

Comparing Turkish Land Registry and Cadastre System with Other European Union (EU) Countries' System in the Context of EU Accession of Turkey

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SUMMARY

At the present time Turkey's candidate has been continued to a few stages that join to European Union (EU). Lastly, Turkey was accepted to EU, for candidate country, December 1999. After this date, the Turkey's entire sector has started to accordance process for EU like Turkish land registry and cadastral systems.

In this paper, it is aimed to investigate whether there is a common structure in the EU countries' cadastral systems depends on declaration on the cadastre in EU and existing structure of cadastral systems in the EU countries'. Some EU countries' have cadastral information system (CIS) like as Germany and Holland. Turkish Land Registry and Cadastral Information Systems (TAKBIS) was started at 2001 and goes on.

In this study, other issue is to compare with TAKBIS and other CIS. First of all European countries mentality and conception is determined for this cadastral systems. After that, compare to Turkish cadastral system. Finally, this research determined that especially some of the basic principles and standards are suitable and overlap in this countries which is the member of EU but some of the standards and criterions are found different and unsuitable for this countries.

At the same time Turkey's cadastral system is same platform and structure with EU countries' for theoretical meaning but practically Turkey hasn't reached these standards because of geographical and economical conditions.

Result of this study explain that Turkey's duty for catch the European countries standards and requirement for CIS and cadastral system for practically and theoretical in duration of EU accession of Turkey.

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1. INTRODUCTION

The European Union (EU), established by six countries (i.e. Belgium, France, Germany, Italy, Luxembourg and the Netherlands) in 1951 and presently having twenty-five member countries is a good example of being integrated multi sectors including economy, industry, politics, civil rights and foreign policy domains.

The Union, originally, has taken the road under name of the European Besides, the single market which enables free movement of goods, services, capital and people Coal and Steel Community (ECSC) and in the course of time, its name was transformed into the European Economic Community (EEC) and the European Atomic Energy Community (Euratom), finally the European Union (EU) (Yavuz, 2005).

The aim of the EU is to support economical and social development, to provide progress on the domains of freedom, security and justice, to supply the European citizenship, to form the EU laws and to protect these all. Besides, the single market which enables free movement of goods, services, capital and people without internal boundaries is formed (AB, 2003). Other important issue is Cadastre 2014.

Cadastre 2014 is published by 7.commission of international federation of surveyors (FIG) in 1998 and it is very considerable study for determine to future of cadastre. Thus this study of report is considered by international area and it is translated 25 different languages. (URL-1, 2007). Cadastre 2014 is shown interest in because of new approach of cadastre and especially management of cadastral data like instead of parcel, it is stipulated object based management for Land information systems (LIS). Besides cadastre 2014 included that all of the public rights and restriction about legal statement of fields. (Kaufmann and Steudler, 1998)

Germany and Netherlands are improved concerning CIS among to European Countries. Although Switzerland has not been member of European union this country is more improved and applicated CIS system according to cadastre 2014. TAKBIS has been applicated since 2001 in our country, Turkey.

This study explain that Turkey's duty for catch the European countries standards and requirement for CIS and cadastral system for practically and theoretical in duration of EU accession of Turkey.

2. CURRENT POSITION OF TURKISH AND OTHER EU COUNTRIES CADASTRAL SYSTEM

Principles of Cadastre 2014 are the procedure of the definition is similar for land objects created under private and public law. The right of private property is defined by a contract, normally between two land owners. After the agreement between lands owners about a transfer of rights, a deed or a title are created. The transaction of rights becomes legally effective by the registration of either deeds or titles in an official land register (Figure 2-1) (URL-2).

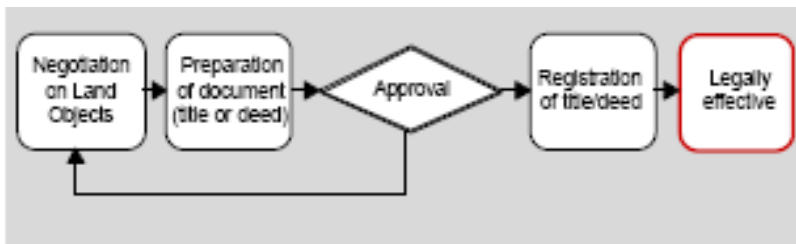


Figure 2-1: Implementation Process for private law regulations.

The situations of member countries in terms of traditional classification are given in Figure 2. According to this figure, even though Belgium, France and the Netherlands indicate the deed registration system as their systems used in theory, it is seen that these countries have used the title registration system based on parcel when other features of systems used were looked. Again, Greece, Ireland and United Kingdom from member countries have also used both systems. Namely, these countries started the transition process from the deed registration system to title registration system but couldn't complete yet. On the other hand, the main unit of cadastre in all of these countries is parcel. In the light of this knowledge, it can be said that all member countries have used the title registration system based on the parcel (Yavuz, 2004). Turkey is included group of Title Registration System.

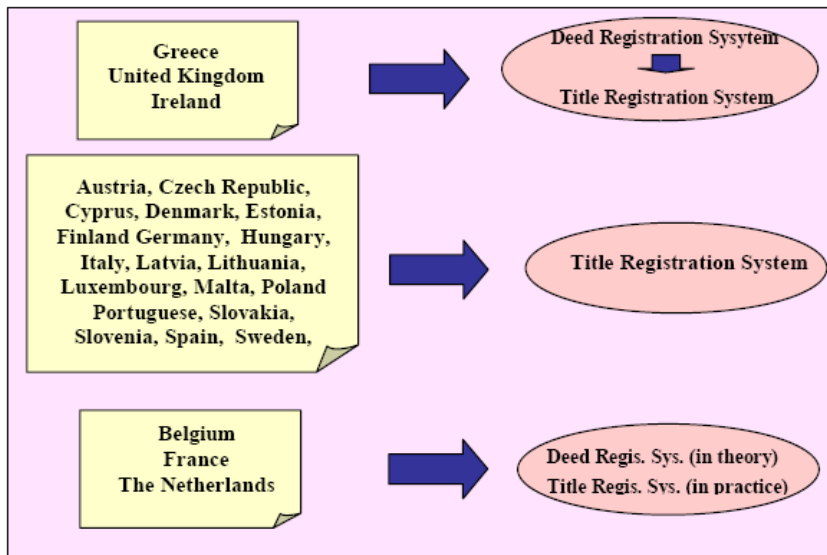


Figure 2-2: The EU Member Countries According to Land Registration System (Yavuz, 2005)

In the current land title and cadastre system of Turkey, real estates such as land parcels, buildings, apartments, business offices etc. are defined with two general types of information. These types are named as “land title data” and “cadastral data” in this article. Land title data involves ownership identities such as name, last name, father name of the owner.

The date and transaction via which the ownership was obtained is also involved. In addition, ownership rights and responsibilities such as mortgages on the estate, rights of third parties on the estate are components of land title data. Cadastral data, on the other hand, determines the location in a coordinate system and the shape of the estate.

At the moment, cadastral data is maintained in either analog or digital medium. In Turkey, both types of data are handled by two separate state organizations; land title offices and cadastre offices (Cömert and Alkan, 2002). There exist a number of registers in a land title office. Land title data has to be registered in these registers to become legally valid. These registers, shown on Table 2-1, are named as “main” and “auxiliary” registers. These registers are currently maintained manually.

Table 2-1: Land Title Registers [Karagoz, 1995]

| Main registers | Auxiliary registers |
|-----------------------|-----------------------------|
| Land title register | Owners register |
| Real estate register | Representatives register |
| Transactions register | Corrections register |
| Legal documents | Public owned lands register |

3. CADASTRAL INFORMATION SYSTEM IN EUROPE AND TAKBIS

CIS is very important for cadastral systems. EU member of Germany and Holland was solved this problem. Germany has an ALKIS and ATKIS that is possible to make for a lot of current and temporal analyses. Holland has a CIS that is possible to make for temporal and current cadastral and land title queries.

Basic conceptual of ALK has been determined for Germany in 1970. Nevertheless applications are started in 1977 for this area. After this years generated basic version of ALK with digitizing of cadastral maps in states of Germany because of users who demanded to completely (%100) digitized of cadastral maps for a shortly time. Present time study of ALK is completed extensive of Germany. Although cadastral study on a level with state, ALK is configured one type exceptional small detail for all state of Germany for provide to reached standard structure of data for all country (Hawerk, 2003).

In Germany, land register is perpetuated with digital land registration system which is named ALB. Process of land register has been maintained by land register office with same system too. Every land register office has reached their area of responsibility with ALB system. ALB system has been used a lot of state for Germany. ALB system is included approximately 61.3 million parcel information for general of this country (Hawerk 2001a, Hawerk 2003).

ALKIS[®] is cadastral information system that combined to digital cadastre maps and Land registers with object based database for Germany (Hawerk, 2001b). This project is coordinated by AdV for provide standard structure in general of this country. General meaning of project of ALKIS[®] two basic of features are very considerable. One of this feature that ALKIS[®] is combined with another spatial information systems like AFIS[®] and ATKIS[®]. ALKIS[®] is component of combined applications like AFIS[®]-ALKIS[®]-ATKIS[®] (AAA) Second feature is ALKIS[®] is modeled basic of international standards.

GEO++ GIS software was improved for cadastral application in Netherlands (Ooesterom and Massen 1997; Ooesterom att all, 2001). Requirement of all cadastral data was transferred digital area between 1984 and 1999 years. However all datas were transferred into GEO++ software with was imaged database and GIS. All current and spatial analyses are done with GIS system and same time changes are added into this information system.

In Sweden, Cadastral GIS: at the National Land Survey (NLS), the term “the integrated cadastral system of Sweden” is used. This means that the whole infrastructure, the registered and presented property information (land, owners, users, houses etc.), is integrated with its geographic location. This data covers the whole nation, but is not stored in a single database. Several authorities (i.e. municipalities, taxation authorities, and NLS) maintain the database infrastructure. The cadastral data is linked with unique identities in order to work in a uniform system for presentation and analyses (URL-3, 2008).

In Turkey TAKBIS study has been continued since 2001 in Ankara for two pilot region. However the pilot region study was completed in 2005. Presently land register information has been added into the system for base of county in Turkey. For cadastre data studies is perpetuated in pilot region in Turkey. One of the main problems for Turkey's that extensive of countries cadastral studying hasn't been finished and cadastral maps haven't been digitized completely. Besides disadvantage of TAKBIS that temporal analyses are a big problem before the land registration.

TAKBIS is a "strategic and integrated" public informatics project aiming at the followings;

- Providing reliable land information required for land and land-related activities and decision-makers and produced and managed under the responsibility of the TKGM.
- Analyzing the existing structure of the organization and determining the requirements for the TAKBIS system and software to be created.
- Within the frame of the determined requirements, by taking advantage of the principles and possibilities of an Integrated Information System, planning, conducting and managing the activities of the TKGM more properly, more quickly, more reliably and more effectively.
- Regulating such activities in accordance to the principles of the Geographical Information System and Land Information System, in frame of standards of OPENGIS Consortium.
- Transferring land register records and cadastral maps to a digital environment and to a database modeled and created according to the requirements of TAKBIS.
- Maintaining information updated and re-evaluating them within the scope of information technologies and offering them to the use of central and provincial units of the TKGM and other public organizations.
- Offering land registry and cadastral information, which is the only legal ownership base, to other institutions and organizations, in an electronic environment and as on-line.
- Providing a possibility to transform land registry and cadastral information into a Multi-Purpose Land Information Systems, through the use of such information by relevant organizations.
- Establishing the required technological infrastructure and security mechanisms.
- Installing and testing the required hardware and communications infrastructure of the project, the basic software, the developed Land Registry Application Software, Cadastre Application Software, Project Monitoring and Management Application Software and the Management Information System where the activities other than land registry and cadastral technique are automated; integrating the digitalized data within the scope of pilot applications into the system.
- Having approval of project, wide spreading TAKBIS according to the priorities to be determined by the Administration.

4. FUTURE OF CADASTRAL SYSTEMS IN EU AND TURKEY

Germany and Netherlands are completed their CIS studies. In Sweden, imaging of CIS is completed nevertheless application of this area has been continued. Studies of this area have been continued which is member of other European Union countries.

Statement 4 on Cadastre 2014 is very considerable context of cadastre 2014. Some main advantages of new model are given below according to on basis of statement 4 on Cadastre 2014.

- Flexibility in the representation of information of the data model. Type, scale, and content of a representation can be chosen according to the needs
- The information is stored once and different products are derived from the same data
- The digital model is easy to handle, and data representing the model cannot be destroyed physically as can traditional maps
- Distribution and publication of cadastral information is easily possible with the help of the exchange of digital data models.

The word “Paper and pencil - cadastre' will have gone”, is the most important meaning for future cadastral systems. Because in the near future CIS very important issue for AB cadastre. Therefore TAKBIS is very important project for Turkey. However imagination and application stage is started with some deficiencies.

There are a lot of things to be carried out in the context of cadastre 2014. Same problem is current other member of European Union countries.

Some deficiencies of TAKBIS and requirements should be carried out are given below for context of Cadastre 2014.

- It is known that digitizing of maps are completed approximately %10 extensive of country. Requirement of all cadastral data which is transferred digital area and digital coordinate is very considerable for using GIS and Temporal GIS systems. Therefore it is very big and major problem for TAKBIS. Digitized of all cadastral data is used for study of pilot project. Nevertheless digitizing of maps and data is very considerable for GIS and Temporal GIS. Obsolete of cadastral charts should be used after digitizing for geographical information systems. Context of a lot of city center's cadastral charts are not graphical and digital. Therefore this problem is solved with instauration cadastral studies for this area. Main and consider solution is that second cadastral studies should be done for geographical information systems and cadastral applications
- All of the Land Title and Cadastral (LTC) data is digitized at development countries which were completed to cadastral proceedings. For TAKBIS, transferred of cadastral data into information systems when the pilot project was started. Although LTC data is registered, followed and queried by software which is used for TAKBIS study,

imagination have not been done for temporal LTC data (Poyraz ve Ercan, 2002; URL-4, 2002; Mataracı ve İker, 2002).

- Land register and cadastre TAKBIS are worked different office. It is arranged by laws and regulations. Theoretically land register and cadastral informations are carried out same area for CIS applications. So this systems can be combined to same office
- According to regulation, imagination wasn't done exactly for bring out to information via website.
- Clearness is very important feature for European Union. Context of this, clearness is very considerable to provide data for users too. However this feature is added into TAKBIS and should be done legal arrangements.
- All stage of the TAKBIS should be revised according to cadastre 2014 and EU norm and TAKBIS should be reached EU and ISO standards with complete to requirement of improvement.

5. CONCLUSIONS

Concept of property is very considerable in the world. Process of infra-structure and superstructure can not be carried out without property. Context of this Cadastral information system is very important for cadastral systems in technology of present.

Deficiencies of TAKBIS are mentioned above; it should be improved for Turkey. After that geometric and attribute information of all property's registration should be completed extensive of country. Cadastral and land title data has a very large spectrum of users; legal authorities, Land Registry and Cadastre offices, Highway departments, Foundations, Ministries of Budget, Transportation, Justice, Public Works and Settlement, Environment and Forestry, Agriculture and Rural Affairs, Culture and Internal Affairs, State Institute of Statistics, execution offices, tax offices, real estate offices, private sector, local governments, banks and owners need this data. TAKBIS which is improved on account of deficiencies is very considerable for these users. Owing to this qualitative of current and previous data is acquired by users who want to provide correct, reliable and quick information and knowledge.

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