A SIGNIFICANT ACTOR IN SECTOR: THE GENERAL DIRECTORATE OF LAND REGISTRY AND CADASTRE, TURKEY

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ABSTRACT

The property, addition to the economic dimension, is an important aspect of social and moral concept. General Directorate of Land Registry and Cadastre can be considered the heart of property in Turkey, carried out reforms in last decade has gained more powerful structure, more innovative and more sophisticated. Projects implemented by the institution such as provides significant gains in the country's administrative and sociological perspective, has achieved to a large extent economically. In 2003, the title deed revenue of 230 million dollars, as end of the year 2013 came to 3,10 billion dollars, increased by 900%. In order to increase the efficiency and quality of the land registry and cadastre services, with 135-million-euro loan from the World Bank-funded and launched in 2008, Land Registry and Cadastre Modernization Project is carried out successfully. Innovative policies following GDLRC, also has a modern and integrated system of land registry and cadastre information. GDRLC as the architect of the Turkey's National Permanent GNSS Network, is the country's most important and most experienced institution in photogrammetry. GDLRC, with its professional teams in land registry and cadastre fields, 166 years' experience-based knowledge and solution-oriented management approach; is quite keen on making cooperation and sharing experiences with other countries.

Key Words: land registry, cadastre, land management, property, real estate, Turkey

INTRODUCTION

Turkey not only belongs to Asia but also belongs to Europe as spatially, sociologically and cultural, is one of the oldest settlements of the World. Through to revolutions in social, politic and economic areas in her 90 years history, today, Turkey has become one of the most important country and by the agency of reforms in last decade, she aims that being a model country in her own zone. In parallel with these several successfully reforms, GDP has gone up 822,8 billion dollars in 2nd quarter of 2013 while it was 304,9 billion dollars in 2003. Turkey has also established more innovative, more efficient and more rapid institutions in last decade. Innovations which can be seen major industries like tourism, agriculture, transportation etc., have emerged also land management. The General Directorate of Land Registry and Cadastre (GDLRC), the most important land management institution of Turkey; is an architect of dynamic chain of service which includes preparing source data for all kinds of planning and organization on the ground and underground, providing spatial dimension data and displaying topographic structure, producing data that can meet the information need required for economy

law, statistic, management, planning and various different scientific researches as well as all kinds of contractual transactions related to land registry and register of immovable properties, to follow-up, and control changes on the registers, to ensure the protection of archive records and documents. GDLRC is serving 20 million citizens every year as well as producing required basic data for many offices and institutions. Stability of economy and politics in the country has been reflected to GDLRC and many projects have accomplished within this framework since 2003 till today. It would be seen that every single project will contribute to the development of Turkey in the short, medium and long term. Cadastral works of 12.319 units, equals to %24, have been completed within the framework of the "Completion of Establishment Cadastre Project" in last decade(2003-2013), while only 39.376 units(equals to %76) had been completed in 80 years.(1923-2003) The Project provided 85 million dollars savings in the budget as well as providing 70 million dollars fee and tax income. In addition to this, the completion of establishment cadastre project defines ownership and provides the following: resolution of disputes, obtaining inventory of real estate, prevention of tax losses, providing regular urbanization, improving the investment climate, creating a functioning land registration system in EU process, contribution to works carried out as a part of e-state, development of base for the spatial information system. Completion of Establishment Cadastre Project participated in the "Prime Ministry Effective Source Use in Public Sector and Cost Reduction Project Contest" and came in 2nd place among 226 projects. There is another important project which called "Land Registry and Cadastre Modernization Project (LRCMP)" aims that increase the effect and quality of land registry and cadastre services with the total value of 135 million Euros provided by the World Bank.

LRCMP was started with the purpose of updating existing Land Registry and Cadastre information, as foreseen in the Law on Land Registry and Cadastre in a way and structure to form the base for Spatial Information Systems and offering for use by transferring in digital and legal to computer environment, has five components: Renewal and update of land registry and cadastre, service improvement, human resources and institutional development, property valuation and project management. These two significant projects not only provide administrative and social benefits, but also obtain substantially economical profit. While 230 million dollars income had transferred in 2003, 3,10 billion dollars income had transferred by the end of 2013. In other words, income of GDLRC has increased at the rate of %900 within the last decade.

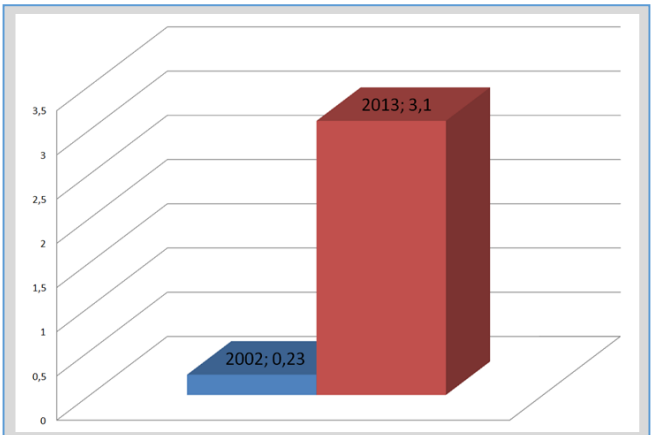

Figure 1: Financial statistics by year (billion $)

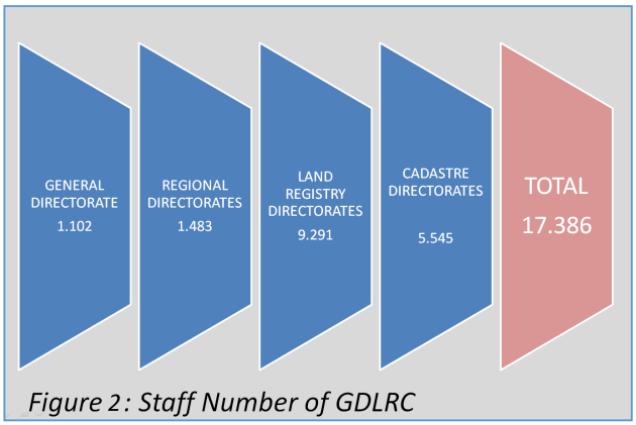

Figure 2: Staff Number of GDLRC

STRUCTURE OF GDLRC

GDLRC, which is the determiner and executer of real property and ownership, affiliated to the Ministry of Environment and Urban Planning. Senior management consist of General Director, Deputies of General Director and Board of Land Registry and Cadastre. Consultation and control units which directly affiliated to the General Director, home service units and supplementary service units which hierarchically affiliated to General Director are form backbone of central management. Additively, GDLRC has efficient provincial structure with 22 regional directorates, 91 cadastre directorates and 957 land registry directorates all around the country. There are more than 17000 personals in GDLRC with its professional teams in land registry and cadastre fields. GDLRC has a mission that ensures reliable record of land register which is under the responsibility of the state on a regular basis. It tries to reach a significant target that being the leader organization which designs and direct real estate politics.

MISSIONS OF GDLRC

GDLRC main tasks are;

- Record, update and service of land register
- Establishment and renovation of homeland cadastre
- Photogrammetric and geodetic map production
- Establishment of land information system
- Cooperation with international organizations on issues related area of responsibility
- Identify and control operating principles and procedures of licensed survey and cadastral engineering offices
- Real estate brokerage activities

VISION OF GDLRC

GDLRC aims that carrying out its duty more effective and more rapid while fact of property exists. Establishing a multi-purpose cadastre by developing finished homeland cadastre; create more sophisticated information system by analyzing existing systems, modernization of land registry and cadastre and improving all services are some of GDLRC medium-term targets. GDLRC's main purpose is; being the leader organization which design and direct real estate

politics in Turkey and international actor in land registry and cadastre sectors in its own zone. GDLRC; with its professional teams in land registry and cadastre fields, 166 years experience-based knowledge and solution-oriented management approach; is quite keen on making cooperation with other countries.

PROJECTS UNDER GOING

TAKBIS

Land Registry and Cadastre Information System (TAKBIS) is one of the basic e-State projects aiming at uploading all ownership information within the country and allow people to search all kinds of answers in the electronic environment. The purpose is to allow carry out all kinds of transactions online; this would allow effective follow and control of both private and state immoveable properties by computers. TAKBIS is modelled as a three-phase project.

I. Phase: The existing mechanism was analysed and system was designed in this direction Software was encoded according to the designs and application trials were conducted on a system model.
II. Phase: After the success and experience of the pilot project, data entry process started. After 3 year, 25% of entire data integrated to the system.
III. Phase: All data integrated to the system in line with Country Action Plans.
4 main software has been developed under the project. These are;

- Land Registry Application Software
- Cadastre Application Software
- Project Tracking Software
- Resource Management (Office Automation) Software

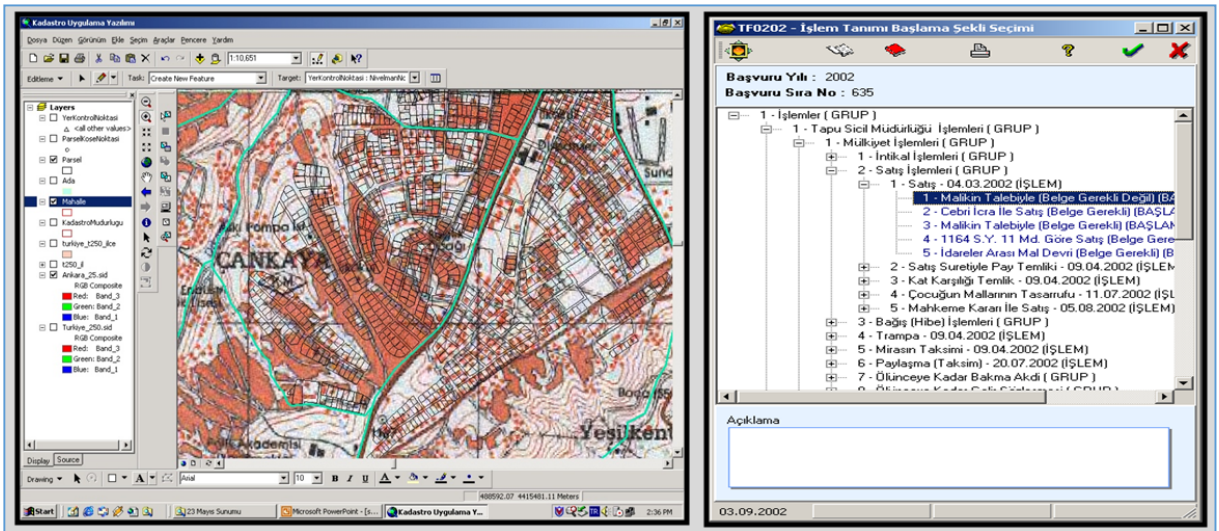

Figure 3: Screenshots from TAKBIS

TAKBIS is an integrated information system that provides;

- Implementation of all transactions carried out by the GDLRC according to the regulations in the electronic environment by the standardization of transactions related to the land registry and cadastre technique,

- Minimization or elimination of risks in relation with transactions carried out by using control and warning mechanisms included to the developed software,
- Computer supported training on its own screen by providing information on the most regulation regarding the transaction to the staff and explanations about transactions,
- Carry out transactions similar to property sale from any place of Turkey by forming an integrated structure,
- Opportunity to monitor the performance of directorates and staff,
- Production of decision support functions and reports
- Accurate and updated data base for many institutions and all these transactions carried out with geographical information system/land information system logic.

MEGSIS

Spatial Property System (MEGSIS); is an open-source application developed by GDLRC, where cadastral data are collected by the center system from de local users in the cadastral offices in digital .cad format and are harmonized with land registry data in order to be submitted to stakeholder institution, organization, municipalities and citizens by e-government link. Studies held under MEGSIS are collected under four main topics.

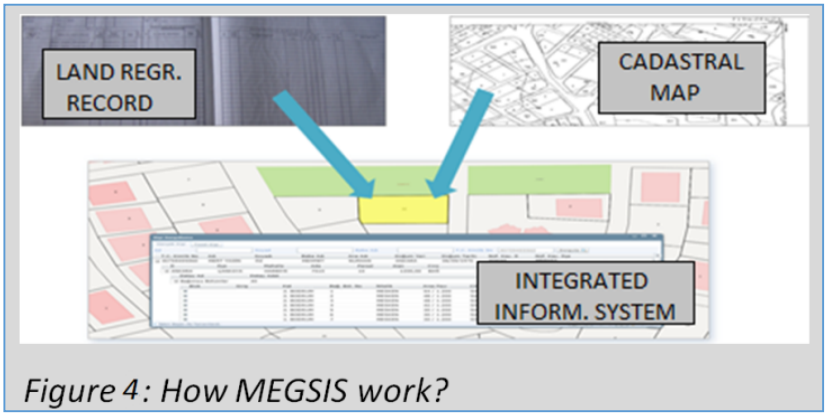

Figure 4: How MEGSIS work?

Web-based application software ,it can be used for different levels and requirements and by the administrative frame of identification/authorization , internal and external users can input data, collect data, integrate land registry data and make queries using this software. It includes also modules for following-up and controlling a process.

International standard map services, collected cadastral data within MEGSİS requested by institutions, organizations, municipalities within protocol is shared in standard format, which is open source and tested by commercial products.

E-Government Services, collected cadastral data combined with land registry data as a map service is offered to the citizens for information purposes. These services offered by the www.turkiye.gov.tr internet address have the characteristic to be the one and only geographical service.

Orthophoto Services, orthophoto maps produced in 1/5000 scale are offered via prepared services by the open source GDAL Library in TileMapService (TMS) standards.

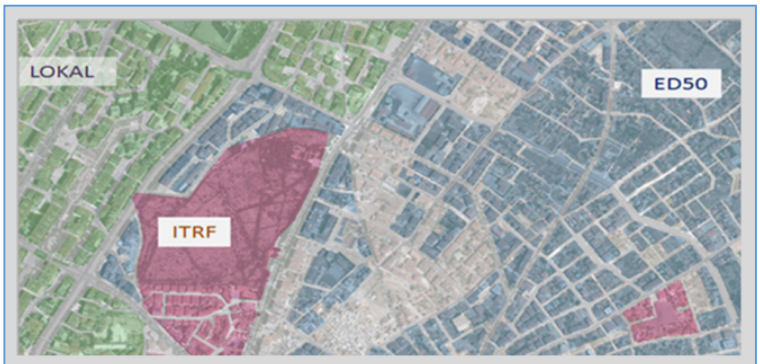

Figure 5 : Various datum in MEGSIS

MEGSIS can present various datum in common.
Also users can be display data integrated with several choices of layers like orthophoto, Google earth, thematic maps etc.

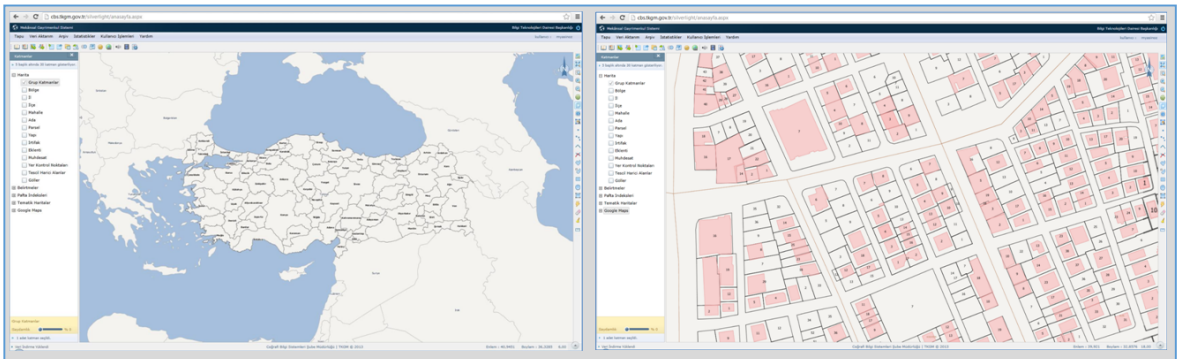

Figure 6: Screenshot from MEGSIS

TARBIS

The Ottoman Empire which ruled a large geography from the Middle East to Balkans, from North Africa to Europe for more than 600 years, collected a rich archive that embraces all the culture under its domination on this large geography. This archive legacy is uploaded to the electronic environment as a part of Title Deed Information System (TARBIS).

Figure 7: TARBIS Project Sequence

TKMP

The Land Registry and Cadastre Modernization Project (TKMP) was started with the purpose of updating existing Land Registry and Cadastre information, as foreseen in the Law on Land Registry and Cadastre in a way and structure to form the base for Spatial Information Systems and offering for use by transferring in digital and legal to computer environment, has five components.

Credit no: 7537-TU with the total value of 135 million Euros provided by the World Bank in order to increase the effect and quality of land registry and cadastre services came into effect on August 13, 2008 after it was published in the official gazette no:2008/13886.

1st Component: Renewal and Update of Land Registry and Cadastre

Renewal of 4.058.000 parcels out of targeted 4.100.000 parcels within the framework of the project is completed.

2nd Component: Service Improvement

4 main titles should be study under the component.

Making cadastre and map information suitable to TAKBİS (integration of e-cadastre to the National spatial database

Model office design and its construction

Determination of implementation policies within renovation, maintaining quality control, supervision and technical support,

Studies on CORS, HBB-TUCBS applications and services continue

3rd Component: Human Resources and Institutional Development

3 main titles should be study under the component.

Determination of human resources strategies

Carrying out works suitable to the institutional strategy and work plan

Trainings of staff and contractors as a part of renovation

4th Component: Property Valuation

The project is made up of subcomponents such as pilot implementation and capacity forming. Property valuation field in Turkey includes providing the participation of all offices and institutions having relation with real property sector; determining problems and expectations; searching for solutions; analysis of legal, technical and administrative structure and works in regard to forming legal and structural regulations. The outcome of the real estate evaluation project:

- An important source of information will be formed by determining all the factors that may affect the value of immoveable and collecting them in an environment that will be available for updating, searching, analyzing and sharing,
- Property taxation and follow-up of urban income emerged due to state investments
- Preventing tax and fee loss of the government
- Comparison algorithm installed “Immovable Valuation System” suitable for searching throughout Turkey will have a positive impact on the economy will be provided

5th Component: Project Management

- Planning, sourcing, accounting, finance and coordination activities are still carried out, project management trainings are completed. 3 main titles should be study under the component.
- Forming a productive project team by the participation of all required units of the institution
- Providing effective PLANNING, CONTROL and RISK MANAGEMENT during the project
- Establishing "Effective Communication"

TUSAGA – ACTIVE

TUSAGA- Active System (Turkish National Permanent G.N.S.S. Network – Active) provides map and location information about any place and any time in a project area within a few seconds with the centimetre accuracy. The TUSAGA Active System is made up of 146 permanent GNSS stations in Turkey and in the Turkish Republic of North Cyprus. All stations are transmitting 24 hours long data to main control system at the GDLRC via internet.

TUSAGA – Active System especially focus on two survey techniques. These are;

Real Time Kinematic (RTK) Application: All kinds of dual frequency GNSS receivers and all brands of GNSS receivers with RTCM correction are capable of using TUSAGA-Active network RTK correction data in order to access to real time precise location information.

Static GNSS Application: RINEX data from the TUSAGA-Active permanent station can be demanded from GDLRC in an effort to identify precise location with static GNSS measurement method by post-processing in the position of control point production with static measurement method and under circumstances obliging the establishment of location control point in the lack of adequate communication facilities. 4,201 users from 34 different universities, 235 different state offices and institutions, 264 different municipalities and 2234 different public sector companies are benefiting from TUSAGA-Active System.

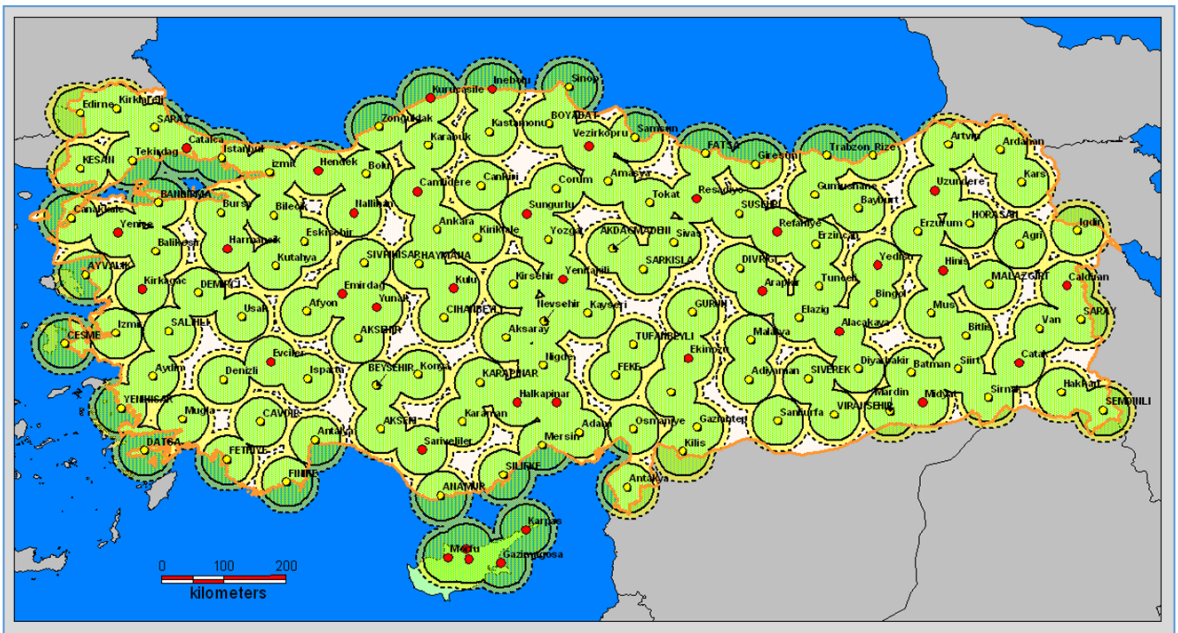

Figure 8: TUSAGA–Active GNSS Stations

TUSAGA-Active System is used in earthquake studies, improvement of weather forecast, military activities, mapping, navigation, construction, logistics and similar fields.

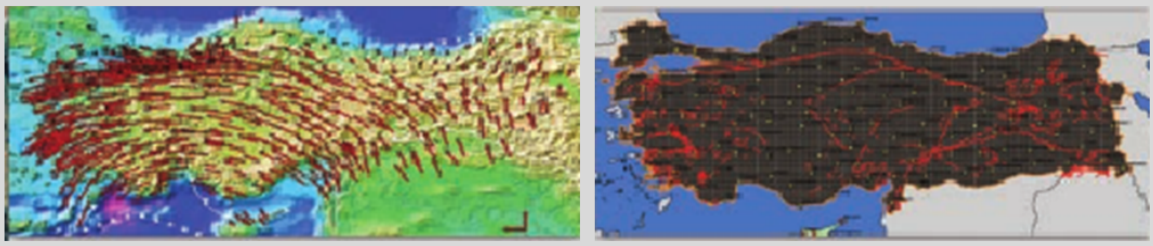

Figure 9: TUSAGA – Active in eartquake studies and weather forecast

HBB

The Map Data Bank (HBB) is a spatial information system that allows the entry, update and usage of metadata about information and documents belonging to maps formed by institutions and offices which produce or sponsor the production of maps in the national level, by the related institutions, thus, prevents duplicate map production and waste of resources. It is open on internet to all institutions which are producing map information. There are many public offices which are producing maps and map information. HBB is developed for;

- Providing production coordination between the institutions,
- Preventing duplicate map and map information production,
- Saving time, cost and labor,
- Assisting to easy and fast access to information,
- Preparing data for decision support system and form base for e-State applications.

SKGP

The Continuous Institutional Development Project (SKGP) aims at including quality of quick service prioritizing the satisfaction of our citizens and staff to the institutional structure and maintaining its sustainability. 1073 units affiliated to our institutions were awarded with TS EN ISO 9001:2008 Quality Management System Certificate until 2013 and the GDLRC has more quality awards than any other state offices and institutions.

LAND REGISTRY SERVICES

GDLRC has been providing the finest quality service in every single area of our country with a large transaction volume with its 166 years long knowledge and experience. Land registry services are given in 957 land registry directorates all over Turkey. Land registry directorates find solutions to property sale, donation, contract for lifelong support, distribution, mortgage, constitution of servitude, property ownership and similar contractual transactions; immediate descent, partition of immovable property, unification of immovable property, reconstruction transactions. GDLRC had transferred 948 million dollars' fee income to the budget in 2008 and this figure rose to 3,10 billion dollars by 2013, allowing the General Directorate to increase its support to the state budget by two and a half times and to become an important contributor to the budget of the country.

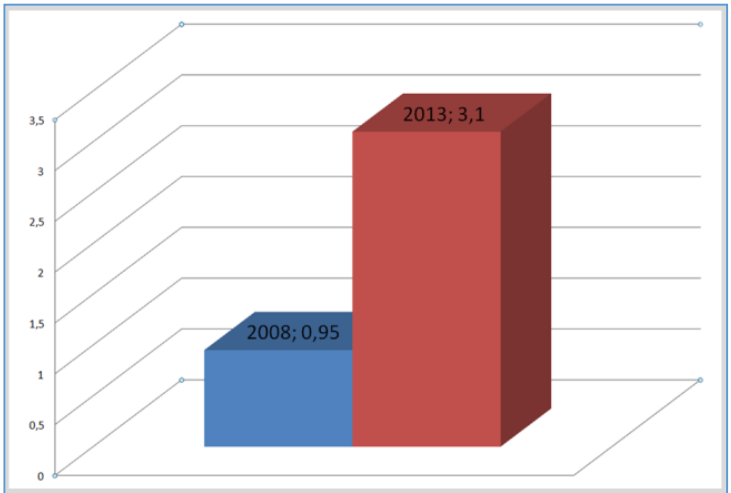

Figure 10: Title Deed Income (billion $)

ONLINE APPOINTMENT SYSTEM

Online Appointment System implemented by the GDLRC aims at providing quicker service to our citizens. People can make an appointment by visiting http://onlinerandevu.tkgm.gov.tr web address by using the internet which is one of the most important communication tools of our era.

SMS INFORMATION SYSTEM

SMS information system which became a part of daily life is included to our services in an effort to prevent waste of time, long waiting at the land registry directorates and to strengthen an impartial element of ownership which is the trust issue. With the new application, information regarding transaction time, fee information, contract appointment is sent to those who filled a pre application form via SMS. This new application protects citizens from fraud and forgery.

LAND REGISTRY AND CADASTRE LINE

GDLRC carrying out approximately 7 million transactions and giving service to more than 20 million citizens every year adopted its new dynamic body, the Land Registry and Cadastre Line, in order to minimize possible shortcomings that may occur during the service, provide information related to land registry and cadastre services and to get an appointment for transactions.

CADASTRAL SERVICES: CADASTRAL WORKS

Cadastral Works are carried out according to the existing Cadastre Law no: 3402 and dated 10/10/1987.

Figure 11: Systematic Registration in Turkey

- 81 Cadastre Directorates conduct all across the Turkey;
- Cadastral transactions;
- Establishment of cadastre,
- Renovation and updating cadastre,
- Forest cadastre,
- Zoning practice,
- Land unification,
- Expropriation,
- Control and archive cadastral maps and plans.

COMPLETION OF ESTABLISHMENT CADASTRE PROJECT

Cadastral works of 39.376 units have been completed by the end of 2002 since the establishment of the Republic of Turkey. Cadastral works of 12.319 units have been completed within the framework of the "Completion of establishment Cadastre Project" (2003- 2012) which began in 2003, in the last decade by using the institutional opportunities as well as service procurement from private sector. GDLRC participates in the "T.C. Prime Ministry Effective Source Use in Public Sector and Cost Reduction Project contest" with the project in 2007 and came in 2nd place among 226 projects.

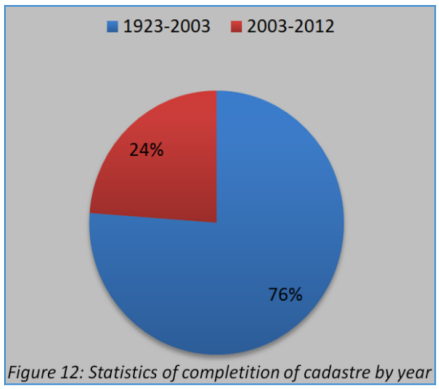

Figure 12: Statistics of completition of cadastre by year

ORTOPHOTO MAP PRODUCTION

Digital orthophoto maps are produced in order to establish a National Orthophoto Information System and to be used in cadastre renewal works, land-use planning as well as urban transformation projects, management of natural disasters such as earthquakes, floods, erosion etc., agriculture and forestry activities. Digital Cadastre works provides service support to;

- Decision support process,
- Quality- integrity controls,
- Forming a base for legal aspect

- purposes of engineering projects of other institutions by producing 1/5000 scale and 30 cm resolution orthophoto based maps and these maps are also available to related users in digital copy or via web services.

It is possible to reach orthophoto web services via web browser interface as well as CAD/GIS software suitable with OGC (the Open Geospatial Consortium) standards. GDLRC is capable of producing 70 thousands kilometers of orthophoto in a year with its 2 modern photogrammetric plane.

Figure 13: Orhoto vs. Satellite Image of GDLRC

ARCHIVE SERVICES: RESTORATION

Maintenance and repair of achieved documents which are kept away from by uploading them to the electronic environment began at the Restoration Unit which was opened in 2007. It will be possible to pass our cultural legacy thanks to the restoration works carried out in the maintenance and repair, leaf casting and classic cover units by using modern techniques.

SERVER EFENDİ EXHIBITION HALL

Our archive legacy, protected with modern methods, is open to visitors at the Server Efendi Exhibition hall which was opened in 2009 with the aim of contributing institutional promotion and raising the awareness of public. In addition to rare examples of the Classical Ottoman Arts such as calligraphy, paper marbling, cover and ornamentation as well as most precious tughra (sultan's signature) examples under old ownership documents, maps, royal decrees, cadastral record books, stamps, our exhibition hall also exhibits variety of ownership documents in a way that reflects the stages of the historical development and gives the opportunity to its visitors to see works belonging to the oldest times of the Ottoman Empire.

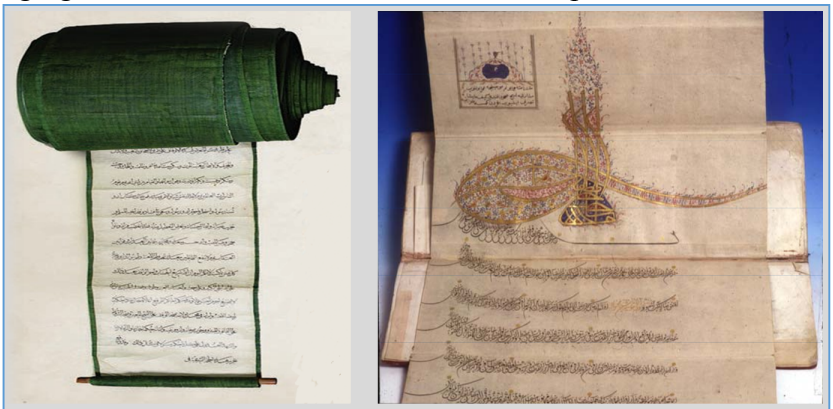

Figure 14: Hagia Sofia Deed which written on the gazelle skin by Mehmet the Conqueror in 1461

Figure 15: Old ownership record of which embellished with gold leaf in 1709

THE ROLE AND EFFECT OF PRIVATE SECTOR ON TURKISH CADASTRAL SYSTEM

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ABSTRACT

Almost all cadastral works and change operations on demand after the finishing of cadastre works in Turkey were just only carried out by public sector after the Proclamation of Turkish Republic. The relevant public institution is General Directorate of Land Registry and Cadastre (GDLRC) under the authority of Ministry of Environment and Urbanization of Turkish Republic. There are now 81 Cadastre Offices in Turkey tied to GDLRC, and all cadastral works have been now performed or controlled by them. The technical operations, conducted by Cadastre Offices, are classified as classic cadastral works such as renovation of insufficient cadastral bases and digitization of cadastral maps, and change operations such as compensation method, voluntary method and land readjustment method etc. It is known that the private sector has been seen to take part in cadastral sector since 1973 starting with projects of change operations. Cadastral works and renovation of insufficient cadastral bases have been performed by private sector since 2004 to date with the controlling of the sector by GDLRC via cadastral offices. Thanks to these process, participation of private sector, private surveying engineering bureau, into the cadastral sector under the control of public services known as tender of cadastral works, Turkish Cadastral works on areas, no cadastral bases and projects had been done by public sector there, has been completed since 2004 till now. Finally, the basic cadastral activities after the on-demand operations (application etc.) transferred to licensed surveying offices in 2005, has seen almost all of the left to the private sector. In this context, the evaluation of the contribution of the private sector in Turkish Cadastre, it is observed that the target of "public and private sectors to work together" disclosed in the 2014 has been realized to a large extent.

Keywords: Turkish Cadastre, Cadastre Private Sector

INTRODUCTION

Accordance with the principle of increasing efficiency in the cadastral system in the world and recovering the costs important roles are given to private sector. So, in the report known as the Cadastre 2014 "increasing the contribution of the private sector" is shown as one of the possible reforms in the future cadastral system (Kaufmann and Steudler, 1998). Besides, some organizations such as the International Federation of Surveyors (FIG), the United Nations (UN), European Union (EU) and the World Bank (WB) some organizations have published varieties reports or declarations in order to increase the effectiveness of land administration system which is important for sustainable development (FIG 1995, UN 1996, UNECE 1996, UN and

FIG 1999, PCCEU 2003, EU 2004). In these declarations the development of the land administration system is emphasized that private sector should consulted more (Çete and Yomralıoğlu, 2011).

However in the State Planning Organization (SPO) report published in 2001 in Turkey, it was ascertained that the map private sector needs to be restructured. The services which cannot be given and expanded in private map sector are listed as follows;

- Map Application Responsibility
- Basic Cadastre, renovation and other post-cadastre operations
- The establishment of information systems
- Infrastructure Mapping
- The Dissemination of Applications 18. Item
- Mine Operation Maps
- Consultancy and supervision services (SPO, 2001).

After this report, published in 2001, participation in some activities, including participation in some activities, particularly the work of the cadaster of the private sector facilities have been provided and questions such as the following will be answered. Which areas did this study lead has increased the private sector labor in the last 14 years? What is the proportion of contribution of the private sector in Cadastral of Turkey today? Which transactions are carried out by the map private sector related with cadastral? To what extend did these transactions contribute to these areas? To what extend did the government and market meet the expectations of the private sector? What are the financial aspects of the market created by services around the cadastral maps?

ORGANIZATIONAL STRUCTURE

The basic cadastre activities in Turkey which can be classified as cadastre and post-cadastre operation are mainly shaped around General Directorate of Land Registry and Cadastre (GDLRC), Private Surveying Engineering Office (PSEO) and Licensed Surveying Engineering Office (LSEO). Besides, these institutions and the other public institutions primarily municipalities are partly located in these activities.

General Directorate of Land Registry and Cadastre

The GDLRC, when the given services taking into consideration, both in terms of trading size in terms of diversity with the widest range of services in the service industry, GDLRC is a long-established institution which found in 1847. Today, the Central Organization is one of the largest organizational structure of the Turkey's public institution with 22 Regional Office, 1018 Registry Office and Cadastre Office established in 81 cities.

Cadastral Works have carried out by their own opportunity and they have grown more staff to work since the early years of the republic. The execution of cadastral activities in this period, especially in the GDLRC bootstrap, the intermediate staff grown in Cadastre High Scholl has undertaken an important role. Technological Developments in the following years the

concordantly the proliferation of digital cadastral works and urbanizations, big engineering projects paved the way for increasing of the Map Engineering the institutions.

When the GDLRC's present staff structure is considered, 70 percent of associate degree, while the number of graduates and undergraduate take education from high school dominate the institution but it is seen that the staff of masters and doctor's level remain at 1 percent (Figure 1). This structure is doubtlessly the result of classical cadastral surveys which continues for years and about to finish. The legislation which is ongoing by the GDLRC is very broad and processing operation under the guarantee of state and the other reasons reveals how staff of the GDLRC should be equipped and qualified.

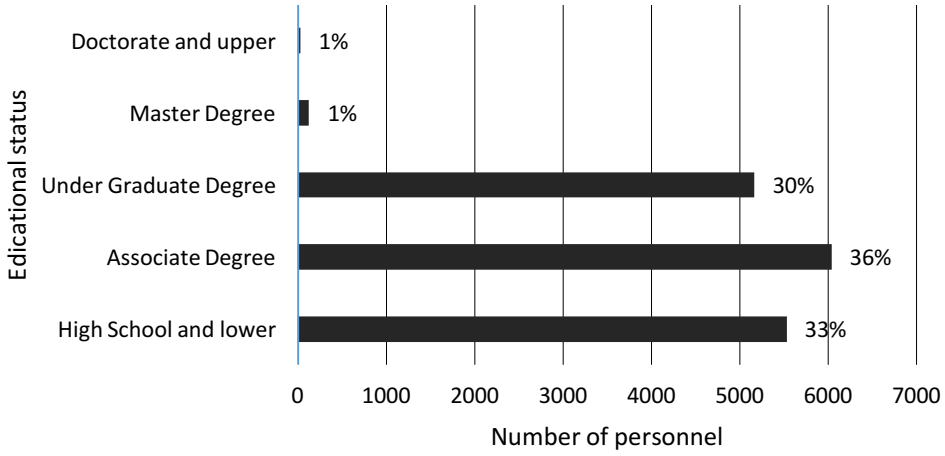

Figure1. The GDLRC's personnel education rates (GDLRC, 2011).

Private Surveying Engineering Office

It is called as PSEO (Private Surveying Engineering Office) which is conducting free mapping in Turkey and some organizations such as office companies and ordinary partnership is recorded by Chamber of Surveying and Cadastre Engineers. Activities of these institutions are listed below;

- Linear or Digital Mapping in any method or scale,
- Cadastral map production
- Rural or urban land arrangements
- Etude or operation mapping
- Geodetic infrastructure works
- Postcadastre applications,
- Deformation surveying,
- Height surveying,
- Hydrographic surveying,
- Mining surveying,
- Studies of determine any position,
- Underground and technical infrastructure surveying,

- Application of all types engineering projects to land,
- Expropriation maps,
- Information systems,
- The Assessment of real estate, consulting and supervision services
- The position measurement in geotechnical studies (URL-1, 2015).

The special mapping activities based on 1950s in Turkey has especially in the last decade as number made vital progress. Today there are 2633 in business with the data of Chamber of Surveying and Cadastre Engineers (Figure 2).

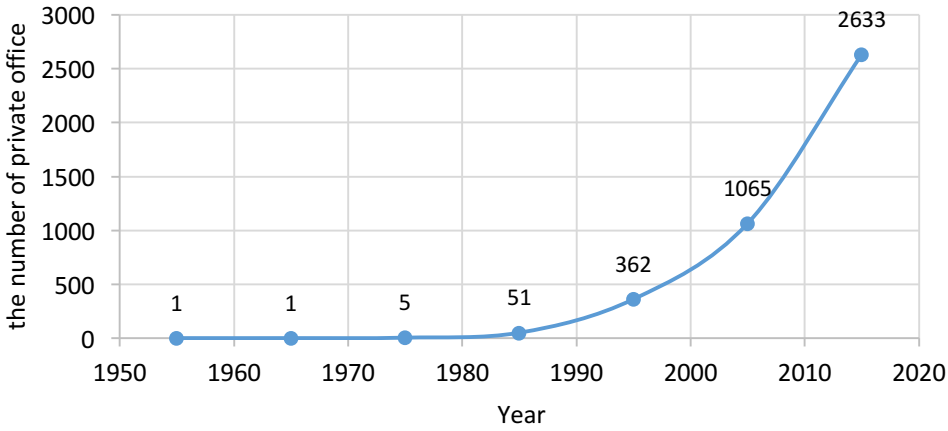

Figure 2. PSEO's number in Turkey.

Licensed Surveying Engineering Office

Some mapping services transferred Licensed Surveying Engineering Office (LSEO) which known as licensed office by GDLRC. The partially of these services are land use conversion, amalgamation, establishment of servitude which are registered to the Land Registry. The others are applications, parcel setting mark, cadastral extract which are not registered. However, this execution has not yet spread throughout the country due to various problems. In the Last year, it was found partly intensively field of activity. 196 licensed Office are active although it is planned totally 2029 LSEO in Turkey. Their distribution in cities across the country are given in the following way (Figure 3).

CONTRIBUTION OF THE PRIVATE SECTOR TO CADASTRAL WORKS

In Turkey, The Civil Code (No.743) was adopted in 1924. Cadastral surveying accelerated after the Civil Code and post-cadastre technical services were mainly carried out by the public up to now. In this process the Cadastre of Turkey, in the territory of 780 000 km^2 the area has been completed on the basis of 69 percent on the bases of land, and 99 percent on the bases of administrative units. These studies which have lasted about ninety years have been produced approximately 57 million parcels (Yıldız, 2013). A very large and variable geography, lack of technology, lack of labour force and fund factors in the country have been effective in prolonging the process (Akay, 1999; Demir, 2002 and 2008).

The active participation of the private sector is realized in the 1950s. In these years, after the publishing the Regulations of Maps and Plans subject to Registration (Official Newspaper, 1973), seven offices and companies reached 240 in the decade (İpek, 2008). Being talk about these offices and companies, in some of the work items created after the change process cadastre (land subdivision, expropriation, land consolidation and renunciation for road etc.) continued their activities.

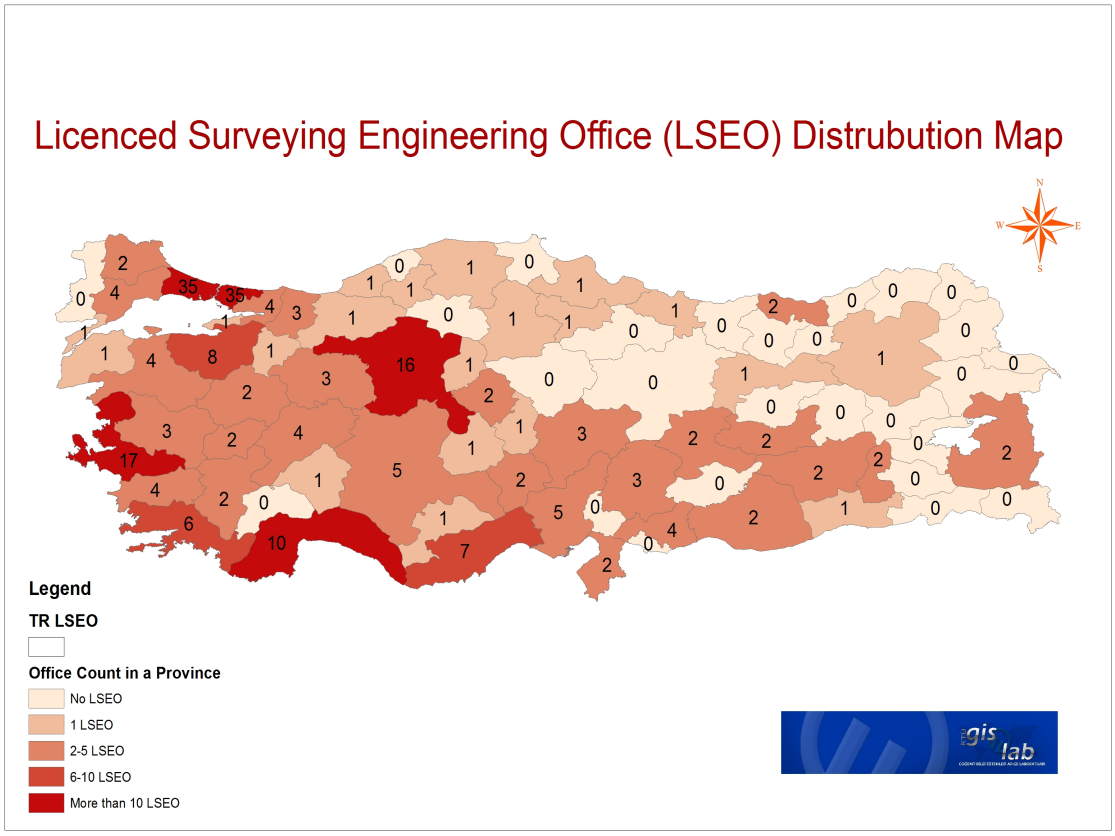

Figure 3: Licenced Surveying Engineering Office (LSEO) Distributions Map

In 1988, the method of the purchase of services from the private sector has been tried for the first time for the cadastral works in Turkey. However, this study conducted in pilot regions failed throughout the country. In the Cadastre Law made in 2005, Private sector has had the right to comment on basic surveying work (Official Newspaper, 2005). In these times cadastre work is intensively expedited by using both domestic sources (The GDLRC Revolving Fund) and foreign loans (The World Bank Sources) (Demir and others, 2014). In this process basic cadastral works in Turkey was carried out by purchasing from the private sector.

Accordingly, with the opportunity of government the cadastre of Turkey has been completed on bases Turkey's cadastre about 77 percent –approximately in 80 years- until 2005. During this period, the average annual 493 is made of cadastral unit. However, after the purchase of

services from the private sector, between the 2005 and 2011 it was completed about 23 percent of unit bases in seven years. Again in 1440 the average annual cadastral units were completed during this period (Figure 4 and 5). A performance of increasing about three times at this point is striking (URL-2, 2014).

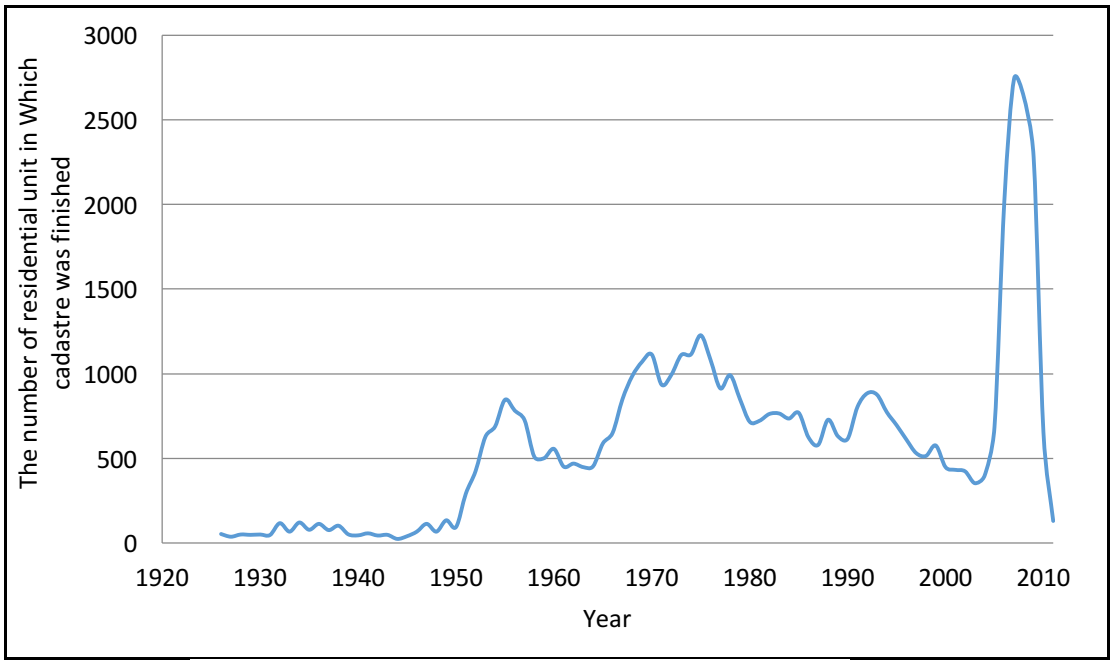

Figure 4. Distribution of Cadastral Works by years in Turkey (Yıldız, 2013).

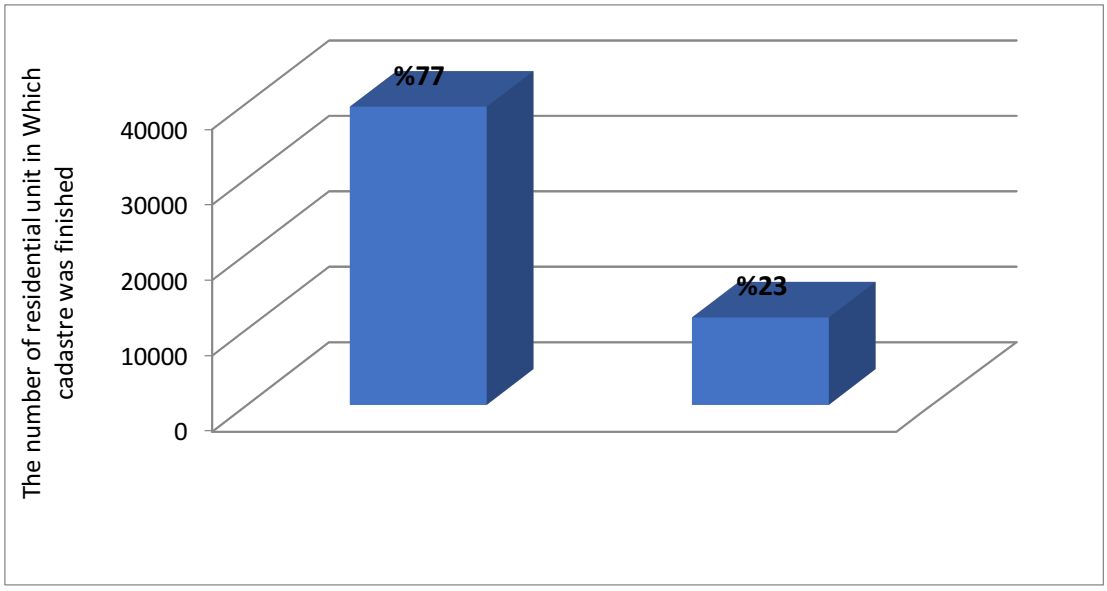

Figure 5. The contribution of the private sector in the Cadastral works in Turkey (Yıldız, 2013).

These days in the position of Turkey, basic surveying and cadastral works after the procedure is seen that almost all carried out by the private sector (Table 1).

Table1: The Basic Operations and Related Institutions

Operations		Production	Control
Cadastre	Classical Cadastre Forest Cadastre Pasture Cadastre 2D Cadastre	PSEO	GDLRC
Post-cadastre operations	Land-Registry Application Map Expropriation Maps Parceling Maps Subdivision Maps Renunciation for Road Create for Road Maps Village Residential Map		
	Land Consolidation Land use Conversion Amalgamation Servitude	LSEO	
	Application Parcel Setting Marks		LSEO
Others	Disaster Cadastre Correction of Surveying Error Demands from Court and Public Institution Disaster Cadastre etc.	GDLRC	GDLRC

THE FINANCIAL EXTENT OF THE STUDY CONDUCTED BY CADASTRE IN TURKEY

Throughout Turkey, the average number of operation in last three years which is remaining in jurisdiction of LSEO are determined approximately 320.000 with the data of GDLRC. The trading volume in the regions in which services are conducted by LSEO is 85 percent of total trading volume. The total workload of 85 percent is shared by 196 active licensed offices (Figure 6). This number of operation corresponds the over $ 50 million financial magnitudes according to the annual unit price of 2015.

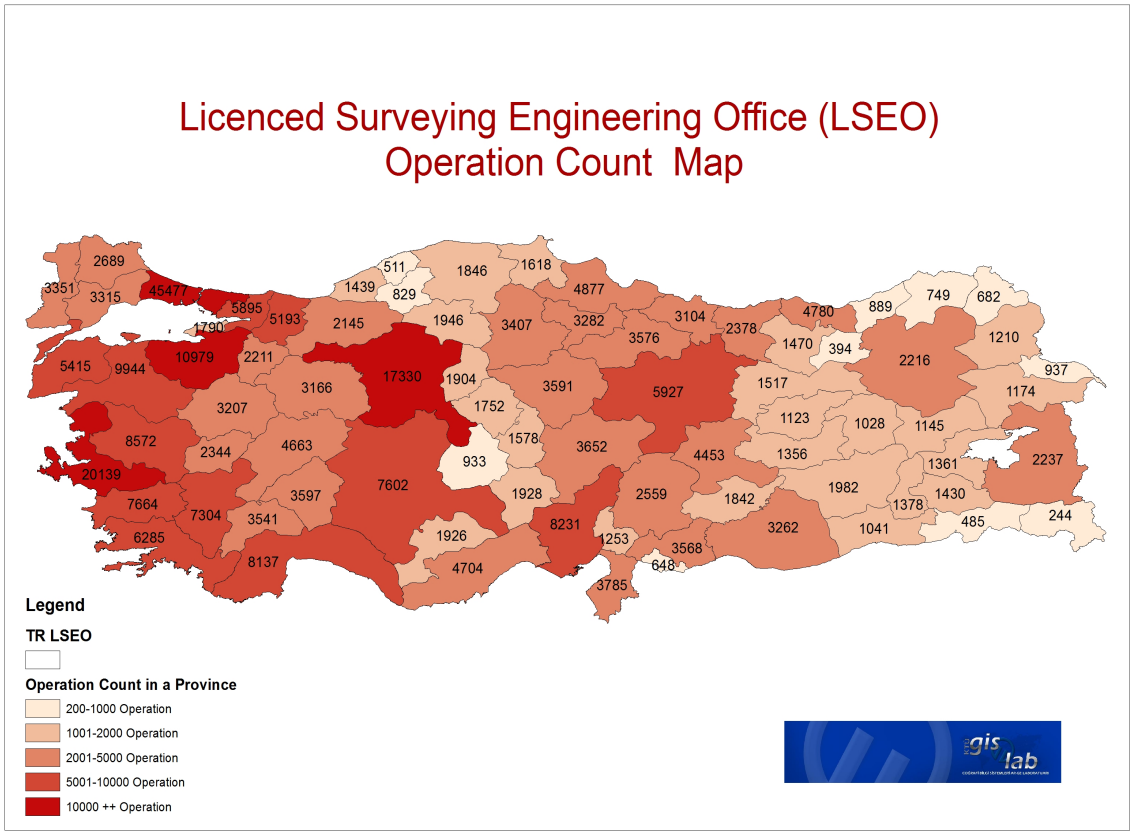

Figure 6: Licenced Surveying Engineering Office (LSEO) Operation Count Map

Post-cadastre changes operations made by PSEO, according to data which obtained from GDLRC, approximately 130.000 operations were performed in 2014

Table 2: Post-Cadastre Changing Operations

Operation	Number of operation
Land subdivision maps	31596
Expropriation maps	23683
Village residential maps	672
Parcelling maps	17170
Renunciation for road maps	20664
Formation for road maps	3724
Border demarcation from written record	3223
Others	28166
Total	128898

The information which is presented in Table 2 is the result of the combined efforts of the monthly The GDLRC provincial organization. It seems difficult to calculate the dimension of the financial magnitude of the operation numbers which revealed for today. Since the operation that must negotiate based on contract between PSEO and those concerned (owner or other public institutes), a reliable system has not settle yet which is inspected and achieved in terms of price policies, authority and monetary.

Another information which is procured from GDLRC, in the last decade inclusive facility cadastre, renovation and 2D (determination of tenure in the regions Which is taken them out of forest) valuing 1.032.000.000 Turkish Liras tender has been carried out in auction 1170 contract. This rate of realization has been corresponded an average annual around $ 45 million financial size

CONCLUSIONS

International approaches in the cadastral area show that private sector will have important role in the future of cadastral system. In auctions of cadastral surveys, Map Private Sector which has an important function with the experience of coming from the past in Turkey has gained a distinct acceleration with LSEO begun by GDLRC in recent years and auctions of cadastral works. The GDLRC has been able to go forward by buying services from the private sector with its own staff so far. The credit support within the scope of ARIP Project provided by the World Bank and cadastral studies funded by GDLRC Rotary with the internal resources and longstanding cadastral works was about to complete on the basis of unit.

At this point in these days, it is seen that the basic cadastral works belonging before and after were almost all carried out by the private sector. It is observed that the controls of these studies have still carried out by GDLRC. Within its domain of authority, GDLRC has expanded the market share and autotomized the Private Mapping sector.

The weaknesses of Turkey's Cadastral activities conducted by the private sector is that:

- Failure to record the basic cadastral activities conducted by the private sector in terms of administration and fiscal,
- Failure to provide the minimum price control,
- Failure to provide standards among PSEOs in terms of technical and institutions.

The following measures can be taken to increase the quality of basic cadastral and growth of the sector which conducted before and after surveying in Turkey

- Consultant firms may be involved. Thus, in the sector new professions can be provided.
- PSEO can be standardized in terms of technical and administrative in its foundation.
- In the Private Sector's facilities, the control of minimum price can be achieved in a healthy way.

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A TRANSPARENT CADASTRAL SYSTEM – FIT FOR SUSTAINABLE DEVELOPMENT AND LEGAL SECURITY: THE DANISH PUBLIC-PRIVATE COOPERATION MODEL

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ABSTRACT

A trustworthy multipurpose property cadastre is a basic infrastructural element in the Danish economy and legal community. The overall task is to ensure a credible legal basis for location, possession, use and settlement, protection and conservation, taxation and mortgaging of private property. The property cadastre facilitates the operation of an efficient land market and effective land management. At the same time, the property cadastre constitutes authoritative basic data in the Danish spatial data infrastructure and thus is the gateway to e-governance and is a corner stone for the development of digital solutions and portfolios in the private sector. The cadastral process in Denmark for maintaining and updating the property cadastre is organized in a public-private cooperation model between the public cadastral authority (The Danish Geodata Agency) and the private licensed chartered surveyors, who are preparing and submitting cadastral changes for approval and registration in the cadastre. The underlying philosophy in the Danish cadastral model is to find holistic and balanced solutions and pave the way for sustainable development of change in the urbanized areas and open countryside, taking into account "to third parties" – understood broadly as neighbours, the boundary, public regulation, right holders in property, the cadastre, the cadastral map etc.. This paper will give an overview of the cadastral system in Denmark. It will address the basic framework conditions and structure of the Danish cadastral model. A special discussion is given about the role of the private licensed chartered surveyor in the process and how the surveyor through professional conduct handles this task performance and responsibility. And topical including the ongoing EU-initiatives on deregulation of the liberal professions and the effects on a cadastral process carried out in a business model including a regulated private licensed chartered surveyor's profession.

Key words: Cadastre, public-private partnership, legal framework, institutional framework, professional qualifications, legislation, licensed chartered surveyor

ABSTRACT

En troværdig multifunktionel matrikel er et grundlæggende infrastrukturel element i den danske økonomi og retssamfund. Den overordnede opgave er at sikre et troværdigt retsgrundlag for placering, besiddelse, brug og afvikling, beskyttelse og bevarelse, beskatning og belåning af privat ejendom. Matriklen faciliteter et effektivt ejendomsmarked samt en effektiv

arealforvaltning. Samtidig udgør matriklen et autoritativt grunddataregister i den danske geografiske infrastruktur og indgangen til digital forvaltning og er en hjørnesten for udviklingen af digitale løsninger og porteføljer i den private sektor. Den matrikulære proces i Danmark til vedligeholde og opdatering af matriklens oplysninger er organiseret i en offentlig-privat samarbejdsmodel mellem den statslige matrikel myndighed (Geodatastyrelsen) og de private praktiserende landinspektør, som udarbejder og indsender de matrikulære dokumenter til godkendelse og registrering af matrikulære forandringer i matriklen. Den underliggende filosofi i den danske matrikulære model er at finde helhedsorienterede og afbalancerede løsninger og bane vejen for en bæredygtig udvikling af ændring i urbaniserede områder og åbne landskaber, idet der tages hensyn "til tredjemand" - forstået bredt som naboer, grænsen, offentlige regulering, rettighedshaverne i materielle matriklen, matrikelkortet osv. Denne artikel vil give et overblik over det matrikulære system i Danmark. Det vil beskrive de grundlæggende rammebetingelser og strukturer i den danske matrikulære model. Der vil være særlig fokus på den private praktiserende landinspektørs rolle i processen, og hvordan landinspektørerne gennem regulering og selvregulering håndterer ansvar og god landinspektørskik i forbindelse med matrikulær sagsudarbejdelse. Og aktuelt vil der være en omtale, af de igangværende EU-initiativer om deregulering af de liberale erhverv og virkningerne for en matrikulær proces, der udføres i en forretningsmodel, som implicerer en privat praktiserende landinspektør profession.

INTRODUCTION

Maintenance, updating and development of the Danish property cadastre[4] has for more than 250 years been organized in a public-private cooperation model consisting of a central state cadastral authority (today The Danish Geodata Agency) and private licensed chartered surveyors. The licensed chartered surveyors perform the cadastral tasks in the field, prepare the cadastral documents and submit the changes to the central authority that controls, approves and records property changes in the cadastre.

To ensure a continuously “fit for purpose” cadastre has both the cadastral system[5] as the cadastral process[6] been adjusted to the needs of a democratic and capitalist society with private landownership and evolved over time in relation to the general societal and technological developments.

There is a high focus in the Danish society on managing property rights in a both trustworthy and a transparent process to meet the need for legal certainty on real property and consumer protection.

The underlying philosophy in the Danish cadastral model is to find holistic and balanced solutions that will pave the way for sustainable development of change of property and land use, taking into account “to third parties” – understood broadly as neighbours, the boundary, public regulation, rightsholders in property, the cadastre, the cadastral map etc..

[4] ”The Danish cadastre is the basis for all land registration in Denmark. Consisting of a country-wide cadastral map, an official register and a cadastral archive” (The Danish Geodata Agency)

[5] The cadastral system includes legislation, institutions, registers, data, IT systems, processes, actors etc. to manage property registration

[6] The cadastral process includes actors, parties and performing procedures to change the property registration

Over time the Danish cadastre has changed from being a primarily fiscal and legal cadastre to be a multipurpose cadastre in to a broader concept of Land Administration Systems. Today the Danish cadastre is a digital basic infrastructural tool in the Danish Land Administration System assisting the functions of land tenure, land value, land use and land development and supporting e-governance by spatial data. A land management design that fits into the conceptual framework described in the global land management perspective as illustrated by the following paradigm (fig. 1):

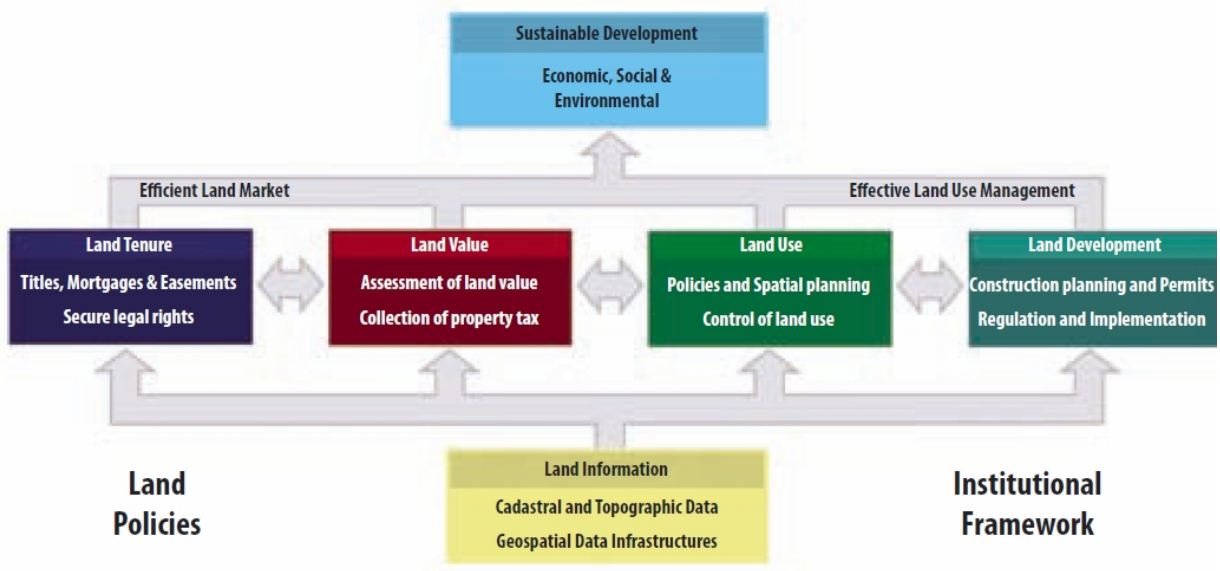

Fig. 1. A Gobal land management perspective (Enemark 2004)

This paper will present the Danish cadastral system focusing on basic framework conditions for cadastral activity and professional requirements for the licensed chartered surveyor performing cadastral work:

- Basic framework conditions for the cadastral system
- Professional framework and requirements for licensed chartered surveyors
- The Danish cadastral system

It gives a kaleidoscopic overview of the elements that forms a trustworthy Danish cadastral system and a transparent cadastral process, conducted in a public private cooperation model which ensures a high degree of legal certainty and consumer protection.

BASIC FRAMEWORK CONDITIONS FOR THE CADASTRAL SYSTEM

The Danish cadastral system is arising out of private property rights and the inviolability of property, which are basic pillars in the Danish rule of law and economy and sets a constitutional framework for the design of the Danish cadastral system. Furthermore, there is a political consensus on public private cadastral cooperation model. The Danish cadastral system facilitates an efficient land market, valuation and taxation, supports effective land management

and ensures property rights. To ensure legal certainty and consumer protection, the society has established a number of basic framework conditions for the cadastral system.

Institutional framework

Private property rights are a value bearing foundation of a democratic constitutional state as the Danish. Real property is subject of considerable private and public investment, establishment of rights and serves as the subject of security for raising of loans and for taxation.

It is grounded in the Constitutional Act of Denmark, the framework for Danish democracy, with a set of fundamental principles and rules for society. The Constitutional Act establishes the protection of private property:

§ 73, 1. The right of property shall be inviolable. No person shall be ordered to surrender his property except when required in the public interest. It shall be done only as provided by statute and against full compensation. Legislation, actions and interventions in relation to private property is always taking into account § 73 of The Constitutional Act.

Legal framework

The legislation in Denmark confirms and consolidates the economic and social significance and value of a secure and trustworthy cadastral system, by setting out a clear framework for responsibility, conduct and performance of cadastral work

The cadastral system and model in Denmark is basically governed by two main laws the Subdivision Act and the Chartered Surveyors Act. A series of statutory orders and guidelines sets out more detailed framework for the specific execution of the cadastral work

The Subdivision Act provides the legal basis for the Danish cadastral model and the subdivision requirement.

The Chartered Surveyors Act contains professional and ethic requirements and regulations of the licensed chartered surveyors and the chartered surveying companies conducting cadastral work, to ensure legal certainty and consumer protection on defining property boundaries, property creation by an independent, impartial and objective professional surveyor

The cadastral process

The Subdivision Act states that the Cadastral Authority must lead and maintain the land register as a register of all properties and as a cadastral map with associated measuring sheets. The cadastre must include the cadastral designations, area sizes, some listings about the property. The Subdivision Act defines together with the Chartered Surveyors Act that cadastral work may only be performed by practicing chartered surveyors (private licensed chartered surveyors – owners or shareholders of a chartered surveying company) and their assistants who are appointed chartered surveyors.

Subdivision and land transfer requirement

The Subdivision Act states that change in ownership or pledge of an area is only permitted if the area presents a separate real property or an unregistered property. This means that an acquisition of a part area of a real property includes a requirement for subdivision into a separate property or transfer of the part area to another property. Changes that must be handled under the rules of subdivision and land transfer. The subdivision and land transfer requirements are supported by the requirement that there must not be established rights of use over a part area of a real property for a longer period than 30 years if the area is part of separate real property.

Subdivision control

Centrally in the Danish holistic and sustainable cadastral model is that the Subdivision Act states that there must be no subdivision, land transfer or merger if the cadastral change or the intended land use according to the information will result in violation of the another legislation or of planning or other public or private law restrictions on the affected properties.

Sole purpose

A chartered surveying company must have the sole purpose of performing surveying and cadastral work. And to ensure that costumers meets a qualified and professional advisor the Chartered Surveyors Act states that if a surveying company consists of more than one office every office must be managed by a licensed chartered surveyor.

Personal responsibility

Performing cadastral work is associated with a personal responsibility and ethic rules. The Chartered Surveyors Act states that a licensed chartered surveyor is personally liable, together with the company, for any claims arising in consequence of assistance provided by the chartered licensed surveyor to a client. The licensed chartered surveyor must at the same time behave in a manner consistent with good chartered surveying practice. The surveyor are entrusted with a bonus pater liability.

Ownership and management regulations

To ensure surveyor's independence of material and economical interest in relation to the provision of professional responsibility by performing the societal task that lies in performing cadastral work and thereby an objective consideration to third parties interests the Chartered Surveying Act stress ownership and management regulations of chartered surveying companies.

In a chartered surveying company at least 51 percent of share capital and voting rights shall be owned by practicing chartered surveyors who actively are carrying surveying business in the company. Of the remaining capital and voting rights, other the mentioned practicing chartered surveyors can not own more than 15 percent of share capital each. This limitation does not apply to persons who have their main job in surveying company

In a chartered surveying company the majority of members in the Supervisory Board and in the Executive Board must be practicing chartered surveyors who actively are carrying surveying business in the company.

Impartiality requirements

Furthermore to ensure the impartiality of the licensed chartered surveyor conducting cadastral work, there is a requirement that the surveyor may not perform cadastral work concerning a property in cases where the licensed chartered surveyor has a material or any other kind of interests in the property and in the outcome of the case.

Spatial data infrastructure framework

The Danish cadastre is a multipurpose digital/analog register for land registration in Denmark and plays a central role in the Spatial Data Infrastructure (SDI) with a two-part legal and administrative role:
- Authoritative basic data register
- Spatial reference data for eGovernance

The cadastral data are recognized as authoritative basic data – data which may be used without verification. The licensed chartered surveyor is both user of and supplier of cadastral data by performing cadastral work. In this performance the surveyor use many other maps, property data and spatial data.

The Danish Spatial Data Infrastructure builds on INSPIRE principles:
- Data should be only collected once
- Data should be maintained where this can be done most effectively
- Data should be combinable, regardless of their source
- It should be easy to get an overview of the available data and internet services
- There should be clear conditions which assure that data can be utilized by many users in many contexts

This "philosophy" results in a spatial data infrastructure model based on collections of sector specific geodata themes build up on a "platform" of common multi-sector, reference data and shared infrastructure internet services that allow access to documented geodata and to metadata from distributed sources of data (fig. 2). It means that the information in the Danish LIS is sectored in charge of the resort authority, but taking responsibility for cross-agency public sector cooperation.

There exists a unified national collaboration between central, local, and regional authorities, universities and private businesses in order to ensure that the national SDI "meets its users' requirements.

PROFESSIONAL FRAMEWORK AND REQUIREMENTS FOR LICENSED CHARTERED SURVEYORS

The property surveyors acting in the cadastral process, are basically entrusted with official authority. They have the professional authority to perform a number of special tasks either

representing a public authority, or acting on behalf of a public authority or in cooperation with a public authority.

When the property surveyors represent public authority through their activities, society must set requirements for the professional practice. High professional, business and disciplinary requirements and standards for the profession must be assured through education, consumer protection and claim systems and ethical codes of conduct established by law under national authorities or by self-regulation and self-justice by national surveying associations

Fig. 2. The Danish spatial infrastructure model (The Geodata Agency 2011)

Professional qualifications and requirements

In order to fulfil societal and consumers expectations regarding the exercise of cadastral work, there is a need for a continuous high level of knowledge and professional skills regarding the licensed chartered surveyor performing cadastral work.

Educational level

In order to ensure a high professional level of knowledge, the educational background of the licensed chartered surveyor is based on a scientifically high academic education. 5 years on university level at Aalborg University (campus Aalborg or Copenhagen) consisting of a bachelor degree (3 years) and a master degree (2 years) in surveying and cadastral science - Surveying & Mapping, Geoinformatics, Land Management, Property Economics) (fig. 3)

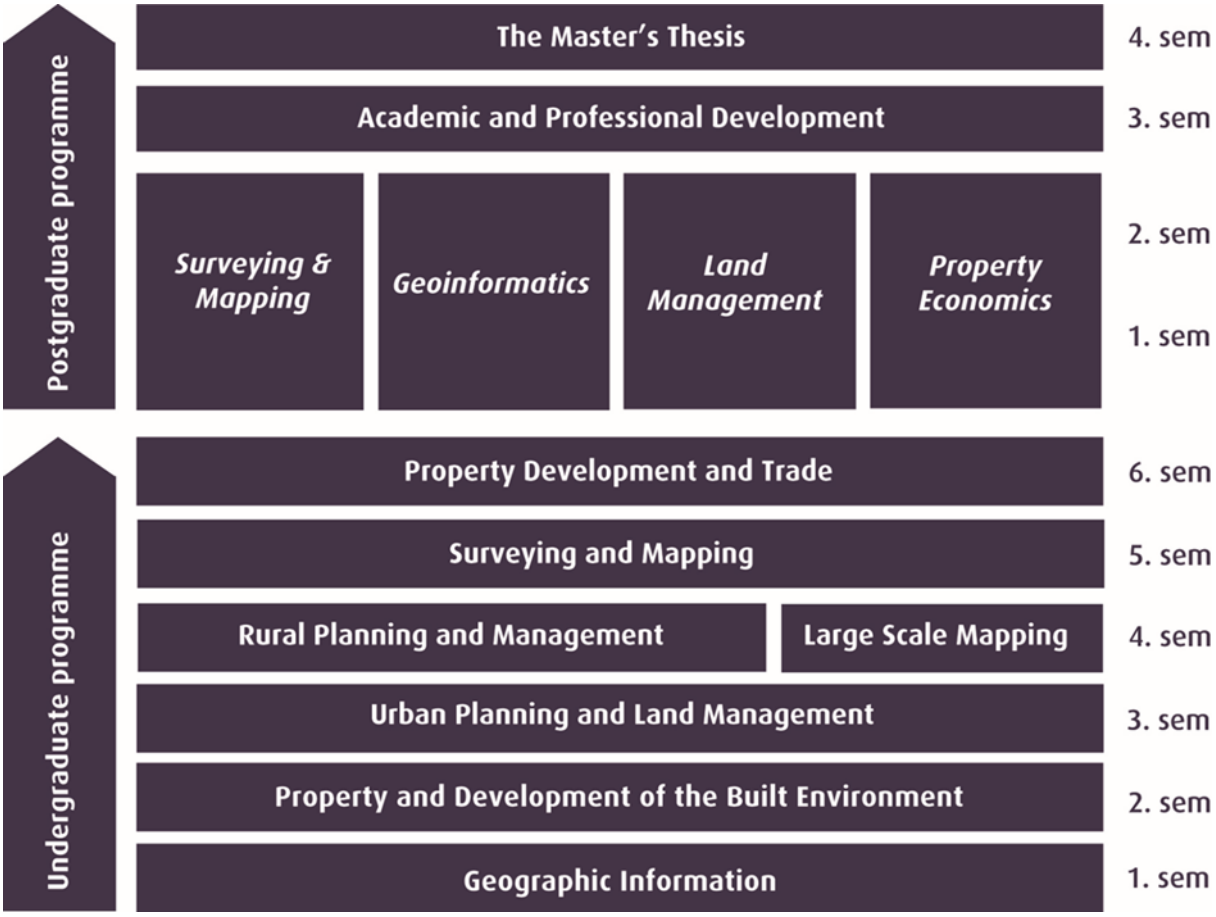

Fig. 3 The bachelor and master program within Surveying, Planning and Land Management (Aalborg University)

Aalborg University, stands out through a special education model Problem Based Learning (PBL), which shapes and contributes positively to the surveyor's professional DNA.

The "Aalborg Model" is bases on regular lectures in the fields of the semester theme combined with problem based work in small groups with real life problems that relates to the semester theme. It provides students with the possibility of acquiring knowledge and skills independently and at a high academic level working analytically and according to interdisciplinary and problem and result oriented methods. During this study model the students will cooperate with the business community on the solution of authentic professional problems.

Besides professional skills the students will develop their abilities within teamwork and will become well prepared for the labor market

Professional practice

To establish the necessary experience, knowledge and skills to exercise cadastral work it is required that the chartered surveyor must have at least three years of practical supervised

experience in performing general cadastral work in a private chartered surveying company or in a cadastral administration doing cadastral work, undergoing further education.

License

Only the one-line combination of the bachelor and master of Science in Surveying, Planning and Land Management can lead to a license as a chartered surveyor in Denmark, in combination with at least three years of professional experience in the employment of a practicing surveyor, doing cadastral work.

The achievement of the license is based on an application to the Danish Geodata Agency with documentation of necessary requirements. The Danish Geodata Agency decides whether to grant applicants licenses as chartered surveyors. The license is personal and can only be used for performing cadastral work in a private chartered surveying company.

Continuing Professional Development

To ensure and maintain high and updated professional skills, development and quality of the professional performance by the chartered surveyor, the The Danish Association of Chartered Surveyors (DdL) recommends 37 hours professional training, knowledge and dissemination per year. Continuing Professional Development (CPD) is not compulsory but de facto.

Professional business and disciplinary requirements

In order to fulfil societal and consumers confidence to the licensed chartered surveyor in conducting the professional tasks there is a need for professional liability insurance, claim systems and ethical codes of conduct, with aim of securing high consumer protection.

Insurance obligation

To protect customers against financial loss that may rise from performance of the cadastral work and other chartered surveying works carried out by practicing chartered surveyors and their employees the Chartered Surveyors Act stress that it shall be mandatory for the practicing chartered surveyor to be covered by professional indemnity insurance, which must be personal. The insurance must cover at least 5 years after the surveyor permanently ceased company. The Danish Geodata Agency registers and monitors that the demands of compulsory insurance are met.

State board of appeal

Any claims raised against a practicing chartered surveyor or licensed chartered surveyor´s assistant that they have disregarded the obligations in performing cadastral or surveying works it can be brought for the Chartered Surveying Committee. The same applies to claims concerning chartered surveying companies.

The board concerns malpractice complaints in cases of activities which are, by law, performed by licensed chartered surveyors. The board assesses the surveyor’s work in order to decide

whether he has failed to fulfil his obligations to such an extent that there is reason to impose a penalty in the form of a reprimand or a fine, or if special circumstances justify a withdrawal of the license.

Disciplinary board

To support the increased professional liability the licensed chartered surveyors are subject to, the Danish Association of Chartered Surveyors (DdL) sets up a Disciplinary Board which considers complaints of all types of work carried out by chartered surveyors or their assistants who are members of the association. It can give an assessment of the quality of the surveyor's work, with an opinion.

The Disciplinary Board has the opportunity to recommend to the surveyor to carry out rectification of work performed. Such a request will usually be followed.

Remuneration board

Complaints relating to the fee, calculated by a practicing chartered surveyor for any work performance can be brought for the Remuneration Board. The board is established under the Danish Association of Licensed Surveyors.

An opinion of the board will be the basis for an assessment of whether the claim should be brought before the courts. A statement from the board that goes against the surveyor will usually be followed up by the surveyor, and will usually be the basis for any decision if the dispute shall be settled by the court.

Ethical codes

In order to ensure high ethical standards in the execution of work carried out by practicing chartered surveyors and their employees, their works is based on Statues of Surveyance, a code of conduct developed and enforced by the Danish Association of Chartered Surveyors (DdL). It concerns rules for customer contact and contractual work, including information on the work progress and cost overruns.

In addition the Danish Association of Chartered Surveyors and the Association of Licensed Surveyors (PLF) have joined the “Code of Conduct of European Surveyors” issued by the Council of European Geodetic Surveyors – CLGE.

Professional representation of interests

In Denmark there are two organizations that represent and take care of the professional interests of the surveyors – working to develop and strengthen the surveying profession, frameworks for performing surveying activities not least cadastral work and related work for the benefit of its members and for society.

It is two recognized professional bodies in the Danish cadastre sector active cooperating and consulting partners in a variety of professional relevant legal and technical areas both in relation to both public and private professional network.

The Danish Association of Chartered Surveyors (DdL)

DdL is responsible for the professional, economic and social interests of the surveying profession as well as member´s personal work and professional interests including not least the salary and employment conditions and educational interests. Membership is personal.

General professional orientations communication and knowledge communication is achieved through the association's journal and web site, professional forums and workshops. The association is also responsible for the development and provision of continuing education activities, just as the association is represented in the advisory board for surveyor educational program at Aalborg University.

The Danish Association of Licensed Surveyors (PLF)

PLF is a professional association for chartered surveying companies performing surveying business under the Chartered Surveyors Act. PLF is a political, professional and employers association carrying out business interests by creating the best possible conditions for exercise of the cadastral work and related business and promoting professional developments.

PLF is included as an active party in legislative development partnerships with various ministries within cadastral work, land management and surveying. PLF also takes a responsibility in the appeal system on cadastral work and other surveying works by being responsible for the operation of the remuneration committee.

Like DdL, PLF also contributes to knowledge transfer and knowledge sharing by at conferences, workshops and training activities aimed cadastral work. PLF is represented in the advisory board for surveyor educational program at Aalborg University.

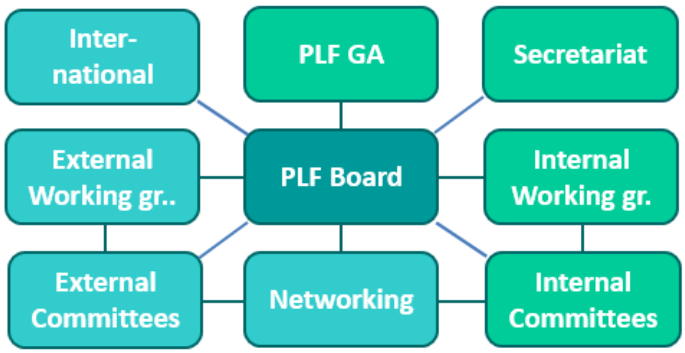

Fig. 4. The Association for Licensed Surveyors (PLF) – representation of interests

The work in PLF is structure around the Board, as the central driver in all business areas and representation of interests. The Board establish internal committees, working groups and task

forces on special work and areas of interest and is represented in relevant external committees and working groups (fig. 4).

THE DANISH CADASTRAL SYSTEM

The Danish cadastral system is based on a title system, *"a register of properties presenting "what is owned by whom""* (Enemark 2010). Titles are based on the cadastral identification, and the cadastral registration is prior to land registration. The cadastre plays a central role as basis for land and property identification and registration in Denmark, based on registration of property boundaries determined by licensed chartered surveyors.

The Danish cadastral system itself "provide a basic land information infrastructure for running the interrelated systems within the areas of Land Tenure, Land Value and Land Use" (Enemark 2010) (fig. 5) – land administration and land governance.

The Danish cadastre has during time evolved to be a multipurpose cadastre, so in addition to support land administration and land governance the cadastral geo-related authoritative basic data including, not least, the digital cadastral maps is the entrance to eGovernance and digital solutions in the Danish Society.

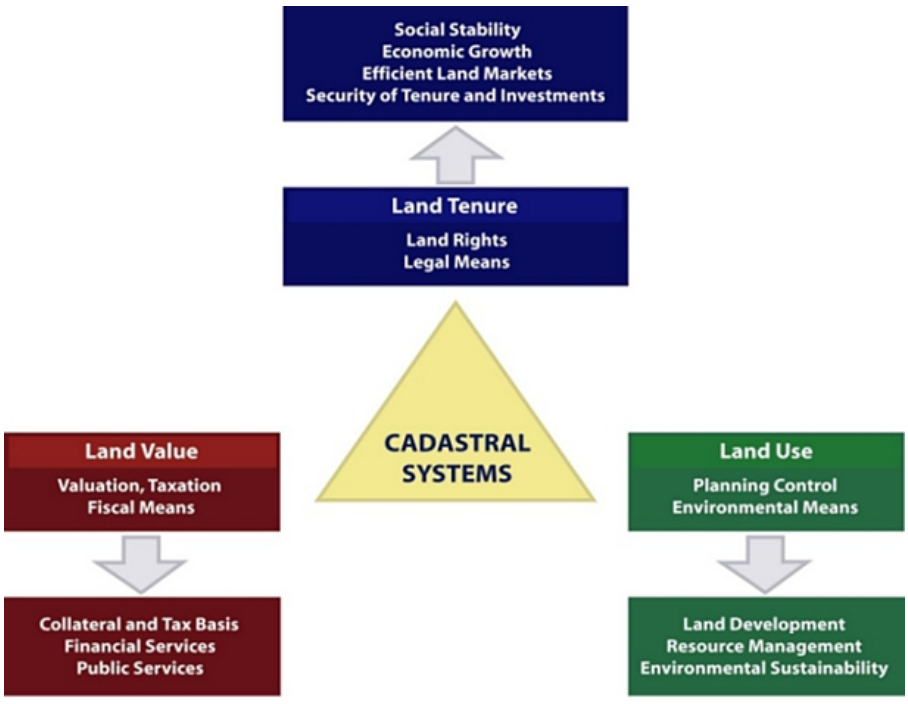

Fig. 5. Cadastral system – a basic land information infrastructure (Enemark 2004)

Due to this central role in the Danish economical and digital infrastructure we will pay attention to the cadastre and the cadastral process and especially the role of the licensed chartered

surveyor in execution of the cadastral work in relation to ensuring a credible and sustainable cadastral registration taking into account third party.

The Danish Cadastre

The Danish cadastre is basis for all land registration in Denmark and consists of a cadastral map, a cadastral register and a cadastral archive. The cadastre contains information about properties unique identification, geographical extent in the cadastral map, boundary definition, size of area and certain other property ownership records.

The cadastre provides the spatial integrity and unique identification of every land parcel through the cadastral map updated by cadastral surveys carried out by the licensed chartered surveys.

Factual the Danish cadastre consists of approximately 2,5 million parcels. The first cadastre was in force in 1688 and has developed since. In 1997 a digital reform completed the computerizing of approximately 15.000 analogue cadastral maps. In 2001 a digital update system MIA was in place and in 2008 a cadastral digital updating and quality system MiniMAKS was in place.

In 2014 the measurement archive became partly digital (information's back to 1950) with digital web based access from the cadastral surveyors. It completed a full digitally cadastral process between the surveyor and the cadastral authority.

The Cadastral Map

The cadastral map is a digital legal cadastral map however, not to be mistaken for a coordinate cadastre, and is a key component of the Danish cadastre. It will be more indicative to handle the map as a geo-related index map presenting the cadastral register in a visual form, so that individual parcels can be identified and located.

It provides a geometric description of the land parcels represented as a digital closed object in by quality labeled coordinates in the UTM-reference system and connected with informative attributes in the cadastral register – first of all the unique property identification. It also represents a visualization of public and private roads and information about protected areas as forest conservation areas, coastal zoning (registration of protection line of coastal and dunes areas).

Due to the original production method of the cadastral map - digitization of analogue cadastral maps - accuracy is variable from few centimeters to several meters (especially in the rural areal) New GPS-based measurements of boundaries and updates improve the quality of the cadastral map.

The cadastral map is updated daily on basis of new property registrations, boundary changes and field surveys. (Danish Geodata Agency 2015.04.16)

The Cadastral Register

The cadastral register is a database of property information containing the unique cadastral identification numbers (e.g. 20h Holstebro Markjorder fra Hjerm), property areas, area of private roads and a few public administrative registrations of public rights or restrictions connected to the use of land – e.g. agricultural property (land designated for continued agriculture purposes).

Like the cadastral map, the cadastral register is updated daily. (Danish Geodata Agency 2015.04.16)

The Cadastral Archive

The cadastral archive consists of historical information of property registration and includes the documents that have defined property formation through the ages. Not least it includes scanned and digital measuring sheets with field surveys of boundaries which is the basis the determination and marking of boundaries. The archives also includes scanned historical cadastral maps. (Danish Geodata Agency 2015.04.16)

Cadastral process

Cadastral work reflects a change in the property division and often a change in the use of the physical environment. In Denmark the use and development of land / real property is, for natural reasons, a matter not only for private interests but also for public and rightholders interests. Consequently today's legislation on land management in Denmark is trying to find a reasonable regulatory framework for management of the balance between public and private interests.

The consideration for third parties in the property formation and changes process is reflected in the cadastral process. It is set out in the rules of boundary determination, compliance with other laws, mortgagee consultation and allocating easements.

In Denmark the cadastral process is the formal and legal acts and agreements that ensure the implementation of a sustainable and holistic process of project realization. As responsible for the case preparation the licensed chartered surveyor ensures and drives the entire process.

The licensed chartered surveyor is acting in the intersection between public and private interests and as an objective advisor he/she has to represent and manage all the interests related to property change and the future use. The licensed chartered surveyor is popularly said "the ambassador of the boundary". The role as private advisor gives the surveyor a significant legitimacy to be able to handle the balance between private and public interests around the property formation and use, and gives the surveyor the opportunity to take part in both an advisory and design stage.

Simplified the Danish cadastral process includes the following main phases
- Requisition and advisory
- Case preparation
- Approval and registration

A more detailed paradigm of the Danish cadastral process with focus on the practicing chartered surveyors central role in conducting the process is outlined in the following paradigm (fig. 7). Which also illustrates potentially involved parties, phases and information flow.

Based on this paradigm key processes and phases will shortly be described in a licensed chartered surveyors perspective.

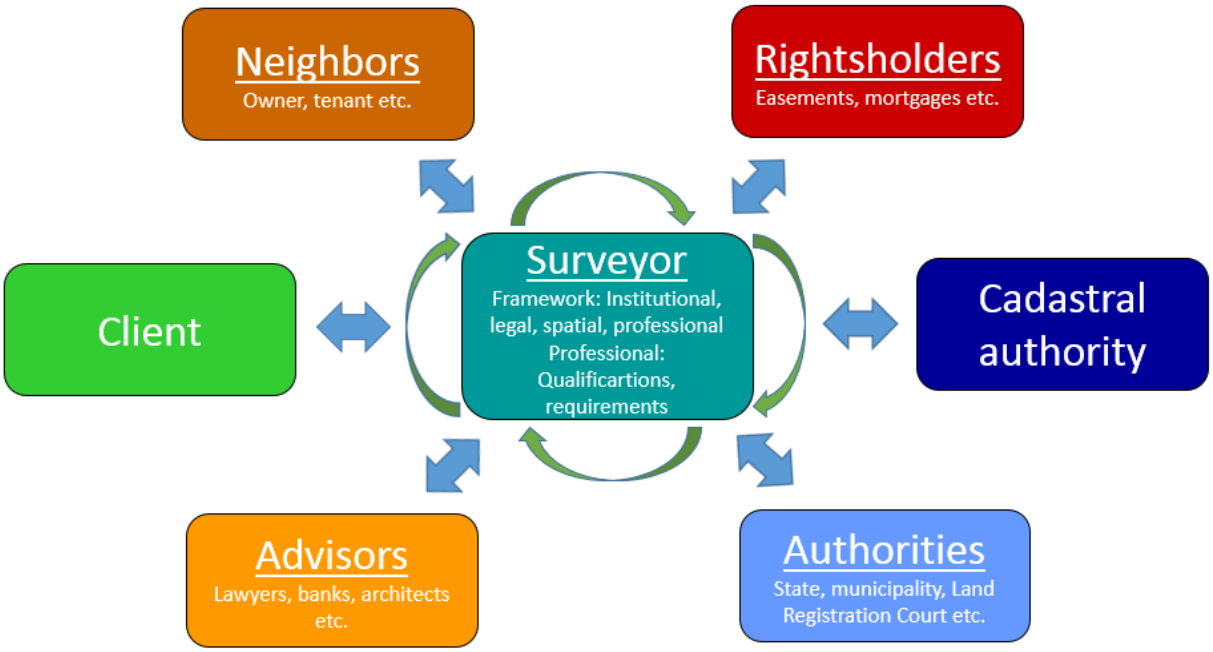

Fig. 6. The licensed chartered surveyor – a central objective advisor conducting the cadastral process

Consultancy and preparation

When the licensed chartered surveyor receives a requisition on a cadastral change he/she makes a screening of property information, public and private legal restrictions. Based on these investigations the surveyor advises and formulates the cadastral case / property changes with the client.

Boundary determination

The basis for determining existing boundaries are information from the cadastre – measuring sheets or in case of none or insufficient field measuring the cadastral map.The boundary may under Danish law change through prescriptive acquisition. Therefore, when determining and marking the boundary, the licensed chartered surveyor has to investigate whether the property boundary in the field agrees with the information in the cadastre. If there is no deviation the licensed chartered surveyor can mark the boundary in accordance with the cadastral information. At the same time the surveyor is required to inform neighbors about the boundary marking. It must give neighbors the opportunity to submit any comments to the marking for providing a fully informed process and to prevent later boundary disputes.

However, if there is a discrepancy, the licensed chartered surveyor must allow the parties to make a statement before marking the boundary. After this, the licensed chartered surveyor must decide whether the boundary can be fixed in accordance with the Cadastre or whether the matter has to be settled in accordance with the rules on rectification of boundaries, transfer of part of property or technical changes. If there shows to exist an irreconcilable disagreement between two neighbors about the property boundary it may be necessary for the party wanting to set the boundary to ask the surveyor to hold legal determination of boundary.

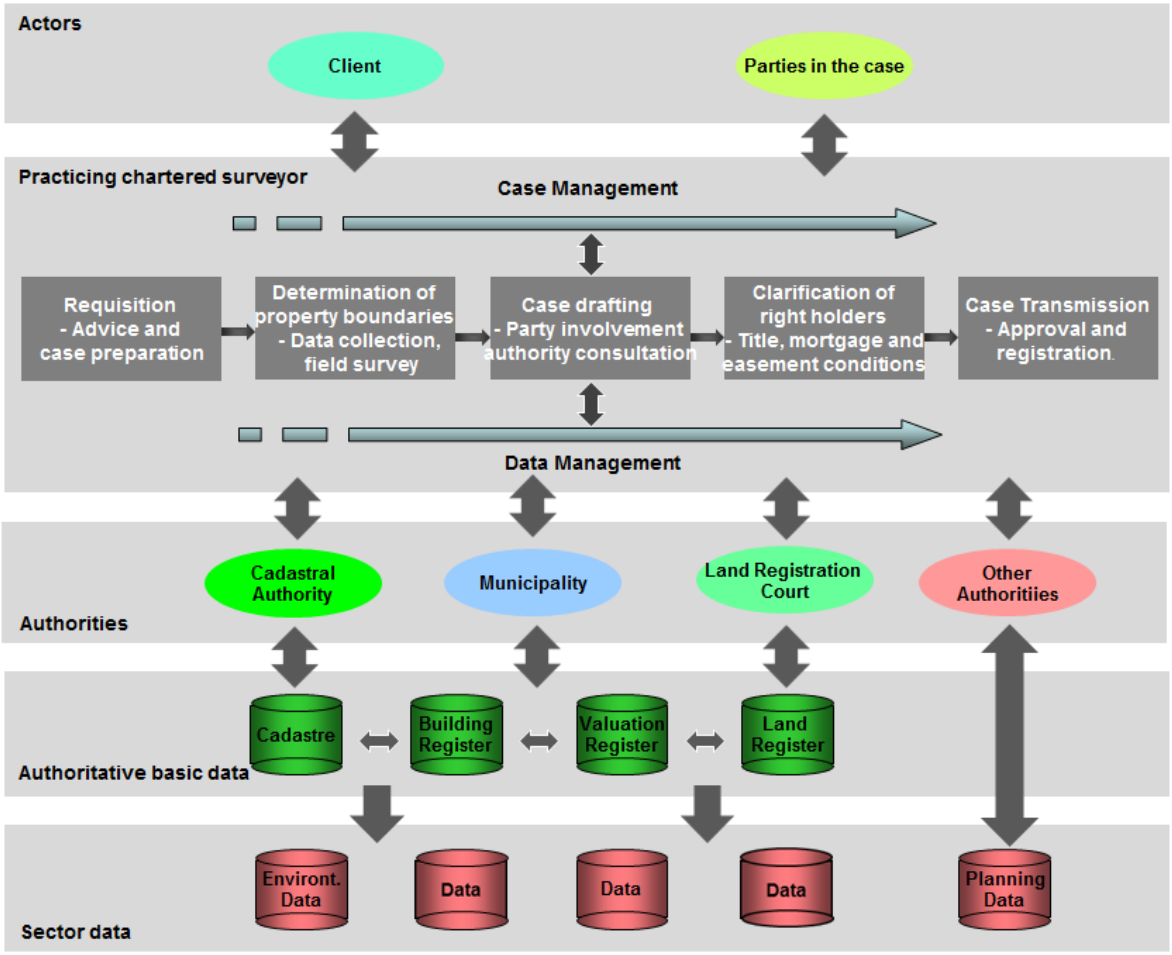

Fig. 7. The Danish cadastral process - parties, phases, tasks and information flow

Legal determination of boundary is a formal process conducted by a licensed chartered surveyor given public authority as first instance. It consists of a local inquiry meeting involving the parties to clarify the boundary issue and the licensed chartered surveyor must try to get the parties to agree on the location of the boundary. In that case the surveyor will set the boundary, and it will be binding on parties when they have approved in writing. If the parties do not reach an agreement, on the basis of the information available, the surveyor will set a preliminary boundary and draw up a statement on the legal determination of boundary. The boundary set is

binding for the owners of the properties affected, if none of them bring the case before the district court, with a claim that the boundary lies in a different position.

When new boundaries are determined and marked, they shall be approved in writing by the owners of the affected properties, before they can be registered in the cadastre.

The general process for boundary determination is conflict preventing which finds concrete expression by performing only about 65 legal determination of boundary are held per year and under five of these brought to court

Clarification and consultation authorities

When the cadastral changes are finally decided and the boundaries are determined the licensed chartered surveyor prepares the formal and the technical documents as the basis for approval by the authorities, party involvement, right holders involvement and registration in the cadastre.

The consultation process by the authorities is called “the subdivision control”, and this process has to clarify and document that the cadastral changes and the future use of the property is legal with respect legislation and public regulations. In certain situations, the surveyor has public authority to attest that the cadastral changes do not conflict with public regulations without submitting the case to the authority.

If there is a need for dispensation of laws or public restrictions applying the surveyor applies for the necessary permission, which can be done in cooperation with the owner or other advisors.

Clarification and consulting rightholders

The Land Registration Act and the Subdivision Act ensures protection of mortgages and easement rights by cadastral change of private property.

The Land Registration Act states, that in connection with a land transfer there must be permissions / accept from the mortgagees to the change, as in ordinary cases must be registered as an endorsement of the mortgage in the land register. In special cases when the value of transferred land is insignificant and below a certain threshold value (currently 16.710 Euro), the licensed chartered surveyor has authority to certify, that the land transfer can be done without risk of mortgagee and that the property after the change are still capable of carrying security for the mortgage. This so-called “harmlessness certificate” replaces the registration of mortgages release in the land register, and shall be submitted by the case documents for approval and registration of the cadastral changes.

In relation to rightholders of easements on affected properties, the licensed chartered surveyor must locate the rights and ensure that the easement in future they are registered on the right properties after the cadastral change. The requirement applies to both subdivision and land transfer. The land register will be updated by the new registration of location of easements by a so-called “easement statement” from the licensed chartered surveyor.

The Subdivision Act prescribes that land transfer only can only be registered in the cadastre, if it is established that the provisions of securing mortgages and easements is observed, which must be documented by a judge certificate

Approval and registration of cadastral changes

When the surveyor has documented the conditions for registration of the cadastral changes, the documents (registration documents, owner declarations, authority approvals and Certificate of land registration Judge on mortgage, easements and title deeds) will be packed in a digital file package, and submitted through the digital update system MIA to the Danish Geodata Agency for approval and registration. Approval procedures include a technical and legal control of the submitted cadastral case. If case is insufficiently clarified or contains errors, the surveyor will be contacted for additions or corrections. After the control the property changes will be approved and the cadastre will be updated by the new property registrations. When the registration is complete updated other public records / registers will be updated with the new property information.

FINAL REMARKS

The cadastral system is a part of the Danish societal and economical infrastructure assisting the functions of land tenure, land value, land use and land development. The basic purpose of the system is to ensure a reliable and trustworthy formation, registration and change of property and access to up-to-date authoritative proprietary basic data.

The cadastre plays a central role as a multipurpose register with a two-part primary role legal and administrative as:
- Authoritative proprietary basic data register
- Reference data for spatial eGovernment

The performance of cadastral work – basically determination of boundaries and conducting and preparation of the documents necessary for registration of cadastral changes – is in the Danish context organized in a public private collaboration model with a two shared responsibility:
- The Danish Geodata Agency (state authority) – approval and registration
- Practicing chartered surveyor (private) – cadastral work is performed by appointed surveyors in private practice and by their appointed assistants

Sustainability

The cadastral work in Denmark is performed in a democratic and constitutional State framework with a strong account of third parties – in this context multifaceted and can be neighbors, mortgagees, rights holders, the community and even the cadastral register. Both the cadastral system and the cadastral process are open and transparent.

In order to manage this complex task the professional identity of the licensed chartered surveyor is holistic and solution oriented. A licensed chartered surveyor has to listen carefully to the clients to know their needs, have a good knowledge in the cadastral legislation and the land management legislation, have to navigate task performance in an intersection of disparate

interests (public and private) and finally give the parties a possibility to make an agreement / a sustainable solution. This kind of dialogue based solutions includes a high grade conflict prevention and ensure sustainable solutions.

Due to
- regulations on ownership and management in practicing surveying companies, that ensures the surveyor´s independence of economic and specific interests in the cadastral change or the underlying project
- legal framework conditions
- professional and business requirements
- high codes of ethics

the confidence to the cadastral system and the performing professionals is very high in Denmark. The licensed chartered surveyor has a high degree of professional legitimacy. Overall the cadastral system is organized so that it provides a high degree of legal certainty and consumer protection which results in a high degree of credibility in society

Fit for purpose

The Danish cadastral system fulfil the constitutional protection of private property and a democratic society´s requirement of legal certainty, consumer protection and interests of rightsholders in property.

Over time the Danish cadastral system has managed to evolve from being an analog primarily fiscal oriented system to be a digital multifunctional system. The cadastre has become a digital multipurpose cadastre with a basic role in the Danish spatial infrastructure containing authoritative basic data and is today the entrance to eGovernance and fits in an open digital community structure.

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POST SCRIBT – PLF OBSERVATIONS ON DEREGULATION INITIATIVES

The European Commission reached a political agreement in June 2013, which addresses and requires each Member State to perform a review and to modernize their regulations on qualifications governing access to professions or professional titles. The overall purpose is improving access to professions, in particular through a more flexible and transparent regulatory frameworks in Member States, to facilitate the mobility of qualified professionals within the internal market and the cross-border provision of professional services.

This should also have a positive impact on the employment situation and enhance economic growth. In order to boost growth potential and consolidate the way to economic recovery, this review of regulated professions should be a priority. The Commission therefore urges Member States to begin reviewing at national level the qualifications requirements imposed on regulated professions and the scope of reserved activities.

At the same time and in full compliance with EU recommendations, the Danish government launched a study of the abolition of ownership regulation of Danish practicing surveyor companies in order to create growth by

- reducing administrative burdens
- increasing productivity
- increased competition - lower prices.

It is growth initiative no. 49 in a in a comprehensive growth plan for the Danish society.

PLF point of view

- Currently there is no workload neither in the Danish Cadastral Agency or in practising surveying companies in reporting and containing changes in ownership and management and supervisory board.
- Property formation and change is nearly 100 percent depended on general societal conditions. Pricing on honoraria can not create growth or increased competition. In a larger ordinary subdivision represents surveyors fee about one percent of the sales price.
- The competition in the profession is intact, In the moment approximately 75 percent of all cadastral works is based on is based on a tender, an offer or another tested price.
- The Danish Association of Licensed Surveyors (PLF) has the opinion, that the premises for growth initiative no. 49 are wrong and promoting growth initiative no. 49 can weaken both legal certainty and consumer protection.
- A prerequisite for the legal certainty of the total property formation process are "citizens" access to independent surveyors free of special interests that are the surveying company irrelevant, and as only handles ownership and boundary interests for the benefit of the whole society and taking account of third parties.
- The existing ownership and management restrictions, which states that licensed chartered surveyors have a controlling influence in the group of owners in the company and in the business management, ensures the independency and impartiality of the practising chartered company.

IMPLEMENTATION OF TECHNICAL CADASTRE SERVICES THROUGH DELEGATION OF AUTHORITY: LICENSED SURVEY CADASTRE ENGINEERS AND OFFICES (LSCEO - LİHKAB)

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ABSTRACT

The aim of this context called "İmplementation of Technical Cadastre Services through Delegation of Authority: Licenced Survey Cadastre Engineers and Offices" is with researching of the situation of cadastre services -in a framework including historical development of it- against the public service concept in our country, the process of the delegation of authority to the licensed offices about the implementation of technical cadastre services which are depend on demand, in addition, to explain other processes including licensing, establishment, controlling and responsibilities and to bring up the functions of The Commission of Licenced Offices which plans, observes and carries out these processes. It has been reached to the opinion that, maximum effort should be exerted to solve the problems of the "licensed offices" which are relatively new implementations in our country, by making the new implementations without causing the planning of the offices rapidly and to ensure coordination among the rural organizations and licensed offices in the implementation of technical cadastre services. Within this scope, at first it is given a place the basic concepts and theoretical frames of these concepts in public administration literature; after that it is given a place to the legislation and the implementation of procedures and principals that is subject to licensed offices and at the end current situation of licensed offices is put forth with numeric data, the problems and the solution proposal are mentioned about implementation of licensed offices. In this study domestic literature and legislation are used generally. Finally, some suggestions were made on how LİHKAB could be integrated into other country cadastre systems.

Key words: Public Service, Delegation of Authority, Surveying, Cadastre, Licenced Office

INTRODUCTION

In this study, we will present information about the establishment process, scope, mode of operation, tasks and powers of the licensed topographical and cadastral engineering offices that have been established following the transference of cadastral technical services, run by public sector before, to private sector in order to provide these services in a faster and more quality way, as well as the legal regulations these offices are subject to.

Cadastral activities in Turkey are basically related to property cadastre. Today, by these activities carried out in accordance with Cadastre Law No. 3402, modern land registry certificates as stipulated in Turkish Civil Code are formed after determining and mapping the immovable properties on the field and the rights on them.

It is known that West European countries make the best use of contemporary technologies in order to provide cadastral services and are highly productive in establishing land information systems. Thus, cadastral data can be developed with computers; graphics or legal information can be found as requested and presented for users' benefit. All of the cadastral information has been computerized thanks to the developed analysis information systems. This information gathered in a specific center has been presented to institutions for a fee.

In these countries, technical services after cadastre can be provided by both public institutions and private sector under the same conditions. For instance, an individual will pay the same fee for a requested service whether this is provided by a public institution or private sector. Also, in some countries, it has become a principle to apply to private sector, to some degree, for a service in order to boost private sector.

In our country, it became an application method for the private sector to provide technical services after cadastre within this framework. Due to the fact that cadastral technical services have grown in volume, it became mandatory for private company to provide these services, as well. Thus, the objective was to create new employment areas by establishing offices throughout the country and to run cadastre services effectively and fast by assigning competent public personnel with cadastral services. To this end, after Law on Licensed Topographical and Cadastral Engineers and Offices No. 5368 and secondary legislation related to this passed the Turkish Grand National Assembly on 16.06.2005, *"Providing and checking the unlicensed cadastral technical services and providing licensed cadastre services..."* became the responsibility of licensed topographical and cadastral engineering offices (LİHKAB).

After the establishment of licensed topographical and cadastral engineering offices (LİHKAB) with Law on Licensed Topographical and Cadastral Engineers and Office No. 5368, a new structure in the cadastral services conduct has emerged. In this study, we will try to analyze - on a public work concept basis- the performance of the partial re-construction of the cadastral services within the "public works", which is considered as one of the main activity areas of the administration.

THE CURRENT STATE OF CADASTRAL TECHNICAL SERVICES

Cadastral services have been one of the traditional public services run by state. Cadastral services are subject to public law; thus, it is not possible to privatization of all these services as a whole by definition and nature of these services. Consequently, it is the best application to divide the cadastre service according to its features and transfer the appropriate ones to private sector under administration's supervision and monitoring. Work items that can be considered as "cadastral technical services" are financial and commercial public services by their nature. Thus, this will not entail any problem for private sector to provide these services under administration's supervision and monitoring.

As it is known, transference of some part of the cadastre services to private sector was regulated with Law on Licensed Topographical and Cadastral Engineers and Office No. 5368. The Article concerning the "scope" that states the regulated public services have a provision as follows: "The unlicensed cadastral technical services will be provided and checked and licensed cadastral services will be provided by licensed topographical and cadastral engineering offices". As established in this provision, the activities to be transferred to private sector have been designated by law with the concerned regulation.

PREPARATION PROCESS OF THE LEGISLATION

Taking into consideration that the annual volume of the alterations on demand –these alterations are considered as cadastral technical services in the regulations that licensed offices are subject to- reached approximately 1 million, considering that the employment in the cadastral sector will increase after licensed offices provide these services and believing that this will ensure cadastral services to be provided more effectively when consulting with authorized public personnel, '*Draft Law on the Duties of Licensed Topographical and Cadastral Engineers and the Establishment of Offices'* was brought to agenda. Knowing that the issue of transferring cadastral technical services to licensed offices dates back to early 1990s, it has been stated that services after cadastre are provided only for people with real estate; though this services do not fall within Administration's fundamental duty, it assumed to provide these services; and the Administration allocated 1/3 of its resources for these services. The objective was to provide individuals with more quality and safe service by those who work under private sector but with public liability.

The Draft was adopted on 16.06.2005 and entered into force as 'Law on Licensed Topographical and Cadastral Engineers and Offices' after being published on Official Gazette No. 25860 on 29.6.2005.

The Draft Regulation on Licensed Topographical and Cadastral Engineers and Offices was finalized after the recommendations of District Directorates, Head of Departments, Chamber of Topographical and Cadastral Engineers in the Union of Chambers of Turkish Engineers and Architects (TMMOB), Court of Accounts, Ministry of Financial Affairs, Ministry of Environment and Forestry, Ministry of Justice, Ministry of Agriculture and Rural Affairs and General Directorate of Technical Research and Practice were taken into consideration. Regulation on Licensed Topographical and Cadastral Engineers and Offices entered into force after being published on Official Gazette No. 26867 on 05.05.2008.

However, the regulation had to be amended on the grounds that some of the articles in the existing legislation should be excluded, the problems in areas such as exam application and placement should be fixed and the deficiencies in the application should be eliminated in order to ensure that licensed offices carry out their activities more effectively and efficiently. In this context, the amended regulation entered into force after being published on Official Gazette No. 28678 on 15.06.2013.

THE ESTABLISHMENT, OPERATION AND TRAINING OF LICENCED OFFICES

Licensed topographical and cadastral engineer offices are authorized within the official borders of the province. General Directorate of Land Registry and Cadastre is authorized for licensing several offices in the same province and revocation of the license. In order to run their activities and provide services without delay, licensed offices should recruit at least one engineer besides licensed engineer and at least two technicians or operators competent in this area. The Administration provides at least five-day mandatory and paid training on cadastral technical services and land registry and cadastre to those who are entitled to set up a licensed office.

LICENSE EXAM AND PROCEDURE

Article 3 of Law on Licensed Topographical and Cadastral Engineers and Office No. 5368. that entered into force on 16.06.2005 states that "Licensed topographical and cadastral engineering exam is held by General Directorate of Land Registry and Cadastre in accordance with the regulation that is prepared according to the opinions of Chamber of Topographical and Cadastral Engineers. Those who pass the exam are entitled to set up a licensed office and carry out their duties under this title".

The Administration can hold the abovementioned exam or authorize the institutions stated in the Regulation to hold the exam within the framework of a protocol. Choice and placement procedure is carried out in accordance with the related articles of the Regulation on the basis of the exam score of the candidates.

DUTIES, POWERS AND RESPONSIBILITIES OF THE LICENCED OFFICES

Duties and Powers

Licensed offices are in charge of the implementation and control of the processes in cadastral technical services which are subject to registration, designated by the Law No. 5368 on the Licensed Topographical and Cadastral Engineers and Offices. These offices carry out the mentioned cadastral technical services, within the jurisdiction of the established licensed office and as of the date the office starts operating. Cadastral technical services to be carried out by the licensed offices are applications which are not subject to registration and the ones who are subject to registration when the parcel is designated such as land use conversion, constitution of servitude or cession and merging operations on demand.

The Administration also gives works and operations by circulars, instructions and regulations to the licensed offices not through Laws and Regulations. These works and operations can be considered as erroneous independent section number correction, layout sheet, and independent section plan and benchmark sketch.

Responsibilities

According to the Article 5.2 of the Law numbered 5368, the licensee is responsible for the making and audit of the works and operations which are not subject to registry and of the makings of the ones are subject to registration. This responsibility was also clearly stated by

the fact that the licensed offices which are authorized to carry out the operations stipulated in this Law are considered as public officials within the Turkish Penal Code and are revoked according to the Article 1007 of the Turkish Civil Code numbered 4721 if any losses or damages arise from the operations carried out by the offices. Licensed offices have other responsibilities to carry out within the Law numbered 5368 and the Regulation. We can sub-categorize these responsibilities as:

Responsibilities to the Administration: In the Article 2.3.(d) a special condition is specified to grant license to offices as "to deposit ten thousand new Turkish liras to the bank and blocking this money under the name of the General Directorate of Land Registry and Cadastre." Within this regulation "those who are granted the license shall block the stipulated amount of deposit under the name of the Administration in the presence of the bank and submit the concerning document to the Administration.

Deposit amounts are designated yearly in relation to the previous year by the Administration according to the revaluation rates set by the Ministry of Finance and as per the Tax Procedural Law dated 4.1.1961 and numbered 213. These deposits under the possession of the bank cannot be used, levied or refund without the Administration's knowledge and request. In case of the licensed office having any financial responsibility conditions within the Article 5 of the Law, these deposits are used by the Administration's request. The Administration holds the right to suspend or revocate the license in case of a failure in the completion of the deposit within the period set by the Administration. When these deposits are used, updated deposit amounts should be completed no later than 30 days after the date of use and new deposit document must be submitted to the Administration.

Licensed offices shall renew the document of the deposit stipulated in the Article 9 of the Regulation every year, within the period designated by the Administration. In case of a failure of renewing the document, the Administration holds the right to suspend or relocate the license.

Responsibilities to the Chamber: Just like having responsibilities to the Administration, licensed offices also have responsibilities to their affiliated professional chamber arising from the Law, regarding the office registration. This responsibility is defined in the Article 6 of the Law as such: "The licensee is obliged to register his/her offices to the chamber of topographical and cadastral engineers of the topographical and cadastral engineering offices."

Another responsibility is that a licensed engineer has to his/her affiliated chamber arises from the Article 36 and second clause of the Regulation and it constitutes an obligation to the licensee to submit a written statement mentioning that the office is now operating and the workplace.

INSPECTION OF THE LICENSED OFFICES

According to the Law numbered 5368, the General Directorate of Land Registry and Cadastre is authorized to inspect and impose a disciplinary penalty on the licensed offices and the procedures and principles regarding the inspection are established by the Regulation. The inspection of the licensed offices is carried out at least once a year by the staff authorized by the Administration. Works and operations carried out under the office activities, workplace, and staff, equipment and archive order are within the scope of the inspection. Principles set out

by the administration are taken into consideration while organizing, evaluating and finalizing the inspection reports.

The licensee is informed about any errors, shortcomings and unfavourableness's identified during the inspections by a written notification by the inspector. The licensee has the right to raise a written objection to the Administration regarding these findings with any relative documents and justifications within fifteen days. The Administration considers the inspection report and the licensed office's objection and comes to a decision. The inspected licensed office is notified in written, regarding the decision. After the consideration of the Administration regarding the inspection findings and the objection, any penalties prescribed in the related article of the Regulation can be imposed according to the shortcomings and unfavourableness's and their repetition. All inspection findings are kept in files by the licensee and the Administration.

INVESTIGATION AND DISCIPLINE PROCEDURES

Penalties mentioned in the Regulations cannot be imposed without taking the statement of the licensed engineer or the person having the authority of the licensed engineer. Licensed engineer is asked to prepare a written statement regarding the alleged action within seven days from the date of notification. Otherwise, the person is considered to have waived his/her right of defence. The administration investigates the licensed topographical and cadastral engineering offices regarding the areas mentioned in the Article 50 and second clause of the Regulation and within the framework of the provisions of the related legislation. Disciplinary penalties given in case of an error, inadequacy and unfavourableness identified by the inspections, investigations, preliminary exams and inquisitions carried out by the administration are: warning, reproach, suspension of the license, revocation of the license.

Table 1: Number of active licensed offices, their trading volume and turnovers in regions

REGIONS	Number of Offices	REGIONS	Number of Offices
Ankara	19	Edirne	6
İstanbul	42	Van	2
İzmir	24	Elazığ	4
Bursa	14	Eskişehir	10
Konya	7	Denizli	10
Antalya	10	Kastamonu	3
Diyarbakır	4	Sivas	-
Erzurum	2	Şanlıurfa	3
Trabzon	2	Yozgat	1
Samsun	3	**Turkey**	**195**

CURRENT STATE

For the planned 2029 licensed offices in Turkey, licensing examinations were carried out within the scope of the articles of the related Laws and Regulations. As of today, 195 licensed

engineers are carrying out licensed office activities. A total of 1000 staff, comprised of engineers, technicians and office staff, were recruited in the active licensed offices.

CONCLUSIONS

Cadastral services are one of the traditional public services provided by the state all along. Cadastral services are subject to public law, since these are "administrative" public services. However, cadastral work is being re-shaped due to the evolving public administration and "active state" approach. As a manifestation of this approach, some public services were transferred to private sector, yet the State's responsibility was maintained through effective monitoring methods. In this context, the monitoring of the public services provided by the private sector through effective monitoring mechanisms is important in terms of providing these kinds of services under state's guarantee. Even though today, the monitoring of the licensed offices are carried out by General Directorate of Land Registry and Cadastre under the executive body, enabling an administratively and financially independent regulating and auditing board to carry out this function, rather than the General Directorate of Land Registry and Cadastre, will contribute to the services' efficiency and effectiveness.

To conclude, we aimed to provide information regarding the qualifications, duties, scopes and limits of the relatively new practice in our country, the licensed offices. It is important that provincial organizations and licensed offices show a maximum effort in order to provide cadastral technical services with an aim to avoid any possible problem. Besides, we have reached a conclusion that, in case of any problem, it is more beneficial to come up with long-term and permanent solutions and investigating the source of the problem in terms of the nature of the service, rather than searching for temporary solutions.

Licensed Topographical and Cadastral Engineers and Offices are also appropriate models in terms of using the time more efficiently, the increased quality of the services provided by the state and the quality of the services provided within the framework of the on-going works of the United Nations Public Administration Network (UNPAN).