Cadastre 2014 Performance of Turkey and Expectations from Cadastre 2034

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Key words: Cadastre 2014, Cadastre 2034, TKGM

SUMMARY

The International Federation of Surveyors (FIG)'s 7th Commission which deals with the subjects of Cadastre and Land Management decided that a vision should be developed for cadastre in the following 20 years period in XXth ordinary congress in 1994. Within the scope of this decision, the work group completed its long-term studies and published a report named "Cadastre 2014 - A Vision for A Cadastral System in the Future" in 1998. This study called as "The Vision of Cadastre 2014" underlines the view on how cadastre will develop and how it will look like in the following twenty years. This report, which consists of views for ensuring the cadastre to be globally integrative and shaping the future of surveying occupation, is submitted to the world by FIG. Our country conducted some studies and projects in order to ensure the modern cadastral system in the direction with the Vision of Cadastre 2014 which is under the leadership of the General Directorate of Land Registry and Cadastre (TKGM). The aim of this study is to examine the studies and projects that have been completed by public and private organizations up to the present, to evaluate our country's "Cadastre 2014" performance, to determine its position among other countries and to summarize the current condition for "Cadastre 2034".

ÖZET

Uluslar arası Haritacılar Birliği FIG'in Kadastro ve Arazi Yönetimi konularıyla ilgilenen 7.Komisyonu, 1994 yılında XX.olağan kongresinde önümüzdeki 20 yıllık periyotta kadastro için bir vizyonun geliştirilmesi yönünde bir karar almıştır. Bu karar doğrultusunda çalışma grubu, uzun dönemli çalışmalarını tamamlayarak "Kadastro 2014 – Gelecekteki Kadastral Sistem İçin Bir Vizyon" isimli rapor 1998 yılında yayımlanmıştır. Kadastro 2014 Vizyonu" olarak isimlendirilen bu çalışma 1994 yılının bakış açısıyla yirmi yıllık bir sürede kadastronun nasıl gelişeceği ve neye benzeyeceği hususundaki görüşün temelini oluşturmaktır. Kadastronun evrensel anlamda bir bütünlük göstermesini sağlamak ve kadastro faaliyetleri ile haritacılık mesleğinin de geleceğini şekillendirmeye yönelik görüşleri içeren bu rapor FIG tarafından tüm dünya milletlerine sunulmuştur. Ülkemizde ise Tapu ve Kadastro Genel Müdürlüğü (TKGM) öncülüğünde kadastro 2014 vizyonu doğrultusunda modern kadastro sistemini sağlamak için çeşitli çalışmalar ve projeler yapmıştır. Bu çalışmanın amacı bugüne kadar gerçekleştirilen kamu kurumları veya özel sektör tarafından tamamlanan çalışma ve projeleri irdeleyerek, ülkemizin ''Kadastro 2014'' performansını ölçmek, diğer ülkeler arasındaki konumunu tespit etmek ve de ''Kadastro 2034'' için mevcut durumu özetlemektir.

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1. INTRODUCTION

The International Federation of Surveyors (FIG)'s 7th Commission which deals with the subjects of Cadastre and Land Management decided that a vision should be developed for cadastre in the following 20 years period in XXth ordinary congress in 1994. Within the scope of this decision, the working group completed its long-term studies and published a report named "Cadastre 2014 - A Vision for A Cadastral System in the Future" in 1998. This study called as "The Vision of Cadastre 2014" has underlined the view on how cadastre will be develop and how it will look like in the following twenty years. Within the scope of determined targets, the working group reviewed the current cadastral systems for developing the vision and researching the trends on the cadastre as a first step. For this purpose, a survey was decided to prepare for determining the existing developments related to the cadastre in the world in the first year interviews of commission members. The survey form was arranged for analyzing the existing cadastral trend in the world and these surveys were conducted for many countries. Many important suggestions occurred as a result of this survey and six subjects were determined. It was agreed on six principles which are created within the public rights and integration of limitations, the activation of services, the digital format and data model, the partnership of public and private sector and the economic productivity are suggested to implement across the world (Steudler, 2006). These six principles were published as "The Vision of Cadastre 2014" by FIG in 1998.

2. THE VISION OF CADASTRE 2014

According to the first principle of the Cadastre 2014, *"The Cadastre 2014 will indicate all legal condition of land including the public rights and limitations"*. The world population and the consumption of land have increased. The full monitoring of personal and legal existence of land have gradually limited by the public interests. In order to ensure the security for having lands, all facts related to land should be clearly realized by future cadastral systems (Kaufmann and Steudler, 1998; Yomralıoğlu et all., 2003). According to the second principle of the Cadastre 2014, *"The separation between maps and records would be abolished"*. Many countries have a land registration system that is composed of the land registries and cadastre components. Normally, surveyors conduct the cadastral part of components while lawyers and notaries conduct the land registry part of them. Two institutions related to the similar working areas were appeared as a result of this duty distinction. Within the scope of this principle, the distinction between maps and records would be removed and a structure working integratively each other would be created (Kaufmann and Steudler, 1998; Yomralıoğlu et all., 2003; Astle et all, 2005). According to the third principle of the Cadastre 2014, *"The cadastral mapping will be dead and a model which would be used in much longer terms will be replaced instead of it"*. Maps are always models.

However, the usable technology doesn't let to be used the appropriate type of models. As a result of these, there must be maps with different scales. Different scales must be shown by different data models. It will be possible with the new model developed as appropriate for the developed technology that the maps with the same data models and different scales and records in different forms would be formed. Therefore, there would not be any drawers and cartographers in the cadastral area (Kaufmann and Steudler, 1998; Yomralıoğlu et all., 2003). According to the fourth principle of the Cadastre 2014, *"The paper and pencil - cadastre will be abolished"*. With the technologic developments, computers are used in every field. Therefore, they are used in the processes of Land Registry. The modern cadastre based on technology must ensure the fundamental data model. All surveyors across the world should think in the manner of model and should obtain these models by using the modern technology (Kaufmann and Steudler, 1998; Yomralıoğlu and et all., 2003). According to the fifth principle of the Cadastre 2014, *"The Cadastre 2014 will be significantly privatized and the public and private sector would work together"*. Free economies ask flexibility in the immovable market, the land planning and land utilization. Flexibility may be ensured well by the private institutions. However, the public requirement is inevitable for necessary security as well as this. With the implementation of vision, the private sector would be important. Moreover, the public sector would focus on the monitoring and inspection. Many duties necessary for founding and maintaining a cadastral system could be realized by the private sector without threatening the registration security (Kaufmann and Steudler, 1998; Yomralıoğlu et all., 2003).

According to the sixth principle of the Cadastre 2014, *"The Cadastre 2014 will be cost-recovering"*. The cadastral system need to a great deal of investment. However, the land certificated with cadastre and guaranteed means investment. Countries are mostly carrying out the registration processes of cadastre and immovable registration and the costs necessary for founding and maintaining system are met (Kaufmann and Steudler, 1998; Yomralıoğlu et all.2003).With the implementation of principle, the analysis cost/profit would create a important viewpoint on the cadastral reforms and implementation.

3. THE CADASTRE 2014 STUDIES IN TURKEY

Turkish Land Registry and Cadastre Information System (TAKBIS): The target of TAKBIS project is to create the Turkish Land Registry and Cadastre Information System across the country and within this scope, the problems will be determined, the solutions will be found, the title deeds and cadastre services will be conducted as standard and electronic way and right, secure and updated data will be submitted to the Local Governments, the public institutions and organizations by analyzing the title deed and cadastre services within the scope of the Geographical Information System (GIS) and the Land Information System (LIS) (TKGM, 2015). As of the date 2012, all title deed directorates have started to give services. With the system working successfully, the data share is practices as online with 17 institutions. Many services such as fee interrogation, title deed interrogation are presented to the public as online with TAKBIS that is ensured its integration with E-government

Spatial Property System (**MEGSIS)**: The Spatial Property System (MEGSIS) is an open-source application prepared by the General Directorate of Land Registry and Cadastre by conceptualizing the project in order to match the data with .cad format in the local computers of cadastre directorates with the title deeds data by collecting on a central system, to share this data with shareholder institutions, organizations and municipalities and mapping services which work in the international standards and to submit the public with e-government application." Studies conducted under MEGSIS are collected as three main headings: i) Web based application software, ii) the international standards map service, iii) e-government services. Web-based application software is composed of modules consisting of the data entrance of internal and external users to the system, the data downloading, the title deeds data and the integration processes and interrogations, the control and follow-up of conducted works within the framework of the identification/authorization which ensures and directs the application to use in the different levels and needs. International standard map services, the cadastral data collected within MEGSIS is shared in standard format and its conformity to the standards specified in the Guideline of Principles of Workableness Together prepared by Open Geospatial Consortium (OGC) and DPT Information Society Department and institutions, organizations, municipalities requesting under protocols is tested with open source and 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.

Land Registry Archive System (**TARBIS):** With the realization of the project, its aims such as scanning archival documents stored at Department of Land Registry Archive and Istanbul TKBM (except for foreign records) and ensuring easy access to scanned documents linked by index system of people authorized to access to archive information and documentation within the security framework of persons authorized and developing reporting functions of the information entered into digital media by the user by reviewing the original document in the archives within the scope of Title Deed Archive Automation were carried out.

Land Registry and Cadastre Modernization Project (TKMP): The aim of this project is to update the data of title deeds and cadastre as being a base for the spatial information systems as set out by the Law on Cadastre and to bring it into use by transferring in the electronic environment in the numeric and legal form. In 2008, the budget of the Project of Title Deeds and Cadastre Modernization signed by the World Bank and the Republic of Turkey was determined as 35 million Euro (Approximately 203 Million $).

The Map Data Bank (HBB): It is a Spatial Information System developed for entering the metadata related to information and documents of maps created by using the developed technologic opportunities by institutions which practicing maps or have maps practiced for forming large-scaled spatial information systems across the country, updating them, submitting on the internet and therefore preventing the resource waste with the repeated map production.

Turkey's National Geographic Information System Project (TUCBS): TUCBS is an e-government project aiming at establishing the infrastructure for Geographical Information System in accordance with the technological developments at the national level (Turkish National Geographic Information System-TUCBS) and being created a web portal by public institutions and organizations to provide the geographic information they are responsible for on a common infrastructure, creating the content standards in the manner that geographic data can meet the needs of all user institutions and determining the standards of geographic data interchange. It was conducted under the responsibility of the General Directorate of Land Registry and Cadastre.

The Licensed Topographical and Cadastral Offices (LIHKAB): In accordance with the Law No. 5368 on the Licensed Topographical and Cadastral Engineers and Offices, the practice and control of processes which are not subject to the registration and the practice responsibility of those which are subject to the registration are conducted by licensed topographical and cadastral offices. As a result of license exam which was practiced, there are 551 licensed cadastral engineers who have gained the right to open the licensed topographical and cadastral office. In our country, important projects have been developed and implemented to 2014 from 1994 in order to practice it in the direction of principles specified in "The Vision of Cadastre 2014". The relationship between each project and these 6 principles are presented with their realization percentages on the Table 1.

Table 1: The relationship between each project and these 6 principles are presented with their realization percentages

Name of Activity/Project	Start/End date	The Six Statements on Cadastre 2014					
		1- Cadastre 2014 will show the complete legal situation of land, including public rights and restrictions	2- The separation between 'maps' and 'registers' will be abolished!	3- The Cadastral mapping will be dead! Long live modelling!	4- 'Paper and pencil - cadastre' will have gone!	5- Cadastre 2014 will be highly privatized! Public and private sector are working closely together!	6- Cadastre 2014 will be cost recovering!
Land Registry and Cadastre Information System (TAKBIS)	2005-2013	✓	✓		✓		
Spatial Property System (MEGSİS)	2011-continues		✓		✓		
Land Registry Archive Information System (TARBİS)	2005-2009		✓	✓			
Land Registry and Cadastre Modernization Project (TKMP)	2008- continues	✓				✓	
Map Data Bank (HBB)	2004-2008			✓	✓		✓
Turkey's National Geographic Information System (TUCBS) Project	2006-2011	✓		✓			
licenced mapping and cadastre offices	2005-continues					✓	
Tax and fees							✓
Applied percentages of Statements on Cadastre 2014 (in Turkey)		60-80	100	60-80	80-100	100	100

4. TURKEY'S PERFORMANCE ON THE CADASTRE 2014: SWOT ANALYSIS

A SWOT analysis is a structured planning method used to evaluate the **s**trengths, **w**eaknesses, **o**pportunities and **t**hreats involved in a project or in a business venture. A SWOT analysis can be carried out for a product, place, industry or person. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective (URL 1). In this study, at the corporate level activities related to Cadastre 2014 vision in Turkey were analyzed with SWOT analysis.

4.1 Strengths

The second principle of the Cadastre 2014 is for the removal of contradiction between maps and records (Kaufmann and Steudler, 1998; Çağatay, 2012). In the present day, the cadastre maps are preparing by the technician personnel in many countries (such as England, Ireland, Canada, Australia) and the property information which reveals the verbal units of cadastre is evaluated by other units (such as lawyers, notaries). Contrary to many countries, in our country, the cadastral measures and the registration processes are practiced by the General Directorate of Land Registry and Cadastre (TKGM). With the studies which are practiced under only one institution, the contradiction between maps and records are removed. With this structure, the efficiency that the contemporary cadastre needs and is emphasized in the Cadastre 2014 is ensured.

4.2 Weaknesses

The third principle of Cadastre 2014 is to develop a model which can be used in longer time by removing the cadastral mapping. With the projects of TAKBIS and MEGSIS, the information cadastre and title deeds are matched and it is submitted to the users through only one portal. Many institutions can be obtained the information of title deeds and cadastre produced within the scope of TAKBIS project can be obtained from e-Government. This principle has the 60% and 80% realization rate in our country. Institutional works related to implementation of the third principle of Cadastre 2014 have been insufficient because of uncompleted 2D cadastre surveying.

The fourth principle of Cadastre 2014 is to remove "Paper and pencil - cadastre" and replace it with the fundamental data model of modern cadastre. In the direction with this, TAKBIS project combines the title deeds and cadastre information and transfers it into the electronic environment. Therefore, interrogation becomes the data processing functions supporting the analysis and screening, the interface support and the management system of database. With the TARBIS project, the records in different forms which belong to the Ottoman Period, have the strategic importance, we have in our achieves, are facing their physical endurance are arranged as the digital achieve and the efficient index by benefitting from technology and there are the documents and information belonging to many countries, within the burdens of the Ottoman Empire and which gain independency today, in these achieves and the support of documents and information is ensured for some countries such as Macedonia, Palestine, Bosnia and Hercegovina. With the HBB project, it ensured that the metadata related to information and documents of maps is entered by relevant institutions, they are submitted on

the internet and the resource waste is prevented with the repeated map production. Since the 2 dimensional cadastre hasn't completed yet, the paper and pencil cadastre has continued but the transition to the digital cadastre based on technology is very successful.

4.3 Opportunities

According to the fifth principle of the Cadastre 2014, "The Cadastre 2014 would be significantly privatized and the public and private sector will work together". Our country took a loan (approximately 203 million $) for a finance of the Title Deeds and Cadastre Modernization Project (TKMP) from the International Bank for Reconstruction and Development and with a part of this loan, our country has conducting the service procurement with the tendering procedure with the private sector for the Work of Updating of Cadastral Map and Information (3402 S.K./22-a) which has been conducted by the General Directorate of Land Registry and Cadastre. As of the date 2014, the restoration of approximately 4.4 million parcels has been conducted (Table 2). Therefore, the private sector is ensured to participate directly to the cadastral activities and the private and public sector have begun to work together. Moreover, the private offices can get licenses as a result of exam. As required by the law, the practice and control of processes which are not subject to registration among the cadastral technical services (The practice and control of Application, Determining Place for Parcel, Determining Place for Independent Part) and the responsibility of practice of processes which are subject to registration (The practice, control and monitoring of Change of type, Constitution of servitude, The practice of services based on the request for land amalgamation processes) are conducted by licensed topographical and cadastral offices. As a result of license exam which was practiced, 551 licensed cadastral engineers have gained the right to open the licensed topographical and cadastral office. Even though these offices aren't completely in active, 330 licensed topographical and cadastral offices have giving service as of the date July 2011 (URL-2). The cadastral processes of both licensed offices and the other mapping companies which are working in the restoration processes have been completed in the control of the public and the fifth principle of cadastre 2014 has been successfully implemented in our country. Strong institutional structure of the TKGM and commissioning of the private sector has created opportunities for the implementation of the Cadastre 2014.

Table 2: Tender summary chart between 2004 and 2012 (TKGM, 2015)

Years	Number of project	Number of unit	Number of parcel	Tender price (TL)
2004	19	353	342.259	6.387.013
2005	153	2.946	3.050.240	120.121.981
2006	203	4.143	4.568.693	265.338.784
2007	122	2.786	2.710.091	107.602.993
2008	43	862	760.605	28.997.197
2009	17	371	333.005	20.205.944
2010	26	564	614.316	35.910.065
2011	Cancel	Cancel	Cancel	Cancel
2012	18	238	180.215	10.302.892
TOTAL	601	12.263	12.559.424	594.866.872
TOTAL of PROJECTS				601
TOTAL of UNITS				12.263
TOTAL of CONFIRMED PROJECTS				505

The sixth principle of Cadastre 2014, "Cadastre 2014 will be cost-recovery". The financial dimensions of investments necessary for a sustainable cadastral system are significantly costly. At least a part of costs necessary for the cadastral investments and processes must be taken back from people getting profit from these services. TKGM takes money as fees from citizens in return for the service it gives. TKGM gives service annually 20 million citizens in average. TKGM transferred approximately 6.5 billion TL in 2013 while it transferred approximately 8 billion TL in 2014 to the Treasury (Table 3). TKGM's annual transaction volume and fee income is an opportunity to apply the principles of "Cadastre 2014 will be cost recovery".

Table 3: Number of occurred transaction and value of fees in TKGM between 2010 and 2014

Years	Number of transaction	Value of transaction (TL)	Value of fees (TL)
2014	7.629.498	912.025.123.252	7.945.311.165
2013	6.751.304	808.896.290.733	6.823.826.854
2012	6.190.454	603.048.373.346	4.637.488.907
2011	5.875.531	585.074.713.349	4.272.460.130
2010	6.079.011	429.654.293.773	3.469.313.276

4.4 Threats

The first principle of Cadastre 2014 is to be recognized legally all limits and rights on the land and to ensure the legal security of these rights and limits (Kaufmann, 2004; Kaufmann and Steudler, 1998). Although the property rights on the immovable property is under the state guarantee in our country, all legal conditions related to the property aren't completely reflected. The main reason of this is that the immovable cadastre of our country is conducted as 2 dimensional and the relevant property rights are registered under this situation. At the present, 98 % of 2 dimensional cadastre was completed (TKGM, 2015). Since the 2 dimensional cadastre hasn't completed yet, 3 dimensional cadastre and the transition period to the registration haven't started. Both uncompleted 2D cadastre and failing to provide the necessary legal and technical infrastructure for 3D cadastre become a threat.

5. THE COMPARISON OF CADASTRE 2014 ACTIVITIES IN OTHER COUNTRIES WITH THE SITUATION IN OUR COUNTRY

According to a study conducted by Lononis (2014) in Greece, the first principle of Cadastre 2014 was realized in 60 % - 80 % rate; the second principle of it was realized in 100 % rate, the third principle of it was realized in 100 % rate, the fourth principle was realized in 80 % - 100 % rate, the fifth principle was realized in 40 % - 60 % and the sixth principle was realized in 80 % - 100 % (Table 4). According to a study conducted by Horňanský et all. (2014), the first principle of Cadastre 2014 was implemented in 60 % - 80 % rate; the second principle of it was implemented in 80 % - 100 % rate, the third principle of it was implemented in 80 % - 100 % rate, the fourth principle was implemented in 80 % rate, the fifth principle was implemented in 80 % - 100 % and the sixth principle wasn't implemented (Table 4). According to a study conducted by Land (2014a), the first principle of Cadastre 2014 was implemented in 60 % - 80 % rate; the second principle of it was implemented in 100 % rate,

the third principle of it was implemented in 100 % rate, the fourth principle was implemented in 80 % - % 100 rate, the fifth principle was not implemented and the sixth principle was realized in 100 % rate

Table 4: Applied percentages of Cadastre 2014 Vision in some countries.

The Six Statements on Cadastre 2014	Some countries and European average				
	Turkey	Greece (Lolonis, 2014a)	Slovakia (Horňanský et al., 2014)	Sweden (Land, 2014)	European average (Lolonis, 2014b)
1- Cadastre 2014 will show the complete legal situation of land, including public rights and restrictions	60%-80%	60%-80%	40%-60% (fulfilled only partially)	60%-80%	40%-%60
2- The separation between 'maps' and 'registers' will be abolished!	100%	100%	100% (applied fully)	80%-100%	80%-100%
3- The Cadastral mapping will be dead! Long live modelling!	60%-80%	100%	100% (applied fully)	80%-100%	100%
4- 'Paper and pencil - cadastre' will have gone!	80%-100%	80%-100%	100% (being applied)	100%	100%
5- Cadastre 2014 will be highly privatized! Public and private sector are working closely together!	100%	40%-60%	80%-100% (implemented to a considerable extent)	not applied	40%-%60
6- Cadastre 2014 will be cost recovering!	100%	80%-100%	not applied	100%	40%-%60

When the Europe average is considered, the first principle of Cadastre 2014 was implemented in 40 % - 60 % rate; the second principle of it was implemented in 80 % - 100 % rate, the third principle of it was implemented in 100 % rate, the fourth principle was implemented in % 100 rate, the fifth principle was implemented in40 % - 60 % rate and the sixth principle was implemented 40 % - 60 % rate (Lolonis, 2014b) (Table 4). When our country's Cadastre 2014 performance is evaluated, it is successful in terms of both countries in the example and the Europe average. While our country is giving an average performance in the practice of the first and third principles, it is giving an outstanding performance in the practice of the second, fourth, fifth and sixth principles. If the existing deficiencies are removed, the practice of cadastre 2034 vision will be much easier.

6. THE EXPECTATIONS FROM CADASTRE 2034

The Vision of Cadastre 2014 is presenting an effective model for a sustainable cadastral system. With this vision, the social and technologic dynamics to affect the land management is required to be regarded in the following 20 years (Özçelik, 2013). In the study named "Beyond Cadastre 2014" presented by Bennett and others in 2010 FIG congress and published in July 2010 GIM International journal, they defined six statements for Cadastre 2034 within the scope of the role and structure of cadastre (Figure 1) (Özçelik, 2013; Lemmens, 2010;2010a; GIM, 2011).

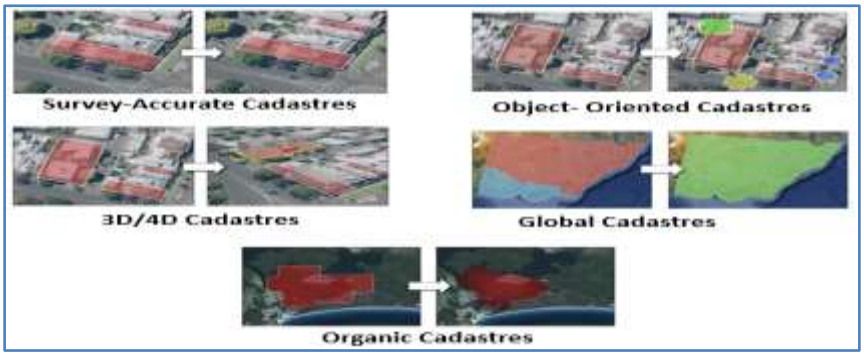

Figure 1: Potential characteristics of future cadastres 2034 (Lemmens, 2010; GIM, 2011; Bennett et al., 2011)

Özçelik (2013) explained these six statements in his study as follows:*'' The concepts of (1) Cadastre Based on Accuracy of Measurement for measuring in high accuracy for land-section harmonization, (2) Cadastre Based on Object instead of cadastre based on parcel for identifying again and legally in the manner that the limitations and responsibilities are met the present day's needs, (3) 3B and 4B Cadastre for modeling, management the land, combining the property data and the sustainable lands, (4) Instant and Current Cadastre for updating continually the cadastral data and the instant access to the cadastral information, (5) Regional and Global Cadastre which is associated with each other in terms of regional and global senses and present opportunity to work together, (6) Natural Cadastre for modeling well the natural environment will integratively play an effective role for designing the future cadastre within the scope of Cadastre 2034 (Bennett and others, 2010; 2010b;2011; Lemmens, 2010;2010a; GIM, 2011).''*
According to Steudler (2010), even if many issues such as the measure accuracy, the land object or the data layers are dealt within the scope of Cadastre 2014, the requirement of land and land usage is increased in the face of some global problems such as the population increase, the climate changes and food and nutrition and the concepts emphasized with Cadastre 2014 are required to be regarded more comprehensively with "Cadastre 2034".

7. CONCLUSION

Although the property rights on the immovable property is under the state guarantee in our country, all legal conditions related to the property aren't completely reflected because the 3 dimensional cadastre hasn't been started. Therefore, hundred percent success wasn't ensured in the implementation of the first principle. It is envisaged by the second principle that the separation between maps and records are abolished and is implemented under only one institution's responsibility. There is any contradiction since TKGM is the only institution responsible for mapping (cadastre) and records (title deeds). Therefore, hundred percent success was ensured in the implementation of the second principle. Although the projects such as TAKBIS and MEGSIS were successfully implemented for long-term and sustainable cadastral modeling, the cadastral mapping has been continued because the country cadastre hasn't completed yet. Therefore, hundred percent success wasn't ensured in the implementation of the third and fourth principle. The private and public sector has worked together for the work of updating the cadastral maps and information with the Title Deeds and

Cadastre Modernization Project (3402 S.K./22-a Application). The practice and control of processes which are not subject to the registration among the cadastral technical services and the practice responsibility of those which are subject to the registration are conducted by licensed topographical and cadastral offices. With these two projects which are examples for private and public sector to work together under the leadership of TKGM, hundred percent success was ensured in the implementation of the second principle of cadastre 2014. TKGM has conducted investments for better service with fees it takes in return for services it gives to the citizens. Within this sense, these fees are getting back them as services and a cost-recovering and sustainable cadastral system is implemented. Therefore, the last principle of Cadastre 2014 has been successfully implemented in our country. When our country is compared with other Europe countries, its performance on Cadastre 2014 becomes a positive reference for Cadastre 2034 and the transition to the modern cadastre will be promptly completed with the completion of deficiencies.

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