

Journal of Geography, Politics and Society 2017, 7(3), 75–81 DOI 10.4467/24512249JG.17.030.7186

# THE URBAN CADASTRE TODAY: COMPARATIVE ANALYSIS

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#### Citation

Ihnatenko I., 2017, The urban cadastre today: comparative analysis, Journal of Geography, Politics and Society, 7(3), 75–81.

#### Abstract

The experience of creation and functioning of the urban cadastre as a structural element of modern highly developed state abroad is analyzed. It is found out that in the European Union virtually absent analogues of the urban cadastre in our understanding. However, there are widespread cadastral systems, that solve problems of registration and storage of information on real property, as well as planning restrictions and easements. In the states of the former Soviet Union (especially the Russian Federation, Kazakhstan, Belarus) town-planning cadastre is developed in forms that are close to the Ukrainian model. Since the formation of the urban cadastre system in Ukraine is in its infancy, so there is a possibility of using the experience of foreign countries with their achievements and mistakes that can be avoided.

#### **Key words**

urban planning, building, construction, urban planning documentation, planning, cadastral system, the cadastral registration, urban cadastre, town planning code, protection of land, urban development, land within settlements.

### 1. Introduction

In the transition from administrative to marketoriented economy there is a question of creating a land administration system, and other real estate, adequate to situation that is folded in the new economic conditions. Therefore, the study of the experience of countries with market economies in land management and other real estate may be useful for countries that do not have a tradition of a market economy or have lost it.

As indicated in the "Land Administration Principles" published by the UN in 1996, "The ownership of the land, its value and use, although theoretically are independent, in practice, are closely interrelated. Each land component requires rational management, which demands an appropriate system of registration information, such as: 1) the ownership – to ensure reliable protection of ownership rights; 2) the cost – to provide an objective assessment of property and justice in the seizure of land for public needs; 3) the land use regime to ensure effective land management" (Руководящие..., 1996, p. 24).

The land management system can provide order and stability in society through the establishment of guarantees, not only for landowners and their partners but also for national and international investment and credit companies, enterprises, as well as for the government. Despite the fact that the land registration system is often directed to protecting the interests of individual property owners, they are a reliable tool for the national land policy and economic development.

Each country creates its own property management system that meets the level of its economic development, public relations, historical traditions, with respect to the property, etc.

Implementation of the land reform and the transition to the real estate market are integral components of the development of market relations and the establishment of a legal state. This implies the need for registration and protection of land rights, the development of fiscal instruments (taxes, rent), based on the physical, economic and legal characteristics of the land, as well as legal and economic mechanisms for the protection and rational use of lands. For conducting of such accounting around the world, as a rule, there is a state cadastre.

Currently, there is a concept of Cadastre in the foreign practice, approved by the United Nations together with the International Federation of Surveyors (the FIG) in Bogor (Indonesia, 18-22 March 1996), and then in Bafert (Australia, 22 October 1999) Declarations: "cadastre – it is usually based on the land (parcels) modern land information system containing a record of property rights (eg, rights, restrictions and obligations). It usually includes a geometric description of a land plot connected with other records describing the nature of the rights, property or control in respect of these rights and often the cost of land and its improvements. Cadastre can be used for fiscal purposes (eg valuation and equitable taxation), legal purposes (for example, registration of transfer of ownership rights on the property), to assist in the management and use of land (eg, planning and other administrative purposes), and creates an opportunity for sustainable development and environmental protection" (Сидоренко, 2003, p. 12).

The report of the Economic Commission for Europe (UNECE), "Land management in Europe. Tendencies of development and main principles" (2005) notes, that the present cadastre should serve the needs of the person and society in general, benefiting from its application to asset management, drafting of documents for registration of transfer of rights on real estate, secured loans, demographic analysis, regulation of building, planning, emergency response and management of them, impact assessment the environment, analysis of deals with housing and land market, property rights to land and real estate, taxation of land and real estate, land reform, the statistical data for monitoring purposes, spatial planning, control and territories (Управление..., 2005).

It should also be noted that the original interpretation of the term "cadastre" was not associated with a particular territory. It reflected only the essence of the concept, such as: inventory, record, registry and so on. All actions were connected with the land, a particular location, so the name "the land cadastre" has appeared. Over time, in some countries of the West from separate subsystems began to stand out the land registry: engineering structures, transport communications cadastre, cadastre of built-up areas, and so on. This separation caused by explicit informative congestion of land cadastre. However, this does not mean the independence of the emerging systems from its original concept. On the contrary, it is clear that the information makes no sense unless it is "tied" to a particular territory. Thus, any subsystem reflects specific information tied to a specific area and includes a specific topic.

In this article we are talking about the cadastre, which is prepared in built up areas, that is, the urban cadastre. Urban cadastre is a state information system of data, required for the implementation of urban development activities, including the implementation of changes in real estate.

A brief excursion into history allows to recall that the emergence of cadastral systems in the former Soviet space – land, urban planning and real estate – correlates with the beginning of the 90's and carried out at the time of market reforms, contributing to providing payment for land and property privatization. By the way of organization there were separate regional systems (often – urban planning of building), under the jurisdiction of local executive bodies.

The transformation of urban planning policy into element of strategic planning required changes in the organization of cadastral registration, namely:

- the consolidation of its centralized regional systems into a single nation-wide;
- emergence as one of the main objectives of the cadastre to ensure compliance with all town planning activities and recommendations of the design decisions of the main town planning document of the country – General scheme and its main provisions.

## 2. Analysis – the Republic of Kazakhstan

We will consider implementation of this policy in the example of the Republic of Kazakhstan. Regarding the first point – in Kazakhstan, according to the latest changes in legislation the adoption of the urban cadastre is related to a state monopoly, and entrusted to a specialized state-owned enterprise, which means the transfer of this function from the level of

local government to the central. The Unified Automated Information System of the State Urban Cadastre is defined as an instrument of executing such functions. Its development is currently ongoing.

As to the second point, the development and implementation of the General Scheme of Kazakhstan means that urban planning is involved in the processes of strategic planning, indicates the beginning of the implementation of state targeted, systematic, rigorous scientific approach to the organization of territories as the distribution and spatial development of the most important national resource and makes using of cadastre necessary. It requires its centralization and consolidation, converts into the instrument of monitoring of realization and actualization of the Basic Regulations of the General Scheme and the state urban planning policy, a prerequisite for building a paradigm change through a combination of compulsory and country planning with their monitoring in order to create optimal management decisions.

It should be noted that from the receipt of Kazakhstan's independence in 1991 until today the development of the State Urban Cadastre was slow or even has stopped several times. Development of information systems in the sphere of urban development in some cities in Kazakhstan began to be implemented only in 1995 after the adoption of the first decrees of the Cabinet of Ministers of the Republic of Kazakhstan "On the state urban cadastre" of July 6, 1995 № 931 (О Государственном..., 1995).

However, as of today from 14 provinces and 2 cities of republican value (Astana, Almaty) only in 9 cities the public Urban Cadastre has been created: Astana, Almaty, Aktau, Atyrau, Aktobe, Karaganda, Kyzylorda, Taldykorgan and Uralsk. At the same time the database of state urban cadastre automated information system in the cities mentioned above are created by different methods and in different programs that are not comply with the Resolution of the Government of the Republic of Kazakhstan "About approval of Rules of maintaining the state of the urban cadastre in the Republic of Kazakhstan" dated December 11, 2009 № 2082 (Об утверждении…, 2009).

Until 2014, in accordance with the Law of the Republic of Kazakhstan "On architectural, urban planning and construction activities in the Republic of Kazakhstan" of July 16, 2001 № 242 the system of urban cadastre included three levels: national, oblast and basic. Creation and maintenance of regional and basic levels was n the competence of the local executive bodies (Об архитектурной..., 2001).

For example, in 2011–2012 years by the state urban cadastre of the republican level was created,

under which a new specialized software for public urban cadastre was developed. Also, in cooperation with the central executive authorities thematic database of basic sectors of the economy were created. The pilot project on the interaction of state urban cadastre of the republican level have been created and filled with the lower levels on the example of Karaganda and Kyzylorda regions was carried out.

However, the Urban Cadastre of the republican level will not function fully without creating regional and basic levels and automated delivery of state urban cadastre information system in commercial operation will be possible only after the establishment of urban cadastre of oblast and basic levels.

The analysis of the current situation and studying the experience of foreign countries has shown that the maintenance of the urban cadastre in the country has to be changed and organized on the principles of centralization and unification. So the system of urban cadastre should be concentrated in the competence of the central state body.

As the result, the authorized body has drafted a bill on the improvement of the current legislation of the Republic of Kazakhstan in the field of architecture, urban planning and construction activities. This bill was aimed at restructuring of the existing system through the establishment of specialized stateowned enterprise to a single reference of the urban cadastre of all territorial levels. On the 21 January, 2014, the Law of the Republic of Kazakhstan "On amendments and additions to some legislative acts of the Republic of Kazakhstan on issues of architecture, urban planning and construction activities" was adopted. It provides the creation of a unified system of state town planning cadastre of the Republic of Kazakhstan (O BHECEHIMI..., 2014).

Unified system of the State Urban Cadastre will provide users with a complete and efficient information database on the status of administrative-territorial units and settlements, using of which will be implemented in real time.

Besides it is expected that it will be possible to add to the information database and also display in it any data about the state of facilities, funding of which is realized at the expense of budget funds in any given period of time. This will allow monitoring of information about the possibility of connecting to engineering networks of heat supply, power supply and other utility networks, which will provide the projected object with the necessary resources and capacities, which, respectively, eliminate errors and additional costs for further planning and construction.

The availability of relevant information database of the State Urban Cadastre will also allow to automate the process of provision of public services in the sphere of architecture, urban planning and construction, which in turn will reduce the financial and time costs to users at all territorial levels, eliminate administrative barriers and corruption.

It is also necessary to note that activity of maintaining the state urban cadastre belongs to the state monopoly and implemented by a republican state enterprise on right of economic management established by the decision of the Government of the Republic of Kazakhstan. In connection with this, the Government of the Republic of Kazakhstan has adopted the Decree "On establishment of the Republican Center of State urban planning and cadastre" dated June 30, 2014 № 736. This center will ensure the efficiency of decision in public administration, the effective interaction of state bodies with relevant and reliable information (О создании..., 2014).

In summary, it can be stated that the legislative acts of Kazakhstan are aimed also at preventing the increase of the cost of construction projects, improving the quality of project documentation and construction projects, as well as the reduction of corruption in the construction of facilities financed by the state budget.

### 3. Analysis – the Republic of Belarus

Review of the experience of the Republic of Belarus is also appropriate in this regard. In accordance with the Law of the Republic of Belarus "On the basis of architectural and urban development activities in the Republic of Belarus" dated 26.11.1993, № 2613-XII (Об основах..., 1993) "Regulations on the procedure of the State Urban Cadastre" from 13.11.1998, № 1743 (Положение..., 1998) have been developed. Conducting of the state urban cadastre is carried out by the Ministry of Architecture and Construction and its authorized regional and local architectural and urban management authorities.

Urban cadastre intended to keep the necessary information and legal base for investment in all spheres of housing, civil and industrial construction and protect long-term interests of investors, thereby ensuring the stability of the economic base of the territory development. The town planning regulations are recorded and made available to all businesses and individuals for the territories they are interested in. The town-planning regulations are requirements for building and use of territories of certain functional areas of settlements, which were set for the long term. If an investor has such information, he would be able to plan his activities and invest considering the current and expected urban situation on this territory.

According to Law of the Republic of Belarus "On architectural, urban planning and construction activities in the Republic of Belarus" dated July 5, 2004 № 300-W2/1049 urban cadastre carries registration functions related to the elements that are not included in other state cadastre and registration systems (designed and constructed objects, rules of urban development and land use, and other objects) (Об архитектурной..., 2004). Therefore urban cadastre should be formed with partial use of data from other existing cadastres, registers and other information systems, including land registry, technical registration system of residential and non-residential buildings. As a result a comprehensive and complete analysis of occurring on the territory of the socio-economic processes becomes possible. Creation of the state urban cadastre of urban settlements is especially important.

It should be noted that the Ministry of Architecture and Construction of Belarus has approved the "Regulation on registers and registers", functioning under the State Urban Cadastre dated 30.11.1998, № 398 (Положение..., 1998). The Centre of cadastre territories has developed software system for management of all registers provided for by this Regulation. The use of this complex will take into account and monitor the construction process at all its stages - from the receipt of a permit for the design to commissioning. Taking into account economic situation of foreseeable future formation and functioning of the urban cadastre at regional and especially municipal level, can only occur as part of the process of creating the relevant territorial information system. The adoption of the government decree on the introduction of the state urban cadastre provides the necessary legal basis for the concentration under the auspices of the municipal executive committees of interested users of funds to create a city-wide information systems of wide application.

Also it is planned to create a state urban cadastre in each administrative-territorial unit of the Republic as an interdepartmental territorial information system.

Today it is also planned to create a unified cadastre service in the form of municipal unitary enterprise, which would be founded by the City Council. It will carry out the whole complex of works on creation and introduction of urban territorial information system, and as part of it – of all state cadastres, the creation of which is carried out with the help of geoinformation technologies. Thus, the Urban Cadastre of the Republic of Belarus – is primarily used as a registration system, and the second – information.

## 4. Analysis – the Russian Federation

Considering the experience of creation of the urban cadastre in the Russian Federation we can note that the "Urban Development Code of the Russian Federation" of May 7, 1998 № 73-FZ provided for the establishment and maintenance of state urban cadastre as the state information system data required for the implementation urban development activities (Градостроительный..., 1998). At the same time it was planned to conduct the state urban cadastre at the federal level, the level of the subjects of Russian Federation, as well as local authorities in the event of transfer of the relevant government authority.

The purpose of the state urban cadastre was established by the decree of the Government of the Russian Federation "On Approving the Regulations on the conduct of the state urban cadastre and monitoring of objects of town-planning activity in the Russian Federation" dated March 11, 1999 № 271. The purpose of conducting urban cadastre and monitoring was to provide the interested public authorities, local governments, individuals and legal entities with reliable information about the built environment, its proposed changes, including the limitations of land use and real estate in urban planning, and the other information necessary for urban development, investment, land use and other economic activities, evaluation and taxation of real estate (Об утверждении..., 1999).

Thus, the urban cadastre had to allow implementation of the strategy of development of city, mortgaged for a certain period, for example, the strategy of "green city" or the strategy of removing industrial giants from the city, etc. Accurate cadastral information would help to make better decisions at the city level, more accurately predict and model the level of market prices of land. it is important for the replenishment of budget, as well as the impact on the land market and real estate, to ensure the reliability of operations with land and real estate primarily in the area of mortgage lending.

However, for the time that has elapsed since 1998, almost nothing has been done to build such a system. There are a lot of reasons for this both objective and subjective. Firstly, the system was assumed to be built downwards, while the main production and consumption of information is on the lower municipal level. Secondly, neither regulatory conditions for the formation of the information nor for their use were created. Third, the rational model of the financing of the system has not been proposed.

The new Urban Planning Code of the Russian Federation of 22 December 2004 eliminates the use of the word "cadastre" in relation to information systems for urban development and makes them municipal (Градостроительный..., 2004). However, since 1998 the urban cadastre systems have been created in some cities, for example, in Moscow, Ufa, Rostov-on-Don, Krasnodar, Voronezh, Moscow Region and some other regions of Russia. Such urban cadastre systems are successfully operating today. The funds of local budgets and the budgets of the subjects of Russian Federation were invested in the creation and development of these systems. However, from July 1, 2006, these systems are out of law. For example, the Moscow city legislature, in order to get out of this situation with minimal losses, decided to establish the identity of the concepts of "urban information system for urban development" and "Urban cadastre of Moscow", securing it in the Law of city of Moscow "On the Moscow Urban Cadastre" from December 15, 2004 № 88 (О градостроительном..., 2004).

Moreover, in accordance with the Federal Law "On General Principles of Local Government in the Russian Federation" dated 06.10.2003 № 131-FZ management of systems is assigned to the powers of local governments of city districts and municipal areas (Об общих..., 2003). In any case, even if it will be decided to create a single tier system, it has to be built from the bottom, from the foundation, not from the roof. The unified procedure of its conducting, provided by Urban Planning Code, will eventually lead to pass into a usable form of the necessary information as to the level of the Federation and the federal level. The legislator did not have to indicate that the management of systems is carried out by local governments. In some regions, there is a practice, which has successfully established itself, when a municipal information system is operated by entities, subordinated to bodies of architecture and urban planning. Along with other benefits it allows to attract for conducting municipal systems funds regional budgets. While taking into account problems with financing systems, it would seem logical to provide compensation for the cost of the free provision of information to public authorities of the Russian Federation and the subjects of the Russian Federation from the appropriate budgets.

Thus, a new system of relations in the sphere of architecture, urban planning and building activities will contribute to the development of civil society, public activity of local executive bodies. It is also focused on the informatization and openness of the processes of providing of land plots for the purposes of the design and construction.

# 5. Analysis – Ukraine

Nowadays Ukraine has all the necessary preconditions for legislative basis for providing of the urban cadastre. The legal basis for adoption of the urban cadastre is a number of legal acts, in particular, regulations of the Cabinet of Ministers of Ukraine "On the urban cadastre" (Про містобудівний..., 2011), "On the Procedure for the exchange of information between urban development and the state land cadastre" (Про Порядок..., 2011), State building codes B.1.1-16:2013 "Composition and the content of the urban cadastre" (Склад..., 2013) and others.

The urban cadastre in Ukraine as a legal category has been the theoretically developed. Now it has a legislative basis, which requires further development. However, the practical use of data at all levels of the urban cadastre remains relevant.

Development of cadastral systems in Ukraine is carried out mainly by extrabudgetary resources of state administrations. Such works are carried out on the basis of existing state building codes. At present cities began to fill cadastres with the primary database.

The most successful examples of creation of the automated systems of the urban cadastre can be regarded to Zaporozhye, Vinnitsa and Lutsk. But the disadvantages of these systems are their isolation and lack of unified methodological, methodical and technological studies. This is the result of the lack of appropriate legislative and regulatory basis of the urban cadastre.

## 6. Conclusions

The analysis of the experience of creating of cadastres abroad shows that there are practically no analogues of the urban cadastre in our understanding in the EU. However, cadastre systems, which solve problems of registration and storage of information on real property, as well as planning restrictions and easements, are widespread there. In the countries of the former Soviet Union (especially the Russian Federation, Kazakhstan, Belarus) urban cadastre is developed in forms that are close to the Ukrainian model. Since the formation of the urban cadastre system in Ukraine is in its infancy, so there is a possibility of using of the experience of foreign countries with their achievements and mistakes that can be avoided.

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