

# **A Comparative Analysis of Cadastral Systems in the EU Countries According to Basic Selected Criteria**

**Ayşe YAVUZ, Turkey**

**Key Words:** Cadastral System, Land Registration, Cadastre, the EU Countries.

## **SUMMARY**

The European Union (EU) has taken the road with some international moral values rather than economical worries. These values in the statute of key criteria during adaptation to the EU are directly related to land policy and management. In this context, some key criteria such as the establishment of free market, the protection of human rights and the support of environmental sustainability depend on effective land administration system, thus cadastre. That is the reason of the great importance of cadastre in the EU.

In 2002, the concept of the EU cadastre was opened for discussion with participations of member countries. The aim here is to shape the EU cadastre. At this point, the investigation of the cadastral system of each member country is required. This issue is also important for candidate countries such as Turkey because of their adaptation process to the EU.

The aim of this study is to make a comparative analysis by handling cadastral system of each member country in general terms. The study is divided into three parts. In the first part, general information about both the EU concept and member countries is given. In the second part, it is defined which criteria are required and important during the investigation of cadastral system of any country, and, according to these selected criteria, cadastral systems of member countries are analyzed. In the last part, general evaluations and conclusions are given.

# **A Comparative Analysis of Cadastral Systems in the EU Countries According to Basic Selected Criteria**

**Ayşe YAVUZ, Turkey**

## **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 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).

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).

In this context, the EU has taken the road with some international moral values rather than economical worries. Therefore, it is demanded that member and candidate countries should comply with basic principles such as providing of continual peace, equality, freedom, respect to human rights, minority rights and fundamental rights. During the adaptation to the EU, these values in the statute of key criteria are related to land policy and management directly. In this point, some key criteria such as the establishment of free-market, the protection of human rights and the supporting of environmental sustainability depend on effective land administration, thus cadastre. This situation has brought that cadastre in the EU has gained much importance.

In fact, a central requirement for membership of the EU is the existence of a functioning market economy. A key requirement of a functioning market economy is a functioning land market, in which turn requires a whole range of legal, institutional, technical and capacity building initiatives. Therefore, without an effective land administration infrastructure, it is very difficult, if not impossible, to buy or to sell the rights on land and to mortgage. At the same time, the key component of effective land market is the establishment of real estate tax system. Briefly, the existence of functioning free-market economy depends on effective land market, which is depend on effective cadastre (Bogaerts et al, 2001).

In addition to increasing importance of cadastre, that most of countries in the scope of enlargement implemented in the close past are in transition process, that ownership structures and cadastral systems of these countries are in new formation process, that people moved from one member country to another member country encounter different concept and

procedures on topics such as real rights, transmission mechanism of these rights, land registration and cadastre as a result of free movement of people, goods and capital, has caused to put the cadastre and land administration subjects in the EU on the agenda and to realize various activities recently (Yavuz, 2004).

The most important activity implemented in this sense is “First Congress on Cadastre in the European Union” held in 2002 with the participation of all member countries and 10 countries entered to the EU in May 2004. In the context of this congress, Permanent Committee on Cadastre in the European Union including representatives of all these countries established to shape notion of the EU cadastre (URL-1, 2002). It is important to make detail analysis to determine the current situation of cadastral systems of each country, during realizing of this aim.

Therefore, in this study, it is aimed to make comparative analysis of cadastral systems of member countries with purpose of both helping candidate countries (e.g. Turkey) in the process of adaptation to the EU to determine their policies concerning mentioned fields, and supplementing the process mentioned above. As known, a cadastral system is a three-dimensional concept comprising of legal, institutional and technical. Moreover, it is unquestionable the influence on each other of these factors having wide spectrum. However, it is impossible to handle the all in this study. Therefore, cadastral systems of countries are investigated by selecting criteria required to be able to put forth cadastral system of any country in general terms for consideration.

## 2. GENERAL OVERVIEW TO THE EU MEMBER COUNTRIES

The European Union as at May 2004 has twenty-five member countries. The EU is the union of countries in which differential language, culture, social and institutional structure etc. exist. General features of member countries in which great differences exist in terms of area, population and gross national product per person can be seen at Table 1. These features of countries have undertaken as an active role in the shaping of their cadastres.

Table 1. Profiles of Member Countries (AB, 2003, Yavuz, 2004)

Countries	Membership Date	Political System	GNP /Person \$*	Population (million)	Area (km <sup>2</sup> )
Austria	1995	Republic	33 754	8.1	83 858
Belgium	Founding	Constitutional Monarchy	31 284	10.2	30 510
Cyprus	2004	Republic	20341	0.8	9000
Czech Republic	2004	Republic	9423	10.3	78 866
Denmark	1973	Constitutional Monarchy	42 721	5.4	43 094
Estonia	2004	Republic	6673	1.4	45 227
Finland	1995	Republic	33 541	5.1	338 000
France	Founding	Republic	30 712	59.2	547 030
Germany	Founding	Federal Republic	31 575	82	365 910
Greece	1981	Republic	17 017	10.5	131 957

(Table 1 continued)

Hungary	2004	Republic	8684	10	93 036
Ireland	1973	Republic	41 129	3.8	70 280
Italy	Founding	Republic	27 306	56.7	301 230
Latvia	2004	Republic	4582	2.37	64 589
Lithuania	2004	Republic	5475	3.7	65 300
Luxembourg	Founding	Constitutional Monarchy	62 530	435700 **	2586
Malta	2004	Republic	12875	0.39	316
The Netherlands	Founding	Constitutional Monarchy	34 017	15.9	41 532
Poland	2004	Republic	5823	38.65	312 685
Portuguese	1986	Republic	15 484	10.0	92 391
Slovakia	2004	Republic	6644	5.4	49 035
Slovenia	2004	Republic	14977	1.9	20 253
Spain	1986	Constitutional Monarchy	22 158	39.2	492 503
Sweden	1995	Constitutional Monarchy	36 174	8.9	449 964
United Nations	1973	Constitutional Monarchy	32 386	58.6	242 500
<b>Total of Member Countries</b>			32786	448.95	3 971 652

\*: Gross National Product per Person in 2003. the EU average: 32 786\$

\*\* : Person

### 3. THE ANALYSIS OF CADASTRAL SYSTEM IN THE EU MEMBER COUNTRIES

As known, the cadastre is to seek the response for the questions such as who?, where?, how much? and how? by examining the relationship of person- right- parcel. It cannot be rejected the role of Europe in giving shape to the cadastre consisting of the basis of functions such as sustainable development, regular urbanization, fair taxation and the providing security for ownership which are important for the community and the state. In fact, in the literature, Napoleon cadastre and Maria Theresia cadastre are accepted as the origin of modern cadastre.

When member countries are looked, it has been seen that some countries have almost the same cadastral system, namely the separating into groups of countries exist with both historical reasons (i.e. some countries was under the same Empire in past) and geographical (i.e. adjacent countries have effected each other) and political reasons. It has been also seen that there are big similarities derived from the nature of cadastre in addition to differences between these groups.

#### 3.1. The EU Member Countries in Terms of the Ownership Concept

The right of ownership in depending on the understanding of expanding individual freedom has been one of the universal human rights and thus it reached to the position of one of the most important rights that countries have to give security. Therefore, it will not be wrong to say that the right of ownership is the reflection of becoming free in practice.

In this context, the protection of human rights and the right of private ownership is one of basic principles of the EU. At the same time, it is obvious that all member countries have

accepted the principles in the Universal Declaration of Human Rights because of being member of the United Nations. Therefore, they have accepted basis concerning ownership in the articles 13 and 17 of Declaration. According to these articles, it is stated that everyone has the right to own alone or together with others and that no one may be deprived of this right arbitrarily.

On the other hand, the regulation prepared by the EU in September 2000 contains 54 articles, where article 17 deals with the rights to property: “everyone *has the right to own, use, dispose of and bequeath his or her lawfully acquired possessions. No one may be deprived of his or her possession, except in the public interest and in the cases and under the conditions provided for by law, subject to fair compensation being paid in good time for their loss. The use of property may be regulated by law insofar as is necessary for the general interest*”. An important aspect of the protection of human rights is the protection of private real property by the government. An up-to-date cadastral system maintained by the Government is a prerequisite for the protection of real property (Bogaerts et al, 2001).

Thus, private real property has gained the importance in all of member countries. On the other hand, it should be stated that some of member countries left from Communist Regime in the early 1990s. In the mentioned period, it was focused on the right of use rather than the right of ownership. Therefore, in this period, private ownership decreased as little or no. But, after the collapse of the Communist Regime, restitution of real properties expropriated was put on the agenda. Thus, the subject of restitution has been the priority of these states since 1989. However, in this new period, criteria such as psyche situation of communities, and their political desires have given rise to differences on transition to private real property. In this context, in Poland from transition countries, there is not large-scale restitution or compensating; however, the privatization on the land in the ownership of the state exists. The restitution of real property implemented in appropriate places in Latvia, Czech Republic, Slovakia and Slovenia provided that person should be own citizen of mentioned country. In Hungary, it was adopted the policy of compensating rather than large-scale restitution of real property. Finally, the operation of restitution is about complete in all of these countries (Dale and Baldwin, 2000). In fact, 86% of the restitution implemented in Slovakia as at 2001 (Hornansky et al., 2001). Briefly, the ownership structure of transition countries was similar to the ownership structure of West Europe Countries at the end of 1990s.

As a result, private real property acquisition of people was allowed in all member countries. Nevertheless, the dimension of application has changed from a country to country. Namely, while about all of real properties in some countries is in private ownership (e.g. 95% Luxembourg), little part in some is in private ownership (e.g. 33% Greece). In the context of this study, the knowledge about the amount of the private ownership in all member countries could not be reached. However, to constitute general understanding about the proportion of private ownership and public ownership in member countries, the reached amounts are given here. In this context, 95% in Luxembourg, 70% in Germany, 69% in Finland, 85% in Spain, 75% in Denmark, 47% in Belgium and 33% in Greece of real properties are belong to private ownership (Yavuz, 2004).

the amounts reached were given here. In this context, 95% of real properties in Luxembourg, 70% of real properties in Germany, 69% of real properties in Finland, 85% of real properties in Spain, 75% of real properties in Denmark, 47% of real properties in Belgium and 33% of real properties in Greece are belong to private ownership (Yavuz, 2004).

Another important component on ownership matter is the real property acquisition of foreigners. On the other hand, the real property acquisition of foreigners is also important for the protection of human rights and the providing of free movement of goods, people and services, which are basic principles of the EU.

In this context, the main idea in member countries is that the EU citizens can obtain real properties from everywhere they want. Even though this idea is valid in most of the EU countries, some drawbacks exist in some member countries particularly member countries entered to the EU in May 2004, so, some restrictions have been brought. Such restrictions exist in border regions for especially security. However, in some countries, the real property acquisition of not only the EU citizens both also all world citizens is allowed.

In this study, member countries entered to the EU in May 2004 were handled in separate. Because, in particularly these countries, drawbacks are in dense and restrictive measures are taken on selling of agricultural lands to foreigners in terms of time. For example, the selling of agricultural and forestlands to foreigners has been forbidden for 12 years (after full membership to the EU) in Poland and for 7 years in Hungary, Czech Republic and Slovakia (Aras et al., 2004). Finally, the governments in central Europe countries generally wanted to protect the landowners and the native farmers by preventing the agricultural land acquisition of foreigners.

In Lithuania, foreigners can possess the land parcels with the right of ownership for the aim of establishment of their own diplomatic and consulate buildings. Foreign citizens can be allowed to obtain the ownership of non-agricultural land parcels (Mikuta, 2001).

In Hungary, foreign real and legal entities can acquire the lands such as urban lands, apartments, commercial properties and the lands smaller than 6000 square meter except for places in the ownership of the state such as natural sources, transport roads and arable lands. In Poland, a foreigner can acquire the land to 4000 square meter provided that the foreigner should reside at least five years or the foreigner married with Polish should reside at least two years. In the situations excluding mentioned provisions, foreigner must obtain permission from the Ministry of Internal Affairs to acquire real property. On the other hand, in Czech Republic, foreigners can acquire real properties provided that special permissions should be fulfilled. Nevertheless, real property acquisition of foreign legal entities is banned. In Slovenia, real property acquisition of foreigners is allowed under the specific provisions and according to mutuality principle convenient for international agreements (Uzun and Yavuz, 2003).

On the other hand, according to obtained knowledge, the situation of real property acquisition of foreigners in 15 member countries is summarized in Table 2. From Table 2, it can be said

that there are some restrictions which are valid for only non-the EU citizens in Austria and Ireland from 15 member countries. In this context, because non-the EU citizens can acquire real property outside urban fields in Ireland, the permission of the Ministry of Agriculture and Food is required. In Austria, non-the EU citizens should have been permanently resident.

Table 2. 15 member countries of the EU according to restrictions in the acquisition real property of foreigners

<b>Countries</b>	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portuguese	Spain	Sweden	United Nations
<b>Provisions</b>															
Everybody can acquire real property	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
There are some local restrictions	X		X	X			X								
There are some restrictions for only non-the EU citizens	X							X							

Again, as seen from Table 2, in some member countries, all foreigners can acquire real property with some local restrictions exist. In this context, there is the condition of permanent residence in Denmark. In Finland, foreigners cannot acquire real property in military zone and in the east border. There is another restriction in Austria valid for both foreigners and its own citizens. This restriction is that in Austria's some provinces, anybody can acquire real property if he lives there. Namely, second residence is not allowed. In Greece, real property acquisition of foreigners is not allowed in places particularly shore regions because of security. Everybody can acquire real property in member countries except countries mentioned above. Sweden removed restrictions by modifying its own ownership structure particularly real property acquisition of foreigners after membership to the EU. Thus, in Sweden, everybody can acquire real property since 2000. As a result, real property acquisition of foreigners in all member countries is allowed. However, in some countries, some restrictions are brought by taking existing statute of mentioned countries into consideration.

### 3.2. Land Registration Systems According to Traditional Classification

In the investigation of member countries, the other important criterion is the land registration systems in terms of traditional classification. As known, according to this classification, there are two classes: title registration system and deed registration system. While the title registration system focuses on the parcel, the deed registration system focuses on the person (Yomralioglu et al., 2003). But, it should be stated that the deed registration system has been exposed to major changes since the beginning because of some reasons such as the progressing of technology, the experiencing deficiencies at the result of applying of the system and the accepting the title registration as a solution. Namely, black-white discrimination between the title registration system and the deed registration system began to

become gray towards the title registration system. One of the best samples of this situation is the Netherlands (Zevenbergen, 2002).

The situations of member countries in terms of traditional classification are given in Figure 1. 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).

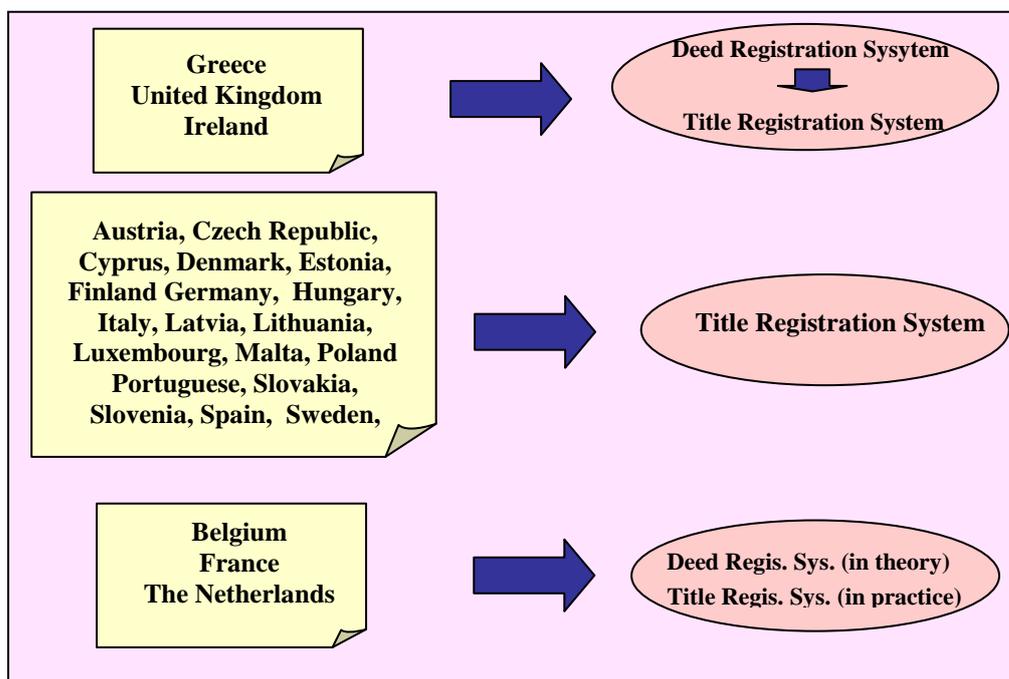


Figure 1. The EU Member Countries According to Land Registration System

### 3.3. The Member Countries in Terms of Organizational Structure

Organizational structure has an important role in the functionality of cadastral systems. As known, a cadastral system has two components: land registration and cadastre. Single institution (i.e. single roof system) can undertake the administration of both components, at the same time; different institutions (i.e. double roof system) can also undertake it. In this context, the classification of member countries in terms of their existing structures is given in Figure 2. Here, Ireland and United Kingdom are indicated as single roof system. However, it should be stated that cadastre does not exist in these countries, namely, only the land registration has been made. In Greece, hypothec offices are currently active in the processing

of land registration, but, when the system is completely transformed to the title registration system, the unique responsible institution will be the Hellenic Mapping and Cadastral Organization (HEMCO).

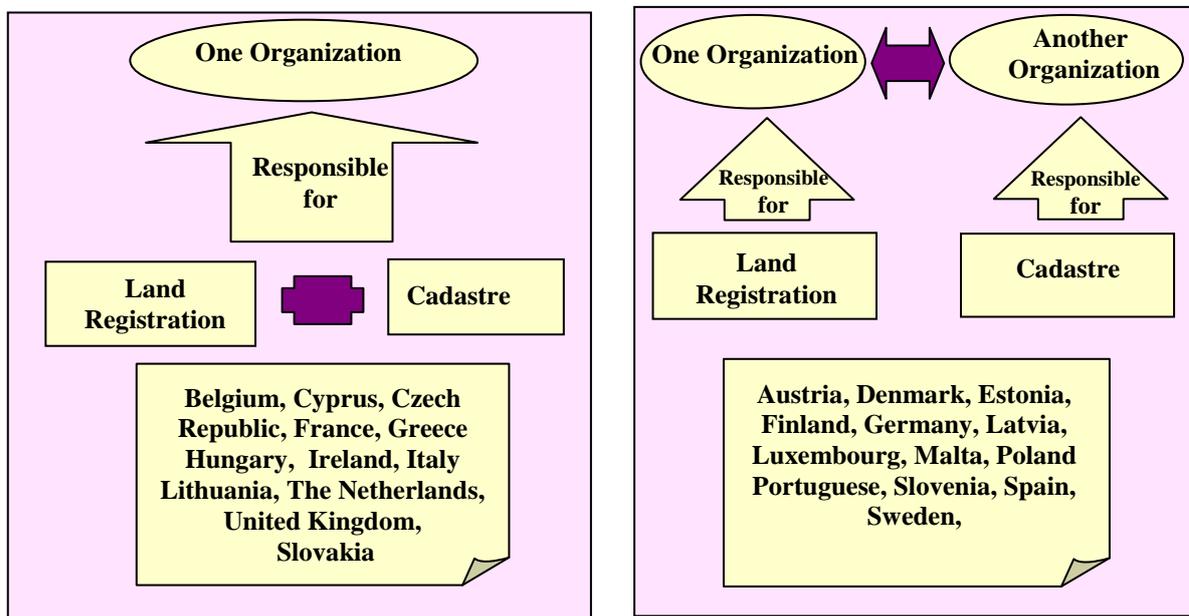


Figure 2. Organizational Structure in the EU Member Countries

As known, the cadastre is such a procedure having not only technical dimension but also legal dimension. In particularly land registration dimension, this task has been undertaken by Local Court under the Ministry of Justice because of the dominance of legal dimension. The cadastre, which is technical dimension, has been realized by Cadastre Agencies under different ministries varied from a country to country, even from the State to State (like Germany).

Land registration namely legal dimension is in the responsibility of the Ministry of Justice in the most of countries having double roof system (i.e. Austria, Denmark, Finland, Germany, Portuguese, Spain and Sweden). On the other hand, it is in the responsibility of the Ministry of Justice in Ireland and United Kingdom from countries having single roof system as well. These countries have only the Land Registry because of adopting the principle of general boundary and these countries have benefited from large-scale maps produced by Ordnance Survey. In Luxembourg, the AED (Administration de l'Enregistrement et des domaines) under the Ministry of Finance is responsible.

Even though the standardization is provided on ministry responsible for land registration in countries having double roof system except Luxembourg, this situation does not exist for cadastre dimension. In the context of cadastre, a few different ministries are responsible. Germany has a statute special to own with its structure varied from a State to State. The reason of diversity on responsible ministries is that primary aim of cadastre (e.g. fiscal

cadastre) relates to administrative structuring and policy of countries. When we look at history, it is seen that the responsible ministries have been modified because of varying primary aim of cadastre and amendments in the administrative structuring. For example in Denmark, while the Cadastre was part of the Ministry of Housing and Urban Affairs until 2001, it has been part of the Ministry of Environment from November 2001. The responsibility of different ministries also exists in countries having single roof system.

The executing of processes under single roof or different roofs has had much more important role in particularly the period of operating of systems in analogue. In some of countries having double roof system, even though a good connection between two systems establishes, the connection could not establish in some countries (e.g. Portuguese). Together with advance technology, that the institutions computerize their information and products has largely decreased troubles arisen at the result of executing by different institutions of systems. On the other hand, that the institution can implement its tasks in completely more than which ministry the institution is under is of the importance. At this point, being conscious and providing support required of related ministry in the topic of the importance and activities of the institution is of significance. The main aim and the mission of the institutions have an important role in the determination of responsible ministries. In most countries, the reason of depending upon ministries concerning economy such as finance or budget of the institutions mentioned is the realizing of cadastre with fiscal aim. As a result, the standardization among all member countries in organizational context does not exist.

### **3.4. Member Countries in Terms of Establishment Cadastre and Digital Cadastre**

Cadastral works in most of member countries started in the early of 19<sup>th</sup> century and completed in a short time. The Napoleon Cadastre constituting the basis of modern cadastre executed in Belgium, France and the Netherlands in the beginning, in the course of time, it has constituted the basis of the works in Greece and Portuguese.

In investigating member countries in terms of establishment cadastre, ten countries entered to the EU in May 2004 have been handled in separate. Because, cadastre in the most of these countries is in the process of new formation. The situation in 15 member countries is given in Table 3. According to these data, four from member countries have not completed their establishment cadastre yet. Here, Ireland and United Kingdom are in the process of transition to the title registration system. At the same time, in both countries, the registration has not been compulsory until recently. Because of these reasons, in these countries, the cadastre containing all country has not existed yet. Greece, not complete the cadastre yet, started the process of transition from existing deed registration system to the title registration system in 1995, so, large part of the country has not been completed yet. In Portuguese, cadastre was implemented in only rural areas until 1995, but after this year, digital cadastre including all of the country started and has continued. Member countries except four countries mentioned completed the cadastre covering all country in the 19<sup>th</sup> century.

Cadastral systems of other ten countries are in the process of new formation. Most of these countries passed to command economy at the end of 1940s, but they left from this period at

the beginning of 1990s. During this period, the right of use on the contrary the right of ownership was focused. Therefore, land registration and cadastre works continued before this period (namely communist regime) were exposed to corruptions in some countries (e.g. Czech Republic and Poland) and the registration of ownership to land register in compulsory was cancelled with the law. But in some countries (e.g. Hungary), even though private ownership has decreased as little or no, land registration has continued without any emptiness (Ossko and Sonnenberg, 2002).

Table 3. Cadastre with Numbers in 15 Member Countries

Countries	Cadastre		Establishment Cadastre	Total Number of parcels (million)	Digital Cadastre	
	Beginning	Finish			Cadastral Map %	Land Registration %
Austria	1817	--	completed	10.5	95 %	100 % complete in1992
Belgium	1807	1835	completed	9.4	Partly (15 %)	100 %
Denmark	1844	1860	completed	2.2	100 % complete in1997	100 % complete in1986
Finland	1895	--	completed	2.1	100 %	100 %
France	1807	1850	completed	100	Partly (24 %)	Partly
Germany	1820	1876	completed	61.3	Partly (not known)	Partly (not known)
Greece	1995	--	incomplete	15	Partly (15 %)	Partly (15 %)
Ireland	1891	--	incomplete	2	Partly	Partly (18 %)
Italy	1870s	1933	completed	120	100 %	100 %
Luxembourg	1820	1843	completed	0.7	100 %	100 % complete in1980
Netherlands	1807	1832	completed	7	100 % complete in1997	100 % complete in1990
Portuguese	1995	--	incomplete	0.1	Partly (1 %)	Partly (1 %)
Spain	18th	--	completed	56	Partly (70 %)	Partly (70 %)
Sweden	1600s	--	completed	3.8	100 %	100 %
United Kingdom	1862	--	incomplete	17.3	Partly	Partly (97 %)

After collapsing Socialist Regime, the activity started in the ownership sector as well, and consequently cadastre started to develop. Thus, countries having traditional cadastre started to continue from the point paused and to advance towards modern cadastre by using new technology together with the support of the EU. Countries, in which cadastre tradition does not exist, have a tendency to establish own systems together with the help of other developed countries (Joksic and Gostović, 1998).

As seen, most of member countries completed the establishment cadastre and at the result of conditions changed and developed in the course of time, countries have updated their systems. In this context, when cadastral systems of countries were handled in terms of digital cadastre, it is seen that while all records are digital in some countries, digital records are too little in other countries.

On the other hand, as known, the cadastre consists of registers including legal and technical attributes of parcel and maps including graphical presentation of the parcel. Therefore, in computerizing this information or products, two different processes formed. When looked the literature, it is seen that many countries can transfer their text information to computers in a short time and easily, however, they can transfer their graphical information to computers in

more time. So, by examining member countries, land registration (i.e. text part) and cadastral maps (i.e. graphical part) were handled in separate. All of member countries started to computerize both cadastral maps and cadastral registers. However, while some countries have been in the earlier the road, some completed to computerize their all products in 1990s as seen Table 3.

As seen from Table 3, Denmark, Finland, the Netherlands, Sweden, Italy and Luxembourg computerized both cadastral maps and land registers completely. On the other hand, new cadastral works started in Greece and Portuguese have been implemented in digital completely, but these works have not covered all country yet. While some States of Germany, one of countries, which use and execute the terms “digital cadastre” and “information system” as initial, completed digital cadastre, some States could complete little part like 8%. In Austria, all of text part and 95% of graphical part (probably completely at present) were computerized. On the other hand, only Latvia from countries entered to the EU in May 2004 could complete to computerize its products. In other countries, the process of computerization started but not completed yet. At this point, Czech Republic, Lithuania, Hungary, Poland and Slovakia completed the computerization of text part but not graphical part (Yavuz, 2004).

#### **4. CONCLUSION**

As known, the European Union has twenty-five member countries together with the enlargement in May 2004. The basic principle in the EU, the union of differences, is to provide harmonization among systems of member countries. In this context, cadastral systems (i.e. cadastre and land registration) of countries are of an important role as well. In fact, the basic attribute of the EU is the existence of functioning free-market economy. This depends on effective land market; effective land market depends on effective cadastre.

In this study, systems of member countries were handled in terms of basic criteria of cadastre. In this context, when member countries are looked, it has been seen that some countries have almost the same cadastral system, namely the separating into groups of countries exist with both historical reasons (i.e. some countries was under the same Empire in past) and geographical (i.e. adjacent countries have effected each other) and political reasons. It has been also seen that there are big similarities derived from the nature of the cadastre in addition to differences between these groups. Particularly, all countries have the great similarity in terms of ownership structure. Namely, private real property acquisition of people has been allowed in all member countries. Again, real property acquisition of foreigners is also allowed in all member countries However, in some countries, some restrictions are brought by taking existing statute of mentioned countries into consideration. On the other hand, it has been seen that all member countries have used the title registration system based on the parcel in terms of traditional classification, one of criteria handled in this study. However, it has been seen that the standardization on organizational structure does not exist. The establishment cadastre and the digital cadastre as final criteria was handled. In this context, it has been seen that most of member countries completed the establishment cadastre and started to computerize their systems at the result of changed and developed conditions. However, many member countries completed to computerize all products.

As a result, the standardization among the EU member countries in terms of the land registration and the cadastre does not exist. However, it should be stated that in 2002, Permanent Committee on Cadastre in the EU including representatives of all member countries was established to shape the notion of the EU cadastre. Therefore, in the course of time, the harmonization of cadastral systems of all member countries will be implemented, particularly in the context of characteristics of modern cadastre. At this point, a comparative analysis of cadastral systems in member countries is of great importance for defining present statute of cadastral systems. This study is to serve for mentioned aim.

## REFERENCES

- AB., 2003. Avrupa Birliği Genişleme Sürecinde Türkiye, Avrupa Komisyonu Türkiye Temsilciliği Bürosu, Ankara. (in Turkish)
- Aras, F., Dündar, Ö., Görer, N. and Yüksel, Ü., 2004. Türkiye’de Yabancı Gerçek Kişilere Mülk Satışlarının Niceliksel, Niteliksel ve Mekansal Boyutlarıyla Değerlendirilmesi. 11. Ulusal Bölge Bilimi/ Bölge Planlama Kongresi, Trabzon, 2004.
- Bogaerts, T., Williamson, I. and Fendel, E., 2001. The Role of Land Administration in the Accession of Central European Countries to the European Union. [http://www.geom.unimelb.edu.au/research/publications/IPW/3\\_01Bogaerts.pdf](http://www.geom.unimelb.edu.au/research/publications/IPW/3_01Bogaerts.pdf), October 9, 2001.
- Dale, P.F. ve Baldwin, R., 2000. Lessons Learnt from the Emerging Land Markets in Central and Eastern Europe, FIG Working Week 2000, Prague, ([http://www.fig.net/figtree/pub/proceedings/prague\\_final\\_papers/baldwin-dale.htm](http://www.fig.net/figtree/pub/proceedings/prague_final_papers/baldwin-dale.htm)) May 8, 2002.
- Hornansky, I., Tomasovicova, J. ve Valis, J., 2001. Land Administration and EU Enlargement Slovakia’s Report, UNECE Workshop on EU Accession Land Administration Perspective, Gavle Sweden. ([www.unece.org/env/hs/welcome.html](http://www.unece.org/env/hs/welcome.html) October 17, 2001).
- Joksic, D. and Gostovic, M., 1998. Development of Cadastre in the World – The Perspective in Yugoslavia, The XXI International Congress of Surveyors, Brighton. ([http://www.geom.unimelb.edu.au/fig7/Brighton98/Comm7Papers/TS42\\_Gostovic.html](http://www.geom.unimelb.edu.au/fig7/Brighton98/Comm7Papers/TS42_Gostovic.html)).
- Mikuta, B., 2001. Land Administration in Lithuanian the Process of Accession to the EU, UNECE Workshop on EU Accession Land Administration Perspective, Gavle Sweden. ([www.unece.org/env/hs/welcome.html](http://www.unece.org/env/hs/welcome.html), October17, 2001).
- Ossko, A. and Sonnenberg, J.K.B., 2002. Rural Land Markets in Central and Western Europe, FIG XXII International Congress, Washington, USA, (<http://www.fig.net/figtree/pub/proceedings...>, June 7, 2003).
- URL-1, [www.catastro.minhac.es/congreso/bulletin\\_congress\\_january.pdf](http://www.catastro.minhac.es/congreso/bulletin_congress_january.pdf), 1<sup>st</sup> Congress on Cadastre in the European Union, April 10, 2002.

- Uzun, B. and Yavuz, A., 2003. AB Uyum Sürecinde Yabancı Uyrukluların Türkiye’de Taşınmaz Mal Edinimi, 9. Türkiye Harita Bilimsel ve Teknik Kurultayı, Ankara, 2003. (in Turkish)
- Yavuz, A., 2004. The Analysis of Cadastral System in the European Union Countries and the Evaluation of Turkey Cadastral System in the Adaptation Process, PhD thesis, Karadeniz Technical University, Trabzon, Turkey. (in Turkish)
- Yomralıoğlu, T., Uzun, B. ve Demir, O., 2003. Kadastro 2014, Harita ve Kadastro Mühendisleri Odası, Çeviri, Mart 2003, Ankara. (in Turkish)
- Zevenbergen, J., 2002. Systems of Land Registration- Aspects and Effects, PhD Thesis, Delfth University of Technology, the Netherlands.

## **BIOGRAPHICAL NOTES**

**Ayşe YAVUZ** is a research assistant at Artvin Forestry Faculty of Kafkas University, Turkey. She graduated from the Department of Geodesy and Photogrammetry Engineering at Karadeniz Technical University in 1994. She received her PhD degree with thesis entitled “The Analysis of Cadastral System in the European Union Countries and the Evaluation of Turkey Cadastral System in the Adaptation Process” in June 2004. Her research interests are land administration, cadastral systems and forest cadastre.

## **Correspondence Adress**

Ayşe YAVUZ  
Kafkas University  
Artvin Forestry Faculty  
Artvin/TURKEY

E-mail: ayseyavuz94@hotmail.com  
Tel: +90 (466) 2126949  
Fax: +90 (466) 2126951