UDK 332.334(474.3):349.418
Ba 875

QUALITATIVE AND QUANTITATIVE DATA OF REAL PROPERTY CADASTRAL EVALUATION IN LATVIA

V. Baumane, V. Parsova
Latvia University of Agriculture
Department of Land Management and Geodesy

Key words: real property cadastre, cadastral data, cadastral information system, real property cadastral evaluation.

Introduction

Cadastral evaluation is a systematic assessment of property groups on a particular date, performing the assessment according to a standardized procedure [1; 2]. Cadastral evaluation in Latvia is mainly used for calculating the real property tax. In Europe and in other market economy countries large-scale or cadastral assessment is based on the information of real property market.

As several researchers and real property assessment specialists Bailey, 1991; Betts, Ely, 1994; Kalbro, Mattsson, 1995; Boruks, 1997; Gloudeman, 1999; Bagdonavicius, Deveikis, 2005; Baumane, Paršova, 2010 indicate the assessment of real property begins with data. Depending on the type of the property and what the evaluation purpose is, particular data are necessary [3]. Therefore, based on the legally justified cadastral assessment models of building land and rural land, in this paper analyzed data necessary in the real property cadastral evaluation process (Fig.1).

And thus, to determine the cadastral value of land applying the cadastral assessment models of building land and rural land, the data of the real property market, the data of the Cadastre, socio-economic indicators, data of the territory planning of the local municipality and other information about the qualitative situation of the soils, pollution and the geological investigation of the land, existing communications in the assessed territory etc. are necessary [4; 5].

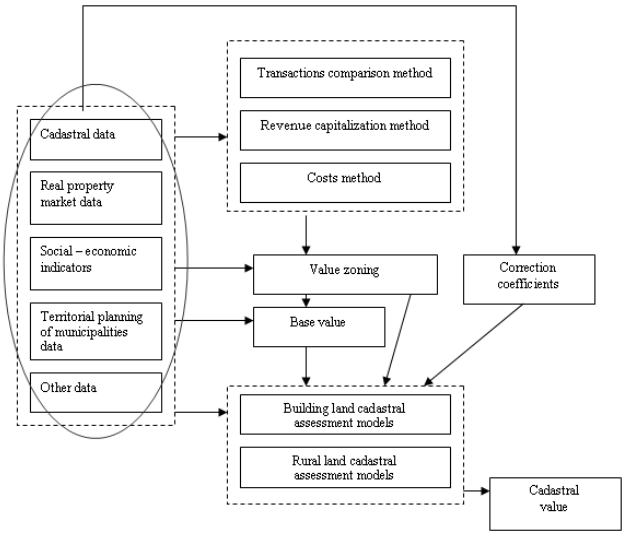

Fig. 1. Use of data in the cadastral assessment process

Recognition research developed a basis for the following hypothesis – Qualitative and quantitative data in real property evaluation process provides an objective cadastral value.

According to the hypothesis, the goal of the paper is to analyze and evaluate qualitative and quantitative data for real property evaluation.

To attain the goal, the following objectives were set:

- analyze and evaluate market data;
- analyze and evaluate cadastral data;
- analyze and evaluate other importance data for cadastral evaluation.

Material and methods

For analyze was used real property market data from Real Property Market Data Information System, cadastral data from Real Property State Cadastral Information System.

Spatial and textual data about the cadastre objects that are located in the territory of the country are registered and maintained in the information system of the Cadastre:

spatial data – cadastre map (cartographic picture) in which the borders of the land units and buildings, cadastre labels and other news characterizing the real property are indicated;

textual data, which comprise data about the location of the real property, cadastre labels and areas of the land units, about buildings and constructions, value of the real property, encumbrances, as well as about the owner, legal possessor or user.

Scientific literature, laws, the data of State Land Service are used in this research.

Monographic method, analysis method, descriptive statistics analysis method is used in the particular research. For data analyzing used Microsoft Excel and SPSS computer programs.

Discussions and results

For the purposes of cadastral assessment, the data of the real property market are stored in the information system of the Real Property Market of the SLS in Oracle environment. Information about the type of the deal – whether it is a purchase or a gift, or rent, or another type of the deal, about the date of the deal, about the factors affecting the value – whether scenery improvement work has been carried out, whether the access to the property is convenient a.o., about the amount of money of the deal – the amount that is indicated in the agreement on the deal, about the type of payment – whether there will be one payment or several, about the address of the property, about the area of the property, the cadastre number, about the utilization purpose of the real property a.o. information is entered in the information system of the Real Property Market.

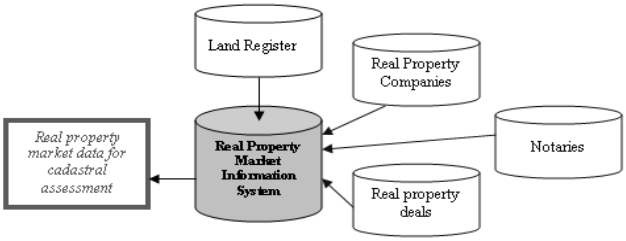

Fig. 2. Current and perspective data acquisition sources of the Real Property Market for the purposes of cadastral evaluation

The most significant indicators for the purposes of cadastral assessment is the type of property, its location, area and the price of the deal because the real property market is determined and affected not only by property characteristics, but also by different factors that are behind the borders of the property and that directly and indirectly increase or lower the price of the property.

For the cadastral assessment to receive qualitative data of the real property market, laws and regulations are improved, data exchange is enhanced (Fig. 2), by supplementing the information system of the Real Property Market with qualitative data not only from the Land Register, but also from the real property agencies, notaries, as well as with information about the deal offers.

The IS of the Cadastre contains more than 5 million registered objects, the largest proportion, 44%, occupied by apartments, 42% are occupied by land property or legal possession, 11% are usage, resolutions in cities, land for finishing the land reform, land within the jurisdiction of the state or a municipality and 3% are building property.

The data of cadastral assessment are considered to be agricultural use of the land qualitative assessment and it depends much on the quality of soils. The qualitative assessment of agricultural use of the land is divided into 6 groups, for the purposes of cadastral assessment.

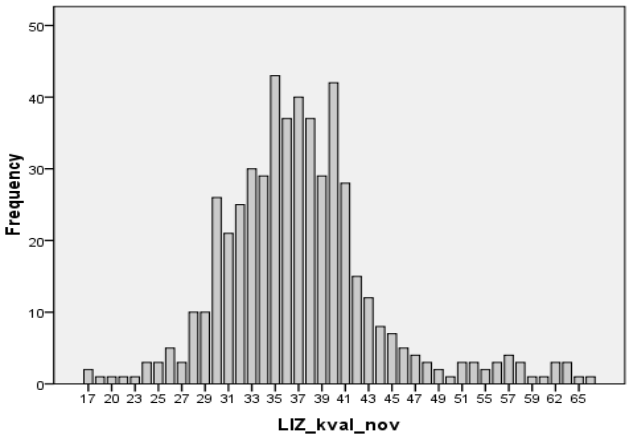

Fig. 3. Distribution of agricultural use of the land qualitative assessment

When analyzing the average qualitative assessments of municipalities in force in Latvia (Fig. 3) with the descriptive statistics method, it can be observed that the average agricultural use of the land assessment for municipalities in Latvia is 35 points, which corresponds to quality assessment group III, as well as a tendency was present that agricultural use of the land qualitative assessment is mainly within the margin of 30 to 41 points. However, it has to be admitted that the situation of soil in Latvia has not been studied at a national level for 20 years and this assessment is based on the materials of the soil mapping of 1989 – 1991. So far, Latvia lacks a unified Land policy. There are only some laws and regulations where the soil protection issues are mentioned, but not indicating clearly which institution and what has to be done exactly regarding the soil protection.

One of the most significant cadastre data, based on which the cadastral assessment model is chosen, is the purpose of land use of the real property. The procedure for determining and changing the purpose of use of the real property is provided by the Regulations No.496 of the CM of June 20, 2006 “Classification of the Purposes of Use of Real Property and Procedure for Changing the Purpose”. The largest areas in Latvia are occupied by agricultural land – 60.1%, forestry land and specially protected nature territories in which business activity is prohibited by a normative act is the second largest group of the purpose of land use of real property, which comprises 33.4%, but the distribution of building land is 3.7% in each group of purpose of use from 06 to 12 for the real property of building land.

For the purposes of determining the cadastral value it is important to know the purposes of land use of every particular real property and their areas, because the result of the cadastral value calculation depends on it, therefore data about the purpose of use of the real property are obtained from the information system of the Cadastre. However, to forecast base values for the coming year, it is necessary to assess the territorial plan of the respective municipality, incl. assessing the correspondence of the purposes of use determined in the respective municipalities with the ones registered in the Cadastre IS. The change of the purposes of use can very significantly increase or lower the cadastral value of the real property to be assessed.

A problem is obtaining territorial plans of all municipalities. Although laws and regulations provide that territorial plans of every municipality are stored in the Ministry of Regional Development and Local Governments, it is impossible to acquire territorial plans of all municipalities of Latvia there. Therefore, in addition, it is necessary to acquire the needed information from the particular municipalities during the assessment process.

A more convenient exchange of such data would be possible with municipalities supplementing and actualising information about the real property purposes of use in the information system of the Cadastre.

For comparing municipalities in the cadastral assessment process, the socio-economic development indicators of municipalities are used (e.g. income tax amount per capita, unemployment level, number of economically active inhabitants, demographic pressure). During the base cadastral value development process socio-economic indicators are also analysed – gross domestic product (GDP), unemployment level, inflation or deflation a.o. indicators characterizing the particular territory in total in Latvia and in every municipality. Socio-economic indicators about the entire Latvia in total and divided by statistical regions are

available in the public database of the Central Statistics Bureau, which allow assessing and obtaining the macro-economic characterization of the country. However, these data do not allow reflecting the situation in the municipalities in Latvia in detail. Therefore more detailed information for the purposes of cadastral assessment about the socio-economic indicators about the respective municipality is necessary as they allow finding explanations about the price level for real property in the respective municipality. The author concludes that the SLS has to organize a qualitative and actual data acquisition process from municipalities.

Whereas, research of geological situation is necessary because of the problem troubling land owners recently – frequent development of caving. Caving falls are a negative relief form of natural origin that develop, when the arch above an underground vacuum falls down or sinks. According to publicly available information, the main areas of caving in Latvia are in mid-Latvia between Allazi and Baldone (Fig.4), in the neighborhood of Skaistkalne (Fig.5) and Plavinu water reservoir.

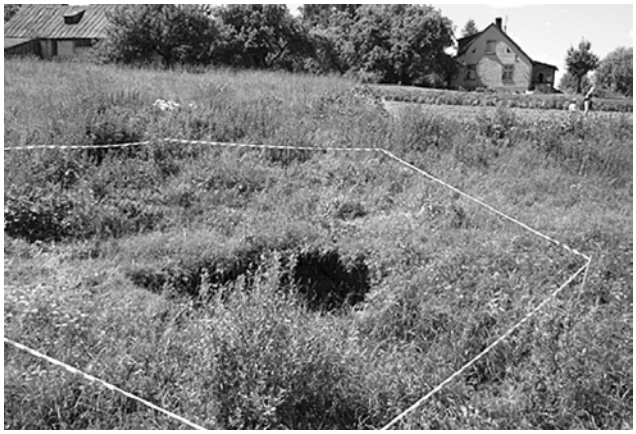

Fig. 4. Karst caves in Baldone

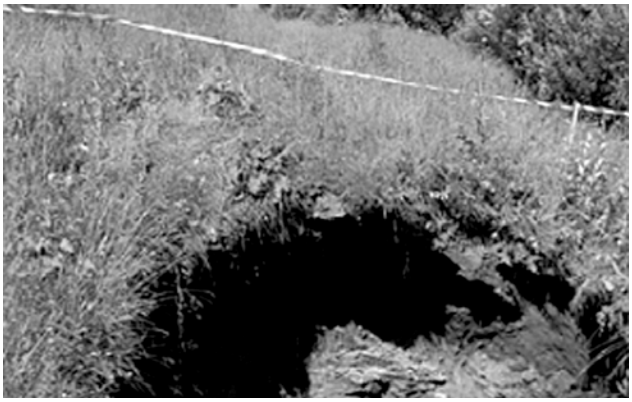

Fig. 5. Karst caves in Skaistkalne

It is a geological risk zone because it is not known when the surface of the land may not hold above the vacuums developed in the underground and will fall, how wide and deep the hole will be, if it will happen fast or slowly. To get an idea about what is happening in the risk zone and what purpose of land use should be assigned to the land that, in turn, affects the cadastral assessment, the research of the caving zones should be performed.

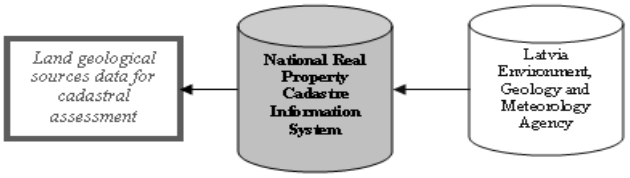

Fig. 6. Perspective data acquisition sources of the geological situation of land for cadastral evaluation

Therefore, should the SLS cooperate with the Centre of Environment, Geology and Meteorology of Latvia in acquiring these important data it would be possible to supplement the information system of the State Cadastre of Real Property with important data fields (Fig.6).

Conclusions

1. At present the SLS has 17 cooperation partners, 5 of which are data takers, 3 – data providers but data exchange takes place with 9. To ensure qualitative data acquisition for the purposes of cadastral assessment, it would be necessary to sign data exchange agreements with data takers, i.e. the Nature Protection Agency, the Environment, Geology and Meteorology Centre of Latvia and the State Environment Agency, and, certainly, the range of partners should be extended, including real estate agencies and notaries.

2. Information about the deal from the Land Register arrives with delay to the database of the SLS Real Property Market in some cases and cannot be used during a rapid increase or decrease of a market price.

3. Soil mapping corresponding to FAO norms is necessary to obtain reliable and systematic information about the soil condition, to determine the soil degradation risk zones, to calculate the carbon balance, as well as to plan business activities and to provide a reasonable use of mineral fertilizers and plant protection means, to determine less beneficial areas, thus the real property would also be determined an objective cadastral assessment

4. Significant indicators affecting the value of building land, about which the IS of the Cadastre lacks information, are the existence of engineering communications in the piece of building land, as well as its geological situation. Information acquisition sources could be the extension of the data acquisition range, as well as owners' declarations.

References

1. Nekustamā īpašuma valsts kadastra likums, LR likums, LV, 22.12.2005, Nr. 205;
2. Kadastrālās vērtēšanas noteikumi, Ministru kabineta 2006.gada 18.aprīļa noteikumi Nr. 305, LV, 10.05.2006., Nr. 72;
3. Bagdonavicius A., Deveikis S. Individual and Mass Valuation – Present and Future. Pharaohs to Geoinformatics, Proceedings of FIG Working Week 2005 and GSDI-8, Cairo, Egypt, April 16-21, 2005.
4. Gloudeman R. Mass Appraisal of Real Property. International Association of Assessing Officers, 1999 – pp.428

5. Baumane V. Nekustamā īpašuma vērtēšana. Teorētiskie aspekti / LLU, 2009 – 74 lpp.

Якісні та кількісні дані для кадастрової оцінки нерухомості в Латвії

С. Баумане, В. Паршова

Мета статті – аналіз і оцінювання якісних і кількісних даних для кадастрової оцінки нерухомості. Проаналізовано дані ринку нерухомості з інформаційної системи ринку нерухомості, текстові й графічні дані кадастру з державної інформаційної системи кадастру нерухомості, а також основні дані, які впливають на кадастрову вартість нерухомості, – оцінка якості ґрунту, мета користування землі та дані геологічних умов. Основний висновок статті – для здобуття об'єктивної кадастрової оцінки нерухомості необхідно в інформаційних системах реєструвати якісні та кількісні дані нерухомості.

Качественные и количественные данные для кадастровой оценки недвижимости в Латвии

В. Баумане, В. Паршова

Цель статьи – анализ и оценка качественных и количественных данных для кадастровой оценки недвижимости. Проанализированы данные рынка недвижимости с информационной системы рынка недвижимости, текстовые и графические данные кадастра с государственной информационной системы кадастра недвижимости, а также основные данные, которые влияют на кадастровую стоимость недвижимости – оценка качества почвы, цель на использование земли и данные геологических условий. Главный вывод статьи – что для получения объективной кадастровой оценки недвижимости необходимо в информационных системах регистрировать качественные и количественные данные недвижимости.

Qualitative and quantitative data of real property cadastral evaluation in Latvia

V. Baumane, V. Parsova

Purpose of this article was to analyze and evaluate the qualitative and quantitative data for real property cadastral evaluation. This paper analyzes the real property market data from real property market information systems, cadastral textual and spatial data from the Real Property State Cadastre Information System, as well as further analysis of the following essential property cadastral value of sensitive information – Soil quality assessment, purpose of land use and use of geological conditions data. The main conclusion is that for obtain an objective cadastral value of the real property; need save in information systems objective qualitative and quantitative property data.