265 ha of natural forage land. Arable land in Omsk is mainly used for gardening. Fodder lands are used for grazing and haying, perennial plantings – for allotment association. The distribution of city land by type of land is presented in Figure 1; the largest part is occupied by building land – the main use in cities.

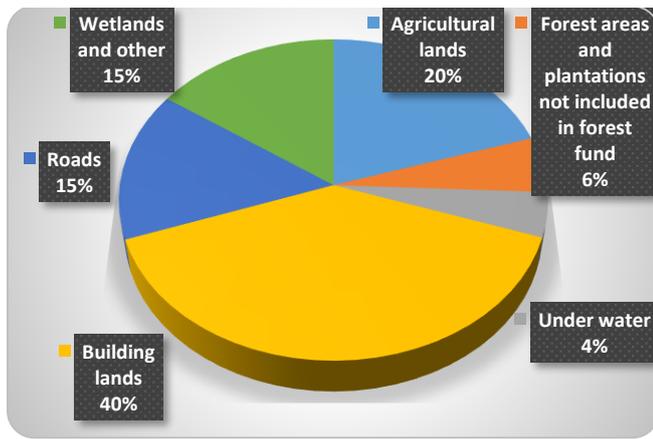


Fig. 1. The ratio of areas by type of land in the city, %

The land structure of the urban settlement of Omsk is typical for Russia and especially for the Siberian region. The presence of significant territories suitable for development around the city borders leads to a low density of its development in general – 54,4% and residential development even less – only 15%. At the same time, high-rise residential buildings make up only 31% of the entire territory of the city, and almost 70% are individual buildings with a high ratio of wooden houses. This is due to the fact that the development of urban land use did not proceed through the intensification of land use, but on the basis of the inclusion of rural land in the urban land use. Therefore, for each square kilometer of the city there are 1,9 thousand people, and 132 thousand inhabitants per 1 square kilometer of residential development. The city is dominated by one-story buildings (3/4 is individual), much less than high-rise buildings. One-story and two-story buildings are characterized by a small grid of neighborhoods and a relatively low level of improvement. A significant part of the territory of the city of Omsk is occupied by allotment association.

A significant share of the city (about 50%) is occupied by lands characteristic of suburban areas. Given the location of the city on the border of the steppe zone, in Omsk there are clearly not enough areas occupied by green spaces and forests – only 14% of the territory. In some parts of the city, the greenery of the territory is less than 5%. This situation and the lack of forest zones significantly worsen the ecological condition and reduce the quality of life of the population. The city has a rather high percentage of land (15%), which has a negative natural and anthropogenic impact on the environment (swamps, distressed lands, landfills, etc.).

The environmental problems of the city of Omsk are associated with the deterioration of the environmental situation as a result of: increasing industrial capacities, lagging in the construction of effective treatment facilities, old technologies that have been preserved at most enterprises, violation of environmental laws by enterprises, noise pollution, increasing the number of cars, lagging or lack of proper improvement in new micro-districts and in the preserved old part of the city with one-story buildings, and still remaining Airport in the city center. For the sustainable development of the city, it is necessary to form a developed system of squares, parks, both urban and local (in areas of high-rise residential buildings, especially in new buildings and single-store buildings).

One of the main issues is the active impact of all management structures on enterprises creating a critical environmental situation. The policy of establishing sanitary protection zones is insufficient. Vigorous activity is required to introduce new environmentally friendly technologies, construct sewage treatment plants, reduce the harmful effects on the city and remove harmful enterprises from the city center. Currently, lands under industrial facilities occupy 23% of the city, and this is a rather high figure.

Among the most complex and pressing environmental problems is the dustiness of the air basin of the city. This has both a natural and anthropogenic component. The natural complex in the conditions of the southern forest-steppe with its hot summers, strong winds and sandy loamy soils forms a significant dustiness of the atmosphere. Dust particles adsorb harmful substances and spread throughout the city. Human activity in cities constantly destroys the topsoil, reduces the area of forest and shrub plantings, and forms significant open ground surfaces. Counteraction to this phenomenon is associated with an increase in the area covered by woody-shrubby and grassy vegetation, as well as gravel.

An increase in anthropogenic pressures on ecosystems is associated with the depletion of land use and anthropogenic impact on them. To solve the problems of improving the ecological condition of the lands, their use and protection, it is necessary to create an economic mechanism for land use based on strict compliance with environmental requirements [7]. At present, urban land use cannot be considered rational.

Past land and economic transformations in Russia have increased the complexity of urban land management. Reforms made the land an object of various forms of ownership and real estate. This made it possible to include land plots in the market turnover, endow it with considerable value and make them an object of taxation. A market economy requires that all participants in the individual use of land (legal entities and individuals) be given the status of private owners. This allows you to adapt urban land use to the new economic conditions. However, the legal status of urban land use is still far from such a state. At the same time, with the civilized development of urban land turnover, potential economic effects are possible both for the urban system as a whole, and for entrepreneurs and the population. In this regard, it is important to make adjustments to the management of the urban land and property complex [8]. Land-property relations can be a powerful factor in influencing economic growth and social transformation. It is necessary to create a mechanism for the systematic development of the city, the protection of the population, the efficient use of resources, taking into account not only the current, but also the long-term interests of various sides of society [9].

The bulk of the land in the city of Omsk is in state and municipal ownership and only 22% of the land is privately owned. For the normal functioning of a market economy, this is clearly not enough. For example, in St. Petersburg privately owned land is almost 44%. In addition, land transformations in Omsk are far from complete – 38% of the city's land is not divided by ownership (Table I).

TABLE I. OWNERSHIP TYPES IN THE SYSTEM OF LAND USE IN OMSK

Unit of measurement	Total area of the city	Property of citizens	Property of legal entities	State federal property	Omsk Region Property	Municipal property	Undivided property
ha	56686	8030	4035	11955	1158	9940	21528
%	100	15	7	21	2	17	38

All this prevents the full-scale application of the principles of a market economy in the field of land management and ensuring their most effective use, the functioning of a normal land market. The presence of significant areas of land (about 80%) at the disposal of power structures provides mainly a directive (hard) management style and strengthens the corruption component in the land management system.

TABLE II. PROPERTY FOR BASIC DIRECTIONS OF LAND USE

Land use directions	Total, ha	In property, ha						
		<i>citizens</i>	<i>legal entities</i>	<i>state and municipal</i>	<i>federal</i>	<i>regional</i>	<i>municipal</i>	<i>undivided</i>
Residential development	8647	1186	32	7427	31	26	829	6541
-including high-rise buildings	2672	2	11	2659	31	25	744	1859
-individual	5975	1186	21	4768		1	85	4682
General business	6061	368	727	4966	1231	632	2798	305
industry	9976	295	1367	8314	1953	244	590	5527
common use	1272	-	-	1272	7	29	1211	25
transport	5374	2	1	5371	1718	34	2482	1137
agriculture	10236	6177	1908	2151	189	6	40	1916
Protected areas	1639	-	-	1639	99	186	1321	33
In total	56686	8030	4035	44621	11995	1158	9940	21528

This is the main vector of improving the management of municipal property, which will increase the involvement of the population in the process of managing urban areas, strengthen the responsibility for the condition and use of urban land adjacent to buildings and structures that are privately owned. To complete the privatization of apartment buildings, roads, utilities, servicing the privatized housing and plots under them, it is necessary to give these objects the status of common joint property or lease them to housing associations. These actions will reduce the burden on the municipality and ensure the involvement of the population in urban land management. At the same time, it is important to develop the content of purchase and sale or rental agreements acceptable not so much for the city administration as for residents or their communities. The municipality reserves the land and utilities that are really common for significant groups of the population, and in the rest of the territory provides control functions.

More than a strange situation there is with the land use of industrial enterprises. Capital construction projects have mostly become private, and land, in some cases, has an undefined status (55% unallocated property). Therefore, it is necessary to quickly complete the work on delimitation and

At the same time, other real estate objects (buildings, structures, apartments) were privatized on a much larger scale. Quite often, a collision is noted when the building as an object of private property is located on the lands of municipal property. Of course, the legislative provision was adopted that the land inherits the fate of the building. However, a controversial situation arises more often when this section or part of it is bought by another individual or legal entity. Instability of property relations arises.

Responsibility for the use of building land is the responsibility of the municipality and private owners. Moreover, the global trend is the transfer of these lands and property associated with it, which means responsibility for the state and use, to private owners or their groups. In Omsk, significant work needs to be done in this direction, since only 20% of the land under individual housing is privatized, i.e. ownership rights are established in accordance with applicable law. Privatization of high-rise residential development land is actually only just beginning (Table 2).

registration of rights to land plots. Only then can market methods for managing land and other real estate be applied. The main objective of the development of land use in Omsk in the coming years remains the establishment of rights and forms of ownership of land and buildings, to solve the problems of the city and the application of market mechanisms. The current situation actually "stops" the activity of the land market of the city, leaving it with only an insignificant segment for land management.

III. RESULTS

To ensure sustainable and efficient development of the city, it is necessary to create a new management system for its land and property complex, especially its most important modern mechanisms, such as: land policy, economic methods, social and corporate mechanism [10].

A special place in the modern system of land and property complex management is occupied by land policy, which represents a special area of activity aimed at the development and implementation of long-term and most fundamental plans of the state and its individual regions, including large cities, aimed at solving the main tasks of the development of the land system and mechanisms of its management. The main

goal of the city's land policy is to create conditions for a dynamic, sustainable balanced socio-economic development of the city, improving the quality of life of the urban population, providing each inhabitant with guaranteed living standards [11]. Land policy is the highest level of management of the city's land and property complex, which determines the most important guidelines in the development of municipal land relations, the main elements of the land and property complex, and, as a result, the main directions of urban space development [12]. The land policy of the city is proclaimed by the municipality for the medium and long term and is the basis for the ongoing management of the land and property complex and the development of commercial real estate of the city. It should be aimed at stimulating business activity and increasing the efficiency of land use, to guarantee business stability and reproduction of capital, which in the conditions of market relations is important for each owner or tenant of the land.

The methodological foundations of the formation of land policy are determined by the following provisions.

General principles for the implementation of land policy of the city at the present stage:

- ensuring the rational scale of municipal intervention in the processes of distribution, use and protection of land, the formation of effective mechanisms for combining administrative and market methods for regulating these processes, the search for optimal organizational structures and forms of management;
- openness of land policy and publicity in the coverage of its implementation;
- mandatory proclamation or confirmation of the main provisions of the land policy with significant changes in the personalities of the legislative and executive authorities in the city;
- strengthening of principle of contractual relations in the field of land policy between residents of the city and the administration;
- ensuring the benefits of common interests over individual ones on the basis of compulsory compensation for lost profits of owners and users;
- strengthening public control in the field of land use;
- involvement of citizens and businesses in the implementation of the provisions of the land policy;
- formation of an effective structure of municipal property and the municipal property management system.

The development of existing land relations in the municipality is a prerequisite for the implementation of land policy. This is due to the fact that a significant number of standards of the Land Code of the Russian Federation with respect to the city's land are reference and require the adoption of relevant regulatory legal acts at the municipal level. New tasks of modern urban land policy in the field of development of land relations:

- expanding the scale of the manifestation of the institution of private ownership of land;

- creation of a special legislative framework, namely laws regulating the procedure for the provision, use of land by private investors and determining the instruments and procedure for regulating land relations;
- creation of the institute of joint land ownership on land for general use;
- development of land reservation regulations;
- determination of the rules for resolving contradictions of certain legal entities and individuals, groups of citizens and municipal interests in the field of land use;
- introduction of the institution of common joint ownership at various levels;
- substantiation of the content of land improvement measures to increase the value of land plots;
- introduction of the concept of "open ground territory" as an object for land improvement measures;
- development of a system of restrictions and encumbrances on land plots of the city to strengthen the institution of private property.

The most important tasks of modern urban land policy in the development of the land and property complex include:

- reservation of unused lands and lands for solving city-wide tasks to ensure sustainable development and a comfortable life for residents;
- increase in the area of private land ownership and the number of private property plots;
- uniform distribution of land for recreational and medium stabilizing purposes throughout the city;
- the formation of forest zones;
- establishment of zones of innovative, renovation and multifunctional (open) destination;
- development of a land accounting system that ensures objectivity, timeliness and transparency of information about the system of urban land use;
- assessment of land suitable not only for taxation, but also to ensure economic management practices;
- the creation of an effective land use system for the implementation of social tasks, urban infrastructure projects in conjunction with an increase in city budget revenues through land payments;
- creating a rational system of using municipal property for effective management and disposal of property in the process of implementing the municipal policy of the city hall;
- improving the structure of property complexes of municipal organizations (transformation of municipal unitary enterprises) and the management system of municipal organizations;
- increase in the area of land in private ownership on the basis of correlation of the costs of maintaining the territory and lower rents;

- determination of the effective area for buildings of different designs;
- distribution of functional zoning in relation to land ownership;
- reduction of open ground is an important task for improvement.

IV. CONCLUSION

There are many problems in the system of using of the land and property complex in cities, but they should be studied and resolved not separately, but comprehensively. At the same time, they should be correlated with urban land policy. Hence, it is proposed to improve the land and property complex on the basis of an improved system for managing the land and property complex, the center of which is land policy and the formation of which should be considered as an urgent need of the modern time. This task should be solved not only by the city administration, but also by professional communities, public organizations and residents.

This approach is aimed at strengthening social mechanisms in the management of the most important factors of the citizens' living conditions, in particular the land and property complex, primarily by taking an active part in the development of not only private decisions, but also the main ones that ensure the life of all residents of the city, and subsequently their implementation by co-management of land and other real estate. Residents can take part in the improving urban land expenditures, including the engineering infrastructure of the city, which are now produced at the expense of municipal budget funds; participate in control functions and take some responsibility for local real estate.

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