Education of surveyors in the field of real estate market valuation: Present situation in the Republic of Serbia

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Abstract. Education of surveyors in the Republic of Serbia has a long tradition. The first higher education in the field of surveying in Serbia dates since 1808, when the Belgrade Higher school was founded, while the first activities in the field of surveying measurements in Serbia dated to the end of XVIII century, when Geodetic service of Austro-Hungarian Empire started the survey at the northern part of Serbia. That was the time when surveyors had only technical skills, but due to changes in a country and society as a whole, nowadays, we have completely another picture about this profession. This paper will focus on education of surveyors in the field of real estate market valuation and benefits that this knowledge gives to them. State educational institutions recognized the importance of these skills, so it will be described the curriculum of those institutions, together with the changes in a society that had a great influence on changing surveying profession. Main focus will be given to subjects dealing with real estate market and real estate market valuation on Belgrade University College of Applied Sciences for Civil Engineering and Geodesy, together with Faculty of Civil Engineering, Department of Geodesy and Geoinformatics, University of Belgrade.

Keywords: Academic studies, specialized studies, market of real estate, higher education

Obrazovanje geodeta u oblasti procene vrednosti nepokretnosti: Trenutna situacija u Republici Srbiji

Apstrakt. Obrazovanje geodeta u Republici Srbiji ima dugu tradiciju. Visoko obrazovanje u oblasti premera u Srbiji datira od 1808. godine, kada je osnovana Beogradska Visoka škola, a prve aktivnosti u oblasti premera u Srbiji datiraju od kraja XVIII veka, kada je geodetska služba Austro-Ugarske imperije počela premeravanje u severnom delu zemlje. U to vreme geodete su imale samo tehnička znanja, ali zbog promena u zemlji i društvu u celini, danas imamo potpuno drugačiju sliku o ovoj profesiji. U ovom radu će biti predstavljeno obrazovanje geodetskog kadra u oblasti procene tržišne vrednosti nepokretnosti i prednosti koje im to znanje donosi. Državne obrazovne institucije prepoznale su važnost ove veštine, tako da će biti opisan nastavni planovi i programi ovih institucija, zajedno sa promenama u društvu koje su imale veliki uticaj na promene u geodetskoj struci. Akcenat rada će biti predmeti koji se bave tržištem nepokretnosti i procenom tržišne vrednosti nepokretnosti na Visokoj građevinsko-geodetskoj školi Univerziteta u Beogradu, zajedno sa Katedrom za geodeziju i geoinformatiku Građevinskog fakulteta Univerziteta u Beogradu.

Ključne reči: akademske studije, specijalističke studije, tržište nepokretnosti, visoko obrazovanje

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1 Introduction

Surveying education in Serbia is 200 years old. First higher education in surveying, included in technical disciplines, exist since 1808 and Belgrade Higher School. Later on, throughout Belgrade Lyceum (1839) and Engineering School (1846), surveying education continue to be part of technical education [5]. The first Serbian geodetic institution was Geodetic Institute of Serbian Military Forces which was founded on 1878. The first tasks of surveyors were of fundamental meaning: basic geodetic works, which were connected with neiborough countries, especially to the west where Serbia had a border with Austro-Hungarian Monarchy. Between two World Wars detail state survey of the great part of Serbia was finished [2] and education in surveying falls the history of the country at that time.

The first Belgrade University was founded in 1905 and it had five faculties: Theology, Philosophy, Law, Medicine and Technical faculty. Geodesy was studied at the Department for civil engineers on Technical faculty, till 1941 when it stops with works due to Second World War. In autumn 1945 regular lectures were continued. The Department for Geodesy enrolled first generation of future surveyors in school year 1947/48, while the first graduated geodetic engineers Serbia got in 1950. Serbia, on academic level had never had a Faculty of Geodesy and this discipline was always educated on department that was part of Faculty of Civil Engineering. Today, Department of Geodesy and GeoInformatics exists on this faculty in Belgrade.

Due to state needs and numerous surveying technicians in practise, that only had a secondary education from Geodetic-Technical School (so called geodetic technicians), a Higher Geodetic School in Belgrade was founded in 1960. It must be said that Geodetic-Technical School exist since 1924 and has educated a numerous surveying technicians. The first generation of students on Higher Geodetic School had 80 regular and 120 part-time students, but due to great need of education od technicians, a total number of 500 part-time students enrolled the studies [5]. Since 1996, Higher Geodetic School was part of Higher School for Civil Engineering and Geodesy, while nowadays it become an University College of Applied Sciences for Civil Engineering and Geodesy in Belgrade.

Department of Geodesy and GeoInformatics on Faculty of Civil Engineering and Department for Geodesy on University College of Applied Sciences for Civil Engineering and Geodesy, both situated in Belgrade, for numerous years were the only educational institution that educated surveying professionals on university level (academic and applied or professional studies). However, fallowing the changes in a country, state needs and economy changes in Serbia, together with changes in education and its legislation, surveying education is now educating on Faculty of Technical Sciences, Department for Civil Engineering and Geodesy in Novi Sad and the first students on Bachelor’s studies on this institution were enrolled in 2008.

Bachelor’s studies on those three educational institutions in Serbia, two of academic and one of applied (professional) studies, remains to be mostly technically oriented where students acquire knowledge needed for engineering, state survey, cadastre, GIS, etc. purposes. For numerous years surveyors were educated only for measurement on the ground and mapping the world around us. Thanks to modern techniques and technologies, surveyors are no longer just technicians and their duties are not just to map the space, but to be involved in collection and maintenance of other important land information such as: ownership of the land, its type of use, encumbrances, market value, etc. When we speak about surveyor’s education in the field of real estate market valuation, these knowledge students nowadays could acquire on master studies at Faculty of Civil Engineering and on specialised studies at University College of Applied Sciences for Civil Engineering and Geodesy. It must be emphasised that most probably, this knowledge will be available on other state and private universities in Serbia, but only on master or specialised level of education in accordance with Law on Higher Education in Serbia.

2 Background

The last educational reform in Serbia dates from recent history. Serbian higher education is now regulated by the Law on Higher Education which came into force in 2005. In accordance with this law, higher education activities are carried out through either academic or applied (professional) career studies. Serbia has three types of Higher Education institutions: Universities, Higher Education Colleges of Professional Career Studies or University College of Applied Sciences (in Serbian: Visoke škole strukovnih studija) and Higher Education Colleges of Academic Studies (in Serbian: Visoke škole akademskih studija) [3]. In the same time the higher education system in Serbia is a binary system, it means that higher educational institutions are either public or private. Public higher education institutions are established by the state of Serbia. The higher education institutions founded by an autonomous legal entity or a private person are private higher education institutions. Both types of higher education institutions become legal entities within the higher education system in Serbia only after receiving a state permission granted by the Ministry of Education.

All types of higher education institutions in Serbia can organize and conduct study programmes and issue first and second cycle degree certificates (universities—academic and professional), but only universities can
implement the third cycle education. The first cycle degree certificates are Bachelor’s studies, second cycle degree certificates are master’s academic and specialization studies (universities—academic and professional), while the third cycle are PhD academic studies [3].

Fallowing the changes in Law on Higher Education in Serbia, the changes in education of surveyors were made. On the first level of higher education, surveyors acquire mainly technical knowledge, but on second level of higher education (master’s academic and specialization studies), surveyors get the possibility to gain knowledge regarding real estate markets and real estate market valuation.

2.1 Facing the new challenges

Surveying and mapping are clearly technical disciplines (within natural and technical science) while cadastre, land management and spatial planning are judicial or managerial disciplines (within social science). The identity of the surveying profession and its educational base therefore should be in the management of spatial data, with links to the technical as well as social sciences [4].

Surveyors will still be high level experts within measurement science, but due to technology development the role is changing into managing the measurements and toward contributing to sustainable societies as experts in managing land and properties. In future, surveyors will be known as professional possessing not only measurements skills, but also economic, legal and land management knowledge. They will be professional able to combine measurements science and land management skills into spatial information management that is needed for good stewardship over land (Fig 1.). As it is knows, land is scarce and if human do not take care of this resource, the living space around us will be ruined, polluted, unable to produce benefit for citizens of a country.

Figure 1. The educational profile of the future [4]

The move from measurement to management also includes an increased focus on the social science issues of the surveying disciplines such as land tenure, land policies and land management. The surveyors play a key role in supporting an efficient land market and also effective land-use management. These functions underpin development and innovation for social justice, economic growth, and environmental sustainability. No development will take place without having a spatial dimension, and no development will happen without the footprint of surveyors – the land professionals - dealing with the areas of land management as indicated in Fig 2. [4].

Figure 2. A Global Land Management Perspective [4]

Land and real estate market in Serbia does not have a long tradition due to historical facts. It is possible to say that only after the Constitution of Serbia in 1990 and Law on Housing in 1992 were adopted, a private ownership over land and buildings was recognised and that this right could be purchased and transferred. Taking this fact into the account, valuators of real properties were not needed in Serbia because there were no transaction between willing buyers and sellers of real properties. Together with adoption of Law on Urban
Planning and Construction in 2003 and Mortgage Law in 2005, as well as the establishment of a unique register of real properties, so called Real Estate Cadastre on a whole territory of Serbia, started the need for professionals that have knowledge in valuation of real estates, so called real property appraisals (valuers). Surveyors of many countries of the world possess that knowledge and it was normal to follow this good practise from the educational systems abroad and to start with preparation of new study courses at Serbian surveyor’s educational institutions.

2.2 Real estate market valuation

The term appraisal or market valuation of a real estate means an expert opinion on the value and the process of developing an opinion of real estate market value [1], based on a systematic approach that includes the following activities:
- Physical identification of the real estate being valued;
- Identification of the real estate proprietor;
- Determination of the purpose of assessment (for which purposes the valuation report shall be used);
- Establishment of an effective date of valuation;
- Collection and analysis of available data that are required for the appraisal methods to be used in determine the real estate market value;
- Application of appropriate appraisal methods;
- Reconciliation and giving a final opinion of market value.

Everything listed above should be included in a final valuation report signed by the appraiser of a real estate.

In performing a market value valuation of a real estate, appraiser must have no present or prospective interest in the property that is the subject of valuation and no personal interest with respect to the parties involved in appraisal procedure. Appraiser must ensure that the estimate of market value is based on market-derived data; ensure that the estimate of market value is undertaken using appropriate methods and techniques; provide sufficient information to permit those who read and rely on the report to fully understand its data, reasoning, analyses, and conclusions. Apart from this, appraiser must understand the forces that influence on property market (social trends, economy facts, governmental forces and regulations, and spatial (geographical) forces [1].

As mention above, the first task in the appraisal is to made physical identification of the real estate that is to be valued. Surveyors are in charge for those data in a country, but also easily collects and analyse data concerning real estate location and nearness to roads, its distance from important location (city centre, hospitals, school, green areas, etc.), supporting infrastructure; size of the building and urban settings, etc. In the same time, surveyors on Bachelor’s studies acquire knowledge in real property law during courses in connection to cadastre and land consolidation that are part of both academic and applied studies in Serbia. Those qualities made surveyors capable to improve their knowledge in economy, investment theory and real estate market valuation, so to be capable of conducting important work such as appraisal of real properties.

It must be stressed that at the beginning of private building construction, private investments and privatization in Serbia, in the beginning of this century, numerous frauds were made due to absence of so called valuers. Nowadays, Serbia still does not have licences for real estate appraisals and valuations or real properties are made by court experts mostly of civil engineering profession. There is no doubt that civil engineers are qualify to apply building cost approach for market valuation of real property, but question mark is whether it is a good techniques in all cases that may appear on the market.

Following the changes in a society and a state, a new Law on State Survey and Cadastre was enacted in 2009 which stipulates that real estate valuation comes within the competence of the Republic Geodetic Authority. Those law changes emphasised the need for surveyors to be educated in terms of real estate economy, investments and market valuation. Educational institutions recognised the need for the specialist with that knowledge and on time changed course curriculums as described in next chapter.

3 Results and Discussion

Higher educational institutions in Serbia recognized the needs of changing the surveying curriculums due to changes in a society. After the adoptions of the new Law on Higher Education in 2005, a base for those changes was made. Of course it was impossible to do this over a night, but preparation for new study courses dealing with management of real estate and real estate valuation matters started. Department for Geodesy on University College of Applied Sciences for Civil Engineering and Geodesy accredited specialization study course in 2008: Real Estate Cadastre and Utility Cadastre, while Department of Geodesy and Geoinformatics on Faculty of Civil Engineering accredited master academic study course in 2009: Land Law and Economy. Together with the change in surveying curriculum, a new Law on State Survey and Cadastre came into force in 2009 which stipulated that the special institution - Republic Geodetic Authority is in charge of mass appraisal of real estates for properties registered in Real Estate Cadastre. This is an example when the educational institution and economy of a country were changing into the same direction in order to provide better services to citizens and also wider job possibilities for surveyors.
3.1 Real estate market valuation on Belgrade University College of Applied Sciences for Civil Engineering and Geodesy

Following the changes in an education of surveyors throughout the world, the Belgrade University College of Applied Sciences for Civil Engineering and Geodesy in 2008 accredited degree program of specialized professional studies: Real Estate Cadastre and Utility Cadastre in whose curriculum is the subject: Real Estate Market Valuation. This subject is obliged for all students and is based on economy, investment theories, real estate market and international approaches on real estate market valuation, but the most important thing is that through this subject, students start to look on real properties with different approach and not just like it is a parcel whose boundaries should be market on the ground and in space [8].

Considering the fact that students enrolled on specialised studies are pure technicians, first part of lectures are dedicated to basic economy terms (market, demand, supply, price, value, inflation, interest rate, etc.). Afterward, students learn to deal with real investments analyses such as: time value of the money, static and dynamic investments analyses, together with types of credits (loans) and its analyses. Understanding of those matters is done through lectures and exercises.

Second part of lectures is dedicated to real estate market valuation. As known, in literature and in practice, there are three internationally recognized approaches for real estate market valuation. Those approaches are:
- Comparable sales approach,
- Yield capitalization approach and
- Building cost approach.

During Real Estate Market Valuation course, students on specialized studies on Belgrade University College of Applied Sciences for Civil Engineering and Geodesy learn how and when to apply each of mentioned approaches. Unfortunately, due to lack of time, Building cost approach is least analysed during lectures due to the fact that professionals with civil engineering background are most likely to use this approach in valuation. In the same time, it is stressed to the students that this method is convenient for newly constructed buildings and specialized objects (industrial objects, hospitals, etc.).

Specialized professional studies: Real Estate Cadastre and Utility Cadastre, lasts one year and takes 60 ECTS credits. Five generation of students had been enrolled on this course since its accreditation. In the Table 1 are given summary data about students enrolled on studies and those who finished their studies until April 1, 2013. Please note that students enrolled in year 2012 are still attending lectures.

Table 1: Summary of students for study programme: Real Estate Cadastre and Utility Cadastre

<table>
<thead>
<tr>
<th>Year enrolled</th>
<th>Number of students enrolled</th>
<th>Number of students who finished their studies as of April 1, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>87</td>
<td>71</td>
</tr>
<tr>
<td>2009</td>
<td>31</td>
<td>29</td>
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<tr>
<td>2010</td>
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<td>31</td>
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<tr>
<td>2011</td>
<td>78</td>
<td>53</td>
</tr>
<tr>
<td>2012</td>
<td>53</td>
<td>/</td>
</tr>
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According to data presented in Table 1, it is easily to conclude that those studies are very popular among graduated students and that interests remains on a high lever throughout years.

Belgrade University College of Applied Sciences for Civil Engineering and Geodesy recognised the need for furthers education of students in land management subjects and interest of graduated students for gaining new knowledge did not lack.

3.2 Real estate market valuation on Department of Geodesy and Geoinformatics on Faculty of Civil Engineering

Department of Geodesy and Geoinformatics on Faculty of Civil Engineering has accredited a Master’s academic course Land Law and Economy in 2009. Those studies last two years and have value of 120 ECTS credits.

On Land Law and Economy Master’s course are three obliged subjects in close connection to real property valuation: Property market, Real Property Investment Analyses and Real Property Valuation and Taxation [7].

In short, subject: Property market, deals with matters such as: market definition, types of markets, role of real property market in national economy and its relationship toward capital, labour, work market. Institutional framework for development of real estate market and key roles of institutions is analysed too.

Real Property Investment Analyses deals with terms such as: values, price, real property, time value of the money, interest rate, state tax policies, and risks in investments. Students gain knowledge needed for investment analyses using static and dynamic techniques. This subject is some kind of introduction for real property valuation.

Subject: Real Property Valuation and Taxation, deals with types of real properties, types of ownership and its interests, collection of market data, market valuation international approaches with detail building
cost method analyses, content of real estate valuation reports, etc.

Table 2 are given summary data about students enrolled on studies and those who finished their studies until April 1, 2013. Please note that students enrolled in years 2011 and 2012 are still attending lectures.

Table 2: Summary of students for study programme: Land Law and Economy

<table>
<thead>
<tr>
<th>Year enrolled</th>
<th>Number of students enrolled</th>
<th>Number of students who finished their studies as of April 1, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>2010</td>
<td>20</td>
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<tr>
<td>2011</td>
<td>12</td>
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<tr>
<td>2012</td>
<td>15</td>
<td>/</td>
</tr>
</tbody>
</table>

According to data presented in Table 2, an interest for this Master programme is increasing in recent years. It must be emphasised that only student who finished Bachelor studies on Faculty of Civil Engineering, Department of Geodesy and Geoinformatics, may enrols study course: Land Law and Economy, due to faculty bylaw. Numerous students from law, architecture and geographic faculty were interested for this course, but due to regulations were unable to apply for the studies.

4 Conclusions

Surveying profession is very important for one country and surveyor’s job is to fulfil its duty on high level of profession and responsibility. Boundaries of a parcel on the ground are not just lines in space. They mark boundaries where one or several types of rights start or cease to exit (ownership, encumbrances, leases, pledges, etc.). Those rights are protected by legislation of one country and are obligatory for all affected by them.

Real estate appraisers (valuers) are individuals who estimate the value or worth of real property in money. In countries with developed economy and real estate market, appraisers are professionals that possess appropriate education and licences governed by appropriate legislation and special legal bodies or chambers. In Serbia, there are no special laws or regulations governing valuation profession, nor exist special educational institutions for education of only this type of professionals. Of course, there are court experts in charge of valuation depending on purposes needed, but those experts are civil engineers, machine engineers, agriculture engineers, etc., but it is noticeable in a society that surveyors are starting to take active role in this area.

Department of Geodesy and Geoinformatics on Faculty of Civil Engineering in Belgrade and Belgrade University College of Applied Sciences for Civil Engineering and Geodesy realised the need to educate students in the field of real estate valuation and to implement subjects concerning this matter in their master/specialisation curriculums. Apart from those two institutions, private associations started to be established in Serbia. Best known is National association of valuers of Serbia (NUPS) established in the end of 2006 in Belgrade [6]. This association is organizing and providing courses in valuation, so as delivering of their own certificates, but are not an educational institution in accordance with Law on Higher Education.

According to present changes in a society and economy in Serbia, appraisers are needed at the moment. Unfortunately, in the same time, bad valuations and fraud in the process of past privatizations are noticeable nowadays in newspapers. When the Law on Mortgage in 2005 was enacted, numerous mortgages were registered in Real Estate Cadastre and loans were granted by banks. Nearest future will show weather the conducted valuations of real properties were done in adequate manner, despite economic crises that started in 2009 and did not end yet.

Development and improvement of educational programs in the field of real estate valuation and land management in general, implies the involvement and cooperation with institutions that have the need for professionals in this area. It should be emphasized relationship with organizations such as: Republic Geodetic Authority, Tax Authorities, Standing Conference of Towns and Municipalities, Local Self-Government, Department for Infrastructure in the Ministry of Defence of Republic of Serbia, Institute of Architecture and Urban & Spatial Planning of Serbia (IAUS) etc. and associations such as: Association of Court Experts, National association of valuers of Serbia, etc.

In recent years there have been many changes in the management of public assets and the need for education of staff in this area was great on a level of Local Self-Government. Each local authority requires personnel who know the basics of law, economics, engineering, surveying, real estate market and urban planning. Also, in the Ministry of Defense (MoD), Department of Infrastructure formed a Section for management and disposal of real estates that is engaged in the field of disposal and recording of real properties; planning, organization and control of the records of real estate used by the MoD and Serbian Army.

Major problems in the field of planning, disposal and real estate records were created due to poor inheritance in land management and a failure to identify the real needs in terms of education personnel. Until 2008 education in this field was not conducted in Serbia.
Establishment of study programs on Department of Geodesy and Geoinformatics on Faculty of Civil Engineering and Belgrade University College of Applied Sciences for Civil Engineering and Geodesy is a major step towards creating an environment for improving land management.

Educational institutions must pay attention to changes in a country and what kind of profile of professionals is needed for welfare of state and for reduction of unemployment. No doubt, valuers are type of professional needed in Serbia, a country with still active building constructions (despite economy crises) and hopefully future domestic and foreign investments.

References