The Needs for Improvement in Turkish Land Administration System: Lessons Learned from German Case

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Key words: Land administration, cadastre, mapping, real estate valuation, Turkey, Germany

SUMMARY

Land is basic place of human activities. Therefore, humankind has close relationship with land in most part of his life. The global drivers like sustainable development, globalization, urbanization, economic reform and technology, on the other hand, make this relationship dynamic. So, there is need for effective management of the relationship. This duty could only be succeeded by effective land administration systems. In this context, having appropriate land administration systems and sustaining them in contemporary approach is very important in development of societies. In this paper, it is aimed to evaluate efficiency of present Turkish land administration system and to provide some proposals for better administration of it. The paper, firstly, evaluates efficiency of current Turkish land registration, cadastre, topographical mapping, and real estate valuation systems. In this evaluation, the interviews carried out with Turkish land administration experts as well as literature review play main role. As a result of the evaluation, it is obviously defined that there are some issues requiring new solutions in land registry and cadastral system, and in topographical mapping system of Turkey. Besides, the need for reform in the real estate valuation system both in legal and organizational perspectives is underlined. At the second part of the paper, it is aimed to examine a good operating land administration system and to get some experiences for Turkish case. In this context, having a sound land administration background, Germany is determined as case study country. Then, land registration, cadastre, topographical mapping and real estate valuation system of Germany are examined. The interviews carried out with the experts of German land registration, cadastre and valuation are the core component in this research. At the end, some recommendations are submitted to improve Turkish land administration system.

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1. INTRODUCTION

Land is a basic place of human activities. Therefore, humankind has always had close association with land as a basis of food, shelter and livelihood (UN/FIG, 1999). This association does not stay the same in the long-term. In other words, it is a dynamic relationship and affected by the global drivers like sustainable development, globalization, urbanization, localization, economic reform, environmental management and technology (Williamson, 2001). So, there is need for effective management of the relationship. This duty could only be succeeded by effective land administration systems. In this context, having appropriate land administration systems and sustaining them in a contemporary approach is very important in development of societies.

The aim of this paper is to evaluate efficiency of present Turkish land administration system and to submit some proposals to develop its efficiency. In this context, at first, general structure of current Turkish land registration and cadastre, topographical mapping, and real estate valuation systems is submitted. Then, the efficiencies of these systems are evaluated and the need for improvement in Turkish land administration system is defined. At the second part of the paper, it is aimed to examine a good operating land administration system and to get some experiences for Turkish case. In this context, having a sound land administration background, Germany is determined as case study country. Then, land administration system of Germany is examined. Some interviews carried out with the German experts are core component of the research. At the end, some recommendations are submitted to improve Turkish land administration system in the light of German case study.

2. TURKISH LAND ADMINISTRATION SYSTEM

2.1 Turkish Land Registry and Cadastre System

2.1.1 General Structure

Legal base of Turkish land registry and cadastre (LRC) system is the Turkish Civil Code enacted in 1926. According to the code; (a) a land registry system is constituted to register the rights on real estates, and (b) registration of real estates are based on a plan formed by an official survey. In order to fulfill these tasks, General Directorate of Land Registry and Cadastre (GDLRC) was constituted in 1936. The duties dedicated to GDLRC are carried out by land registry and cadastre offices in local level. Today, there are 325 cadastral directorates, 133 cadastral sub-offices, and 1003 land registry directorates in Turkey (URL, 1). Administration and supervision of them are performed by district directorates in regional level (Figure 1).

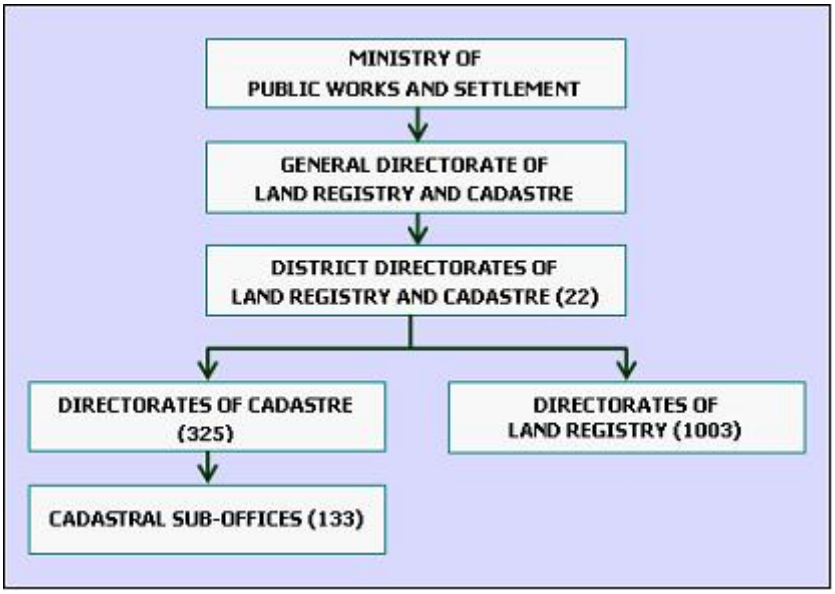

Figure 1: Organizational structure of Turkish LRC system

2.1.2 Efficiency of the System

As shown in Figure 1, organizational structure of Turkish LRC system is consistent with modern requirements. All land registration and cadastral works are carried out under the same institution; General Directorate of Land Registry and Cadastre. There is no inconsistency between the works and data of land registry and cadastre offices, because they work with effective coordination.

On the other hand, there are some issues in sustaining works with contemporary approach. Since 2000 there has been a project to develop Turkish cadastre information system. Main framework of the system has been developed and tested in a pilot area in Ankara. However, because of the problems in current cadastral sheets, it is difficult to implement that project throughout the country in short period of time. There is need for re-survey or find new solutions to transform those problematic maps into digital environment (Demir, 2000).

2.2 Turkish Topographical Mapping System

2.2.1 General Structure

In Turkey, responsible authority for production of 1:10.000 and smaller scale topographical maps is General Command of Mapping. 1:5.000 and larger scale topographical and technical maps can be produced by different government institutions. These institutions build up the maps for their specific needs. In most cases, they carry out their mapping activities by the surveyors in their institutions.

Municipalities are main producers and users of large scale maps especially in the scale of 1:1.000 in Turkey. There are two ways for municipalities to have maps in their municipal areas. If a municipality has adequate technical personnel and tools, it can produce the map itself. The second way is Provinces Bank. Provinces Bank is an institution that supports municipalities in building up development plans, municipal maps and infrastructure services, etc. It provides credit to municipalities, contracts works to private sector and supervise them on behalf of municipalities.

2.2.2 Efficiency of the System

As stated above, General Command of Mapping is responsible authority for production of 1:10.000 and smaller scale topographical maps in Turkey. However, Turkey has not got digital topographical maps in vector and object-oriented structure in that scales in most part of the country. In other words, there is no topographical information system.

The other important problem in Turkish topographical mapping system is many government institutions and municipalities produce 1:5.000 and larger scale topographical maps when they need but there is no effective coordination in those works. Therefore it is possible to see in the same area different maps produced by different organizations. In addition, the institutions carrying out topographical mapping works build mostly new geodetic control points in the field for their works. So, there is also a coordination problem in using and building up geodetic control points in Turkey. Because of such problems, there is need for reengineering in both organizational structure and working procedures of Turkish topographical mapping system to carry out works in effective manner.

2.3 Turkish Real Estate Valuation System

2.3.1 General Structure

In Turkey, the responsible authorities for real estate taxation are municipalities. So, they carry out valuation works themselves for taxation purpose once in four years. Some government institutions also carry out valuation works especially for expropriation purpose. Each municipality and government institution has its own valuation committee to carry out these works.

2.3.2 Efficiency of the System

There are about 15 institutions carrying out valuation works in Turkey. On the other hand, there is no responsible authority to provide coordination among these institutions. Also there is no specific act or guidelines for valuation. The committees are trying to carry out their works according to some rules defined in different laws and regulations. So, it is possible to see the real estates having the same characteristics in the same region with huge value differences appraised by different valuation committees.

High percentage of appeals to the values determined by the valuation committees, especially in expropriation purposed valuation works, is also another indicator of ineffectiveness of the valuation works performed in Turkey. When taken into consideration there is no purchase price or object characteristics evaluation in current valuation works and there are no maps for approximate values. It is obvious that there is need for reform in real estate valuation domain in Turkey.

2.4 The Needs for Improvement in Turkish Land Administration System

2.4.1 The Needs for Improvement

When taken into account the evaluations on efficiency of each Turkish land administration field above, it can be easily said that there is need for reengineering in topographical mapping and real estate valuation systems in Turkey. Also there is need for improvement in land registration and cadastre system, especially in the context of information technology.

2.4.2 Selection of Case Study Country

It is widely accepted that applying one country's land administration response in the same way in another country is very difficult, because each country has its own geographic, social and cultural conditions, backgrounds and needs. These factors affect the response required in each country (Enemark, 2005; Williamson, 2001; UN/FIG, 1999). On the other hand, getting experiences of the countries having good working land administration systems and taking them into consideration in reengineering process is very important and useful approach (FIG, 2002).

In this study, having a sound land administration background, Germany is selected as case study country for reengineering process of Turkish land administration system. Especially good running topographical mapping and real estate valuation systems of Germany could give useful inspirations to Turkey in the reengineering process. In addition, new developments in spatial information technology projects in Germany could also be good practices for Turkish case.

3. GERMAN LAND ADMINISTRATION SYSTEM

3.1 German Land Registry and Cadastre System

German land registry and cadastre system is a duplex system. The legal situation of each parcel is described in the land registry called "Grundbuch". Geometric descriptions of parcels are recorded on cadastral maps.

Land registration and cadastre works are carried out by local offices. Land registration offices are part of the administration of justice in the 16 German states and located in local courts. They are responsible for the registration of the properties in their districts and carry out registration works in cooperation with notaries. The ministry responsible for surveying varies

from state to state. Normally it is placed in the ministry of the interior, but in some states as well in the ministry of finance, trade and commerce, or building and construction. Cadastral offices carry out cadastral works in cooperation with licensed surveyors, except in Bavaria. The responsible authorities to supervise cadastral offices and licensed surveyors are surveying and mapping administrations of the states (Hawerk, 2001; Hawerk 2003).

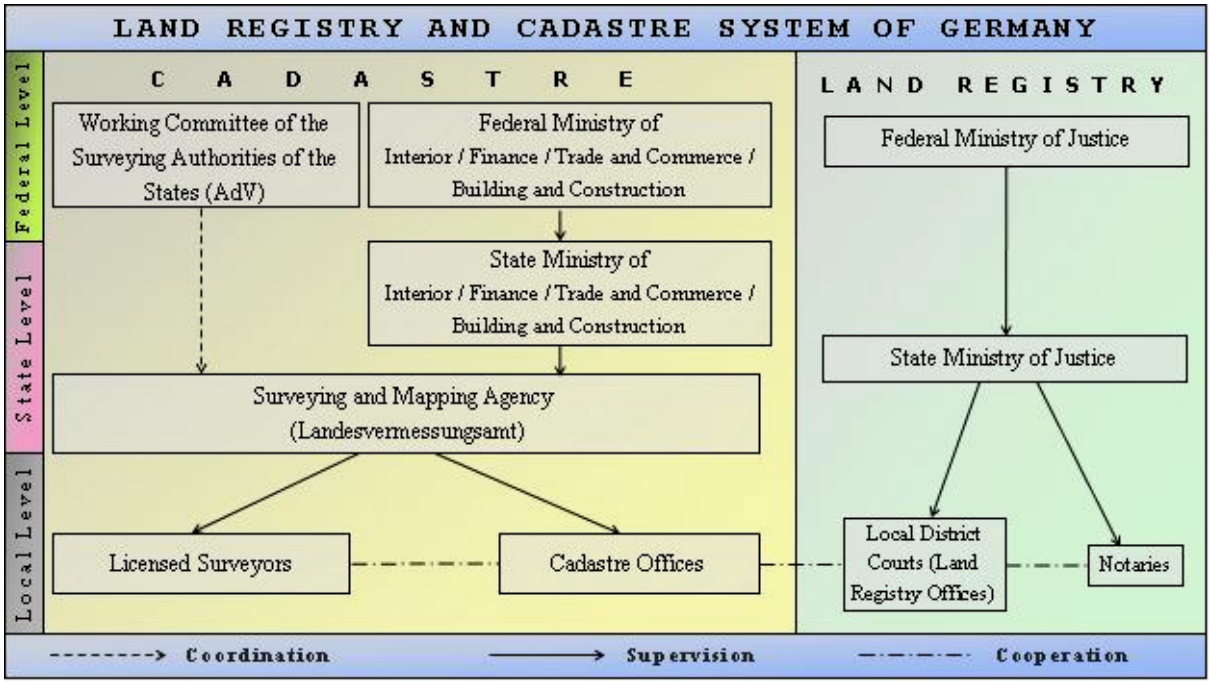

Figure 2: Organizational structure of land registry and cadastre system of Germany

State surveying and mapping administrations co-operate through the "Working Committee of the Surveying Authorities of the States of the Federal Republic of Germany" (AdV) to discuss technical matters having fundamental and national importance. Among others one of the main tasks of AdV is co-operation in the development and application of technical procedures, especially in the field of basic surveying, of the topographic-cartographic information system, as well as the cadastral databases. Therefore although cadastre is in the responsibility of the 16 states, cadastral databases are highly uniform with only a few small but sometimes surprising exceptions in Germany (Hawerk, 2001; Magel, 2005).

3.2 German Topographical Mapping System

3.2.1 General Structure

There are three government authorities taking part in topographical mapping works of Germany. These authorities are surveying and mapping authorities of states, the Federal Agency for Cartography and Geodesy (BKG), and the Agency for Geoinformation Science of the Bundeswehr (AGeoBw).

Surveying and mapping administrations of states are responsible for establishment and maintenance of the topographical map series for the scales range from 1:5.000 to 1:100.000. The Federal Agency for Cartography and Geodesy (BKG) produces the topographic maps at scales smaller than 1:100.000. It also provides nation-wide data requests at all scales and if the area of interest belongs to more than one federal state. The task of the Agency for Geoinformation Science of the Bundeswehr (AGeoBw) is to merge all geosciences significant to the Federal Armed Forces (geodesy, geography, geology, remote sensing, cartography, geoinformation, meteorology, climatology, ecology, biology). AGeoBw works in close partnership with the state survey offices and with the Federal Government for this purpose (URL 2, 2004).

3.2.2 The Authoritative Topographic Cartographic Information System (ATKIS)

ATKIS is the project of the AdV in which topographic geodatabases are established and maintained uniformly at the federal level. In addition to the traditional topographic map series of the states, this project aims at the provision of digital models of the earth's surface suited for data processing. In this way ATKIS constitutes not only the geodatabase for computer-assisted digital processing and analogue products, but also a base of spatial reference for the linkage to and combination with thematic geodata (Grünreich, 2000).

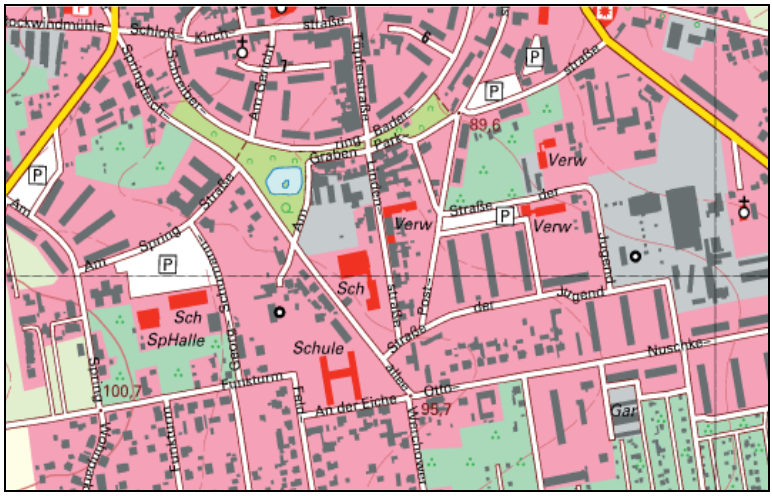

Figure 3: A Sample of German digital topographical map (URL 2, 2004)

3.2 German Real Estate Valuation System

3.2.1 General Structure

Valuation of real estate in Germany is split up into two parts. The first one is the official valuation, represented by about 1500 official valuation committees or public valuation boards. The second one is independent private valuation experts. They perform special tasks within the whole spectrum of valuation (Kertscher, 2004; Seidel, 2005).

Valuation committees are independent groups of experts. Each committee is responsible for a certain region or town and has 10, 15 or 20 experts, mostly consisting of civil engineers, architects, brokers, land surveyors, bank managers, and agricultural experts and so on. The main task of the committees is to determine standard prices (or guiding prices) and to prepare annual map of recommended approximate values of land on each 1st of January. The second important task of the valuation boards is the issuing of market value certificates for both built-up and non-built-up real estates that are needed by private people, commercial companies, and courts (Kertscher, 2004; Seidel, 2005). Private valuation experts also can prepare these certificates by relying on the same base information derived from local valuation committees. Each valuation committee has a secretariat to prepare all materials and documents needed by the committee, to issue the valuation certificates, drafts and maps, and to publish them. This secretariat is generally located in land registry offices.

3.2.2 Purchase Price Collection

The basis for all valuation works stated above is evaluation of purchase prices of real estates. It means all sales contracts for built-up or non-built-up land are evaluated by valuation committees as a base to valuation works. These contracts are provided by notaries and include the data about date of purchase, location and size of the property, rights and encumbrances on property, type of use and construction year of building, terms of payment, etc as well as the purchase price.

Although purchase price collection is handled in different ways in some German states, three common stages of development can be identified. The paper-based collection of purchase prices has gradually changed to maintenance of an automated inventory. And also methods have changed from paper-based procedures to digital one. Today, most land valuation committees prefer to make use of networking and GIS-supported valuation systems in their works (Kertscher, 2004).

4. ASPECTS TO IMPROVE THE TURKISH LAND ADMINISTRATION SYSTEM

4.1 Land Registry and Cadastre System

Even though Turkish and German land registry and cadastre (LRC) systems have similarities in general meaning, there are also some lessons could be learned from German case to improve Turkish LRC system. These lessons which are in operational level can be summarized as below.

4.1.1 Cadastral Information System

Germany is one of the most experienced countries in cadastral information system domain throughout the world. Almost all land registry and cadastre records of Germany are in digital environment. These data has been sustained in Automated Property Map (ALK) and Automated Property Register (ALB) systems for a long time. Since late 1990's there have been works to build up Official Cadastral Information System (ALKIS) in Germany.

In general meaning, ALKIS project has two main characteristics which also should be taken into consideration in Turkish cadastral information system works. One of them is ALKIS has been developed on the basis of international standards. The other is it has been developed in the common application schema with the Authoritative Topographic–Cartographic Information System (ATKIS) and Authoritative Control Points Information System (AFIS) (Magel, 2005). These characteristics of ALKIS are especially important in the development process of the National Spatial Database of Germany (GDI-DE) and for the consistency of German spatial information systems with the international projects like the Infrastructure for Spatial Information in Europe (INSPIRE). Because of such reasons, Turkish Cadastral Information System also should be developed based on international standards and should have common application schema with other spatial information system works in Turkey.

4.1.2 Up-to-date Registers

Up-to-date land registry data is needed in many land related projects by different institutions. So, sustaining this data in up-to-date manner is very important to carry out projects in time and effectively. In Turkey, there is an issue in that field. There is no regulation for compulsory transfer of real estates to heirs or an encouragement, when a landowner died. Therefore, many heirs do not apply to land registration office after death of the owner. So, in case of need for data on land owners in a project, it is seen that some owners are still death people in land registry. This issue leads to delays in projects.

Whereas, in Germany, if an heir does not apply to the land registration office in two years after death of the owner to transfer the real estate, he/she must pay fee for it later. In other words, this process is totally free in two years after the death. This approach encourages the heirs to apply for the transfer of real estate in this period. If such an encouragement is also applied in Turkey, land registry records can be much more up-to-date in anytime.

4.1.3 Records on Land Rights, Restrictions and Responsibilities

In both countries real estate owners have different rights, restrictions and responsibilities (RRR) on land. While all these RRR are recorded and sustained in land registration offices in Germany, mineral RRR is recorded and sustained in a different organization in Turkey. This leads to problems in some projects. Project officials get land registration records of the real estates from land registration offices for relevant area but these records do not include the data for mineral RRR. So, it is important that all registers of RRR on land are sustained in land registration offices.

4.1.4 Cadastral Map Updates

In Turkey, cadastral maps include not only cadastral parcels but also buildings. Cadastral parcels are updated in daily processes. Therefore they are always up-to-date. However, it is not possible to say the same thing for buildings data.

On the other hand, buildings and topography data on German cadastral maps are up-to-date. This is provided by special groups in cadastral offices. These groups update maps in different times via field visits. Cadastral maps are also supported by ortophoto maps. In case of change in buildings or topographical features, it is measured in the field. This update period can change office by office depending on the workload of the offices. Turkish cadastral offices also can follow such an update process for buildings and topography data on cadastral maps.

4.2 Topographical Mapping System

Having a sound topographical mapping background, Germany has important experiences for Turkish topographical mapping system. Lessons learned from topographical mapping system of Germany could be summarized as below.

4.2.1 Organizational structure

In Turkey, the responsible authority for production of 1:10.000 and smaller scale topographical maps is General Command of Mapping. However, it is a central organization and has not enough technical personnel and tools to carry out these works in digital environment and in object-oriented structure for the whole country. As for Germany, these works are carried out by surveying and mapping administrations of the states. These administrations are producing object-oriented topographical maps for the whole country.

In Turkey, there are 22 District Directorates of Land Registry and Cadastre throughout the country. Providing a new organizational structure in these district directorates, topographical mapping works for the whole country can be dedicated to these authorities. Military organizations can get the data and maps from this administration or also they can produce their special maps themselves based on the data collected by District Directorates.

As stated above, Provinces Bank provides credit to municipalities, contracts municipal works to private sector and supervises them on behalf of municipalities. The duty of contracting and supervising municipal mapping works could also be carried out by the District Directorates of Land Registry and Cadastre. Thus, all mapping activities can be sustained under the same institution and other government organizations also can get the maps constituted by this organization as a base to their works. Thanks to this structure, overlapping works can also be prevented and the data captured once could be used in all mapping levels. In this structure, General Directorate of Land Registry and Cadastre can be responsible for nation-wide data requests and supervise works of District Directorates.

4.2.2 Information systems

In the proposed Turkish topographical mapping system above, District Directorates of Land Registry and Cadastre also should carry out topographic and geodetic control point information systems. These systems should be based on international standards and have the same data structure with other spatial information system works. Thus, data exchange among the systems in national and international levels can be easy.

4.3 Real Estate Valuation System

Valuation works for taxation purpose is carried out by municipalities in Turkey. However, they do not evaluate purchase prices in those works and do not have a database for object characteristics. Whereas evaluation of purchase prices and object characteristics in valuation works support the transparency in real estate market. In this context, valuation works of municipalities should be reengineered in Turkey. Valuation committees of the municipalities should evaluate purchase prices and object characteristics in their works. They should provide guiding prices, annual reports and maps based on real market prices. These data should be used by all public and private users. The system also should be clearly defined in a specific valuation law and in the guidelines. In that way committees can carry out valuation works in a standard structure.

5. CONCLUSION

Effective administration of land is an important dynamic in development of societies. So, countries should evaluate effectiveness of their land administration systems in different times and adapt them to new developments. In this context, this study aims at evaluating effectiveness of Turkish land administration system and submitting some proposals for better administration of it. As a result of the evaluation, it is seen that there are needs for improvement in Turkish land administration system. In defining improvement way, the experiences gotten from German land administration system have been a guide. Such case study approaches are also proposed to the other countries where there are needs for reengineering or improvement in the land administration system.

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