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Legal regulation of remote sensing of the Earth for formation of principles of sustainable development of agroecosis

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Abstract

The main document that regulates relations in the field of urban planning, development and improvement of cities, the development of engineering, transport and social infrastructure, environmental management, preservation of historical and cultural heritage and environmental protection is the Urban Development Code of the Russian Federation. This document gives the main definitions, such as urban planning activities (urban planning), urban planning documentation, zoning, real estate in urban planning, sustainable development of settlements, state urban planning regulations and rules, urban Charter, legal zoning, land use rules of urban and rural areas, urban planning regulations, permitted use of real estate, red lines, lines of regulation of development. The code defines the powers of state authorities in the field of urban planning, regulation of the use of territories, the list of state urban planning standards, as well as the place of urban cadastre and monitoring in the system of urban development. Projects of urban areas of municipalities are developed on the basis of master plans or territorial transport schemes. As ruled, these projects are carried out by local governments. The exception is the city of Federal importance. Approval of projects takes place in the public authorities of the subjects of the Russian Federation. The project of the city limits completes the process of securing the territory of the settlement. The project of the city line is the last stage of the urban development forecast or planning of the urban area. This stage of the forecast solves the problem of rational use of urban areas in principle, at the level of the planning structure. Even when smaller structural elements of the urban area are used in the development of the master plan, the information on them is present in the gross form.

For citation

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Keywords

Remote sensing, formation, system, agricultural sector, law, regulation.

Introduction

Regulation of development of urban and rural settlements should be conducted on the basis of the town-planning code, which defines not only the requirements for the use of land, but also the list and composition of town-planning documentation, conditions for obtaining permits, etc., as well as methods of control over town-planning activities and responsibility for violation of town-planning legislation [Chelysheva, Verenich, 2010].

In the field of land relations, urban planning is based on the land code. The legal system of urban land use is based on the basic provisions of the Constitution of the Russian Federation and the Civil Code of the Russian Federation.

Any system of urban land use is based on the State land cadastre, which is created and maintained on the same principles [Radu, Ilinca, 2009].

The state land cadastre is a state-established system of accounting and evaluation of land and registration of land rights aimed at regulating and improving land relations and including information about the legal, economic, environmental and natural state of urban land. Taking into account the modern definition of real estate under the civil code of the Russian Federation, the city land cadastre actually becomes a real estate cadaster [Wang, Zhou, 2009].

One of the most important problems is the creation of a system of cadastral valuation of urban land property. The law on land valuation and other laws necessary for the full-fledged activity and development of the city are still under development. Unified methodological approaches to cadastral valuation of urban land and land plots have not yet been finalized [Chen, Li, Zhou, 2009].

The main document defining the technology and sequence of forecasting and design of settlements (both new and under reconstruction) is SNiP 2.07.01-89 "Urban planning. Planning and development of settlements". It gives the concept of development and General organization of the territories, the principles of formation of residential, industrial, scientific, municipal, warehouse, landscape and recreational areas, as well as the service sector, transport and road network, engineering infrastructure, defines measures for engineering training and protection of the territory, environmental protection and historical and cultural monuments.

State regulations and rules in the field of urban planning are mandatory for compliance by state authorities, state control and supervision bodies, local authorities, legal entities and individuals [Antonyan et al., 2014].

State town-planning regulations and rules are the basis for making decisions by state authorities and local self-government bodies, state bodies exercising control in the field of town-planning, law enforcement agencies on the rights of owners, legal entities and individuals.

The order of development, registration, approval, introduction, revision and cancellation of the state town-planning standards and rules is established by Federal body of architecture and town-planning.

To regulate urban development activities in urban (and rural) settlements and other municipalities, in addition to state regulations and rules, building rules are being developed.

Main part

Subjects of the Russian Federation in accordance with Federal town-planning standards develop territorial town-planning standards and rules taking into account natural climatic, social and demographic and other features.

Territorial town-planning standards and rules in accordance with the established procedure are approved by Executive authorities of subjects of the Russian Federation, are submitted for registration to the authority of architecture and town-planning and are subject to publication.

Several types of classification have been developed to ensure the scientifically sound design and functioning of urban settlements. For urban planning purposes the most important classification: in terms of population; by the nature of the functions performed; on administrative and political significance.

According to the population of the city in accordance with article 5 of the Town Planning Code is divided into following groups:

- 1) small (including villages GT) (less than 50 thousand people);
- 2) average (50-100 thousand people);
- 3) large (100-250 thousand people);
- 4) large (250-1000 thousand people);
- 5) the largest (1-3 million people);
- 6) super-Large (over 3 million people).

According to the nature of the functions performed by urban settlements they include settlements specializing in industrial production and construction, transport, material and technical supply and sale, cultural and consumer services, agricultural production.

Most urban settlements are characterized by multifunctionality.

According to administrative and political significance, there are capital cities, the centers of the edges and regions, autonomous republics, the centers of the grass-roots administrative districts [He, Peng, 2010].

Three of these features: size, national economic function, administrative and political significance are the basis of the typology of cities. According to the totality of these features, the following types of cities can be distinguished:

1. Multifunctional capital cities Usually they are the largest cities along with the development of industry, transport and other areas characterized by a high degree of superstructure functions (administrative, political, cultural and educational).

2. Multifunctional centers (capitals of Autonomous republics and regional centers). Usually they are large, large, rarely-medium-sized cities. Their structure is similar to multifunctional cities, however, the importance and degree of development of superstructure functions is much smaller.

3. Industrial center. As a rule, large and medium-sized cities. The largest share of employees is in industry, construction and transport (70-80%). The value of superstructure functions does not go beyond the administrative district, rarely the city itself [Chelysheva, Verenich, 2009].

4. Local organizing or service centers. Usually they are medium, small towns. They are characterized by the predominant development of organizational, economic, administrative, cultural and trade distribution functions. Industry and transport of local importance. The proportion of people employed in them rarely reaches 70%.

5. Cities-health centers. The proportion of people employed in health care is very high (above 10%), in industry and transport is significantly lower than the national average.

6. Cities-scientific and experimental centers. Usually they rare small towns. The leading city-forming function is scientific service [Verenich, 2015].

However, in addition to these types of cities, it is possible to allocate other (intermediate relative to the above), as well as new types of cities: satellite cities, performing the functions of residential

branches of a large city, agro-cities, cities-centers of tourism.

These classification features characterize Autonomous urban settlements. However, in urban planning practice, together with centralized settlement, group systems of settlements are obtained.

A group settlement system is a set of urban and rural settlements of various sizes and production profile, united by developed functional ties, a common engineering infrastructure, a single network of centers of social and cultural services and recreation facilities.

Group settlement systems are formed in the zones of influence of large and largest cities, as well as medium and large cities, performing the functions of inter-district and regional centers. The radius of transport accessibility to the Central settlement is 1.5-2 hours. Depending on the size of the city-center, there are 3 types of group settlement systems:

- large-center (more than 500 thousand people);
- medium-center (100- 500 thousand people);
- business center (50-100 thousand people).

As further development progresses, group systems of localities begin to predominate over Autonomous systems. This form of settlement is typical for all developed European countries [Wu, Zhang, 2009].

The focus on group settlement systems is due to their advantages compared to the dispersed location of settlements. Such systems provide a more efficient cooperation of industrial production, the growth of scientific information and personnel, more versatile in meeting the social needs of the population in the choice of work and leisure, education and domestic service, more effective environmental protection.

Depending on the type of settlement established the form and content of planning documentation, procedure development, coordination and approval in accordance with normative legal acts of the Russian Federation and normative legal acts of constituent entities of the Russian Federation. However, there are cases when the provision of private, public and state interests in the field of urban planning is difficult or impossible without the introduction of special rules for the use of the territory.

The settlements which according to the town-Planning code are objects of town-planning activity of special regulation include:

- Moscow, the capital of the Russian Federation;
- city of St. Petersburg;
- cities-centers of subjects of the Russian Federation;
- historical settlements, as well as settlements on the territory of which there are monuments of history and culture;
- settlements with a special mode of life;
- settlements located in areas with extreme climatic or particularly unfavorable environmental conditions.

Borders of objects of town-planning activity of special regulation cannot coincide with administrative and are defined according to the legislation of the Russian Federation and the legislation of subjects of the Russian Federation [Cheng, Yang, Zhou, Zhou, 2009].

The city is a complex city-territorial complex, designed to solve certain problems in the General system of social division of labor. In its composition, the city connects objects of various functional purposes – town-forming, town-providing and town-servicing [Fan, Chen, 2009].

The ratio of external-town-forming and internal-town-providing and town-servicing activities in the city determines the degree of participation of the city in solving economic and industrial problems

of the state as a whole. According to the totality of the functions performed, modern cities, especially large, largest and super-large ones, are formed and developed as diversified territorial and industrial complexes [Yang, Zheng, 2009].

The basis of forecasting the development of the city as a social organism is the General long-term plan for the development of territorial-industrial and socio-economic complexes with a detailed territorial aspect

The concept of the master plan is based on a long-term perspective plan for economic and social development. It is at the stage of formation of the concept of the master plan of the territory from the element of the environment (territorial resource) becomes an element of the urban planning system.

In other words, the population, as a result of all its activities, determines the quantity and quality of territories for all uses. The amount of territory is determined by the planned volume of this type of activity in the future, and the criteria for the quality of the territory are determined by the type of its use [Jiang, Xu, Chen, 2009].

Functional use of the territory – the implementation of certain activities (accommodation, economic activities, recreation, environmental protection, etc.). Functional use of the territory is expressed in planning restrictions. On the other hand, planning restrictions affect the range of possible functional use of a particular territory [Maugeri, Motta, Mussumeci, Raciti, 2009]. At the same time, it does not matter what nature these planning restrictions have: natural (natural), or man-made, associated with the peculiarities of the mutual location of different types of use of territories.

Territory as a spatial resource of urban development has a number of features that distinguish it from other natural resources. The main difference is that it does not directly enter into the process of labor, being only a material condition of it. But being an external condition of activity, the qualities of the territory largely determine its result and, therefore, are an objective prerequisite for the spatial differentiation of activity. I. e. at performance of the same list of works on the same equipment, but on territories different on quality different economic result can be received. This dependence of labor productivity on the spatial conditions of its application gives grounds to regard the territory as an expression of its consumer value as a resource. And, therefore, not only the type of use imposes certain requirements to the quality of the territory, but also the quality of the territory determines the type of its use.

All factors, on which the choice of territory is made, can be combined into two groups: natural and anthropogenic. Natural include climate, relief, hydrogeological conditions. The anthropogenic ones include historical and cultural objects, the territories of rigid departmental consolidation, the presence of objects requiring significant sanitary protection zones or diversion strips, etc. based on the analysis of these factors, all the territories in terms of the possibility of their use for the purposes of urban planning can be divided: on the site; on-site, limited use; on the territory of a wide range of uses.

Natural and anthropogenic factors in their totality form planning restrictions on the use of territories.

Unsuitability of territories for town-planning activity can be based both on one any factor, and on their combination. At the same time, it is not necessary that the unsuitable territory represents "inconveniences" (i.e., flooding or swampiness of the territory, ravines, landslides, rocky steep elephants, etc.). It can be an area of protected vegetation or a unique historical and cultural value. In addition, the territory can be transferred to the Ministry of Defense or the Interior Ministry.

Most urban areas are characterized by their faceted use. Many activities (for example, metallurgy, airports, railway junctions) impose quite strict restrictions on the quality of the territory of their

placement. Other types of activity (for example, "clean production") and enterprises of the sphere of household and cultural services of the population, residential buildings can be placed not in a single array, but in fragments in combination with other types of construction, which allows their placement even in difficult terrain.

For territories of a wide range of use, the determining factors for fixing it under a specific type of urban function will not be natural, but economic, based on consumer value, territories.

Urban function – any kind of urban activity that differs from other types of purpose, means, product of activity, its subjects and objects, its requirements to the environment and other features. Traditionally, there are residential, industrial, commercial, recreational, transport and storage functions of the city.

Thus, the structure of planning constraints determines the functional structure and planning structure-functional zoning of the urban area. Any other structuring of the city territory no longer forms the urban environment, but States the delimitation of the city territories on a certain basis (administrative structure, etc.).

Functional zoning – the allocation of the site for its intended use and associated restrictions on development of building, transport and engineering infrastructure, use of land for various economic activities, accommodation and recreation, environmental protection.

The type of the city on the accepted typology imposes the requirements to the territory at the stage of formation of its functional structure. For example, transport cities are formed along the transport links that were systemically important.

Around these links are first located serving his sphere of production, and then any other production or residential areas. A different set of territories and the principles of their placement for resort cities. The most valuable in ecological, balneological, aesthetic terms of the territory are selected for the city-forming sphere of activity – health care. Residential development is formed by settlement type around health facilities. Part of the territory where the city-supplying group of enterprises is located may be located with a significant territorial gap. As a rule, industrial enterprises in such cities belong to the category of "clean" industries. A significant part of the urban area is occupied by recreational areas.

Urban development forecast under the legislation of the Russian Federation - a comprehensive assessment of the environmental and urban situation analysis of social, economic, engineering, building, sanitary conditions and trends of development of the territory using the method of scientifically grounded foresight.

For any level of urban planning forecast, the solution of the same problems is characteristic: rational placement of objects and ordering of spatial relations.

The difference is only in the detail of the urban planning decision, which depends on the stage of forecasting. Urban planning forecast or planning of development of territories regardless of the way it is carried out (traditional stage or on the basis of modeling), is based on the principle from the General to the particular and is fixed by the same set of town-planning documents (text and graphic).

The composition and content of urban planning documents and procedures for their development are defined in chapters V,VI,VII of the town planning code of the Russian Federation, and the technology of town-planning of forecast and planning building codes, reference designer (urban development) and other methodological recommendations.

For all stages of urban planning forecast is characterized by the same sequence of movement of urban planning documentation:

From the sequence of movement of urban planning documentation it follows that the urban

planning forecast at any stage necessarily passes 2 stages: development and approval.

As for the principles of formation of urban planning forecast of urban and rural settlements, they should be designed as elements of the settlement system of the Russian Federation and other administrative entities. At the same time, it is necessary to take into account the formation of common social, industrial, engineering, transport and other infrastructures for settlement systems, as well as labor, cultural and recreational ties developed in the future within the zone of influence of the settlement-the center or sub-center of the settlement system.

Conclusion

Thus, already at the initial stage of the urban development of the forecast object forecast – the city is regarded not in itself, but taking into account the external effects, i.e. functions, is fixed geographically (what is the objective of the forecast), is generated with the defining values external to the object predict future conditions, and the designation of specific areas for a specific function is dictated by the specific features of the territorial resources of the object.

Urban planning starts with a forecast the place that the settlement is in the national settlement system and, consistently through all stages of urban design and ends with development planning, i.e. the determination of the use of a specific area or location of specific facilities.

Each subsequent stage considers only a part of the territory of the previous one, and the urban planning forecast of the previous stage determines the external impact on the new object of forecasting. The main feature of urban planning forecast is continuity at all stages-gives exceptional importance to the issues of professionalism and quality of design.

The matter is that each previous stage, being the basis, a canvas for the subsequent stages of forecasting, can entail two-fold result depending on quality of its study: stabilization of all processes of functioning of the city or, on the contrary, their stagnation and destruction. An error made at any stage of the urban planning forecast automatically applies to all subsequent ones.

Planning documentation of the urban planning development of the territory consists of the following documents: – the territorial complex scheme of town-planning planning of development of territory of the district; the general plan of urban or rural settlement; - the project of the city limits of the municipality. Urban planning documentation on the development of urban and rural settlements includes: projects of planning of parts of the settlement territory; land surveying projects; projects of building blocks, neighborhoods and other elements of the planning structure.

Urban development planning of urban areas is carried out as part of the General scheme of settlement and consolidated schemes of town-planning planning, i.e. urban forecast the federal level.

Schemes are defined in territorial complex as the main directions of implementation of the state policy in the field of urban planning, taking into account the peculiarities of socio-economic development and natural and climatic conditions of the area; zones of different functional purpose and restrictions on the use of these territories; measures to protect the territories from the effects of emergency situations of natural and technogenic character; zones of different functional purpose and restrictions on the use of these territories; directions of development of engineering, transport and social infrastructures of inter-settlement significance; site reserve for development of settlements; territories for individual housing construction, gardening, gardening, suburban construction; territories for the organization of places of rest of the population.

Territorial complex schemes are developed and approved by local governments. But to take into account the interests of the state in the development of territorial integrated schemes before the design

is determined by the list of Executive bodies of the Federal level (as well as subjects of the Federation) with which the town-planning documentation.

On the basis of territorial integrated schemes, projects of individual settlements – master plans are drawn up.

The previous stages of the forecast, as noted earlier, have already identified the systems of settlement and placement of industrial and agricultural production, systems of engineering equipment. The scale of the graphic part of the master plan depends on the size of the settlement, but in any case it is larger than the drawings of the previous stage. So, if the drawings of the territorial complex scheme have a scale 1:50 000...1:25 000, the drawings of the master plan accordingly are 1:25 000...1:10 000.

The master plan is the main urban planning document that determines the formation of the living environment of the population and the boundaries of settlement development. The master plan defines: the main directions of development of the territory of the settlement taking into account features of social and economic development, natural-climate conditions, population; measures to protect the territories from the effects of emergency situations of natural and technogenic character; measures for the development of engineering, transport and social infrastructures; the ratio of built-up and undeveloped areas; territories for development reserve.

At each transition to the following stage of the forecast (design) in structure of sections of the project the new arising owing to increase of concretization are added. In addition, the territory of urban planning forecast is localized. So, if in the territorial complex scheme the city is considered at the level of functional zones, at the stage of the master plan the tracing of the main network, engineering communications, placement of public centers is determined.

For the largest cities, the master plan is developed in 2 stages: there is an additional stage-the technical and economic basis (feasibility study) of the city development. The goal of this phase is to identify the prospects of development of the city, estimated population, events for engineering and development of the territory functional zoning, levels of engineering equipment and all public services on the settlement date of the allocation of volumes on the I stage of construction. At the same time, the planning structure of the city should be established and approximate capital investments should be determined.

The next (second) stage of the urban planning forecast is the development of schemes for the placement of construction (in queues). This is not an independent part of the forecast – it is a detailed concept of the master plan in time, because the implementation of the master plan is a long process and lasts for decades. During the validity of the master plan, thus, several schemes of construction placement according to the order of implementation of the master plan (first of all, the estimated period, the prospect) are developed.

Projects of urban areas of municipalities are developed on the basis of master plans or territorial transport schemes. As ruled, these projects are carried out by local governments. The exception is the city of Federal importance. Approval of projects takes place in the public authorities of the subjects of the Russian Federation. The project of the city limits completes the process of securing the territory of the settlement. The project of the city line is the last stage of the urban development forecast or planning of the urban area. This stage of the forecast solves the problem of rational use of urban areas in principle, at the level of the planning structure. Even when smaller structural elements of the urban area are used in the development of the master plan (for example, transport planning subdistricts), the information on them is present in the gross form (for example, the number of population or able-bodied population, the total area of housing, etc.).

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Правовое регулирование дистанционного зондирования Земли для формирования принципов устойчивого развития агроценоза

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Аннотация

Основным документом, регулирующим отношения в области градостроительства, развития и благоустройства городов, развития инженерной, транспортной и социальной инфраструктуры, природопользования, сохранения историко-культурного наследия и охраны окружающей среды, является Градостроительный кодекс Российской Федерации. Этот документ содержит основные определения, такие как градостроительная деятельность (градостроительство), градостроительная документация, зонирование, недвижимость в городском планировании, устойчивое развитие поселений, государственные градостроительные нормы и правила, правила землепользования городских и сельских территорий, градостроительные регламенты, разрешенное использование объектов недвижимости. Кодекс определяет полномочия органов государственной власти в области градостроительства, регулирования использования территорий, перечень государственных градостроительных стандартов, а также места городского кадастра и мониторинга в системе градостроительства. Проекты городских территорий муниципальных образований разрабатываются на основе генеральных планов или территориальных транспортных схем. Как правило, эти проекты разрабатываются местными органами власти. Исключение составляет город федерального значения. Утверждение проектов происходит в органах государственной власти субъектов Российской Федерации. Проект городской линии является последним этапом прогноза градостроительного развития или планирования городской территории. Эта стадия прогноза решает задачу рационального использования городских территорий в принципе, на уровне структуры планирования. Даже когда при разработке генерального плана используются более мелкие структурные элементы городской территории, информация о них представлена в валовом виде.

Для цитирования в научных исследованиях

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Ключевые слова

Дистанционное зондирование, образование, система, аграрный сектор, право, регулирование.

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