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LAND INFORMATION SYSTEMS IN 1500's

SYSTEMES D'INFORMATION DU TERRITOIRE DANS LE 16EME SIECLE

LANDINFORMATIONSSYSTEME UM 1500

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ABSTRACT

Today, the use of land information systems (LIS) has been becoming more popular because of the rapid developments in information technology. Nevertheless, in terminology, very little information is available about the historical development of LIS. Latest scientific searches in Ottoman archives revealed that a simple manual form of LIS was used in 1534 and carried out through the next 100 years. Almost 60 million land units were registered with some social and economical information. This paper reviews the early use of LIS in the Ottoman Empire, and includes some illustrations from the related archive work in Turkey.

RESUME

Le terme des "systèmes d'information du territoire" (SIT) devient de plus en plus important, surtout à cause du développement rapide de la technologie en information. Le développement historique du terme est par contre moins connu. De la recherche récente dans les archives de l'empire Ottoman a révélé qu'une simple forme manuelle d'un SIT a été déjà créée en 1534 et a été maintenue pour le prochain siècle. Presque 60 million unités de parcelle ont été enregistrées dans le système avec de l'information sociale et économique. Cet article décrit cette forme manuelle d'un SIT dans l'empire Ottoman et inclut quelques illustrations des recherches dans les archives en Turquie d'aujourd'hui.

ZUSAMMENFASSUNG

In der heutigen Zeit wird der Begriff der "Landinformationssysteme" (LIS) vor allem wegen der raschen technologischen Entwicklung immer wichtiger. Aber die historische Entwicklung des Begriffes ist allerdings wenig bekannt. Nachforschungen in den alten Archiven des Osmanischen Reiches haben gezeigt, dass eine manuelle Form eines LIS bereits im Jahre 1534 erstellt und über die nächsten 100 Jahre weitergeführt wurde. Fast 60 Millionen Landeinheiten zusammen mit sozialen und ökonomischen Daten wurden im System registriert. Dieser Artikel illustriert diesen frühen Einsatz eines LIS, zusammen mit Illustrationen der zugehörigen Archivarbeiten in der heutigen Türkei.

1. INTRODUCTION

To have land-related information has been an important matter for the nations throughout the history. Even today, this habit still exists and with the rapid developments in information technology it has become more authoritative resource. Using the latest technology such as LIS/GIS has provided us to employ land-related information more effectively and efficiently which had been used before. One of the main advantages of LIS/GIS is to handle and manipulate the large volumes of social, economical, and statistical information on land.

However, the use of land-related information is not new. In the past, some rudimentary procedures have been manually applied. In 1500's, for instance, land was registered with its detailed information by the Ottoman administration. The latest searches in the Ottoman archives showed that a simple manual form of land information system was used in the empire. However, this paper briefly outlines the land process in the Ottoman government, and includes some illustrations from the related archive works in Turkey.

2. THE EARLY LAND RECORDS

The management of land information is not a new activity. Information systems have been in existence since people first took to sedentary agriculture. When the Babylonians occupied the lands between the Tigris and the Euphrates and the Egyptians cultivated the fertile regions of the Nile, the need for orderly land management was recognised. In later times, the Greeks and Romans developed elaborate land records and survey systems in support of land taxation (Dale and McLaughlin, 1988).

In continental Europe, several attempts were made to enhance the quality of taxation by adding map information. Examples are tax mappings in parts of northern Italy in the early eighteenth century and in the Austro-Hungarian Empire in the late eighteenth century (Larsson, 1991). In 1807, Napoleon established the fiscal cadastral system in France. At that time, the cadastral records were contained parcel numbers, area, land use and land values for each owner and this cadastral system was only used for taxation purposes (Kurandt, 1957).

In the early sixteenth century, the Ottoman Empire was also practised land registration procedures mainly for taxation purposes. Especially in 1500's, land was classified in accordance with their use and given to individuals to farm. Land recording with its ownership documents including the other land-related information were began in 1534. Then, this procedure was carried out following next one hundred year.

3. LAND ADMINISTRATION IN THE OTTOMAN EMPIRE

The Ottoman Empire was founded in 1299 by Turks near Bursa where is now a province in Turkey. In a significant time the empire expanded its territory. In 1566, the Ottoman empire had its largest territory on the Anatolia, Europe, North Africa, Middle East, and Southeast of Asia (see Figure 1). At that time, the Ottomans were firmly entrenched in the strategic lands linking three continents and dominated the surrounding seas.

The land policy in the Ottoman administration was mainly based on the Islamic principles. The main idea is that, "land is the domain of God, and the only power of disposal on land can be used by the sultan". Therefore, during the time of the Ottoman, the private possession of land was limited in many ways. Land for the residential and farming purposes was only given to individuals as a private property. The other types of lands such as forest areas, agricultural land, offshore, lakes, streams, and the other natural resources were only used under the rule of the sultans. For a better administration, the land basically divided into different categories with respect to their use. These categories were as follows (King, 1977):

1. *Miri* (State) land was originally state land which has been transferred to individuals to reward services to the ruler. Sometimes transfer was only for a prescribed period; and sometimes for payment like a conventional leasehold. Basically, the landowners were being given the 1/10 of production to government as tax.
2. *Mulk* (Private) is the land that held by individual ownership. Since the benefits of any improvements accrue solely to the owner, there is every incentive to develop the land.
3. *Waqf* (Charitable and religious) is trust land whose revenues go to the religious or charitable bodies. Individual title to the land thus vanishes, leaving only certain rights of use, which can be inherited, and therefore fragmented.
4. *Metruk* (Tribal and collective) land is the communally owned property and includes several variations. More usually *metruk* is communal grazing land, a widespread form in mountain areas. *Metruk* land is the property of an entire community, either operated communally with the income divides, or allocated in shared to individual members.
5. *Mevat* (Waste) is the land that cannot be used in effective way. Such lands are rocky and clay areas. The term of *mevat* was actually used to define the rest of the above land types.



Figure 1: THE OTTOMAN EMPIRE (1520-1566)

To provide land management procedures such as distribution of land to the individuals, tax collection, controlling the land productivity in local area, a *dirlik* (fief) was appointed by the sultan. The *dirliks* actually governed their districts and had their own budget. But at the same time, they had to support the Ottoman army. If a *dirlik* was unsuccessful to govern his district, he was changed by the sultan (Pulaha and Yucel, 1988). The *dirliks* however classified in accordance with their annual incomes. These are (Cin, 1987):

- *Has* (Large Fief): The annual income is more than 100,000 *akche*¹ (the sultan's land)
- *Zeamet* (Middle Fief): The annual income is between 20,000 - 100,000 *akche*.
- *Timar* (Small Fief): The annual income is less than 20,000 *akche*

4. LAND REGISTRATION DURING THE REIGN OF SULTAN SULEYMAN

When Suleyman became the sultan in 1520, the Ottomans had the most powerful and vast empire between 1520 and 1566. In the history Suleyman is known as Kanuni, the Lawgiver, in reference to his legislative acts, which helped to form the basis of many national constitutions; in Europe his honorific is the Great or the Magnificent due to his outstanding political and cultural achievements. He was an acclaimed legislator who determined the administrative, fiscal, military, and social laws that regulated his state and its subjects. Suleyman however issued hundreds of decrees that covered every subject from land rights, taxation, concessions given to foreign merchants, peace treaties, and investiture of titles to endowments of social and charitable institutions (Atil, 1987).

In the time of the Magnificent Suleyman, the empire territories were divided into 36 provinces for better administration. These provinces were then divided into the *sanjak* (provincial districts). For land management process, a kind of land registry branches had been established within the *sanjaks*. The main aim of these branches were to register land and up to date the land-related information within their districts for taxation purposes.

The registration of land was mainly started in 1534 by the Magnificent Suleyman. A land registration book called *Kuyud-u Hakani* was used to record the land interests with the following information;

- The name of villages and farms
- Landholders name
- Annual income of land
- Land classification
- The boundaries of public-use areas
- Property quantities with their handling purposes
- Natural resources on the land
- Population
- Paid tax

The *Kuyud-u Hakani* books were used until 1634. These registration books consist of 2322 volumes which are kept in the General Directorate of the Title and Cadastre archives in Ankara. One of the interesting evident in these books is that some records hinted at the earlier fifteenth century land-related documents and laws but these documents could not

¹Akche is a money unit which was used in the Ottoman Empire. In 1530, 1 French gold was almost 60 akche.

find. However, a land registration guide called *Kanunname-i Kitab-i Vilayet* (The law book of city) of 1450's was met. This book is also available in the archive. In addition to the written registration documents, some schemes were drawn and used for local development and other mapping purposes (see Appx.1).

Besides the *Kuyud-u Hakani* books, there were also some other books that were used as reference for the main registration book. The *mufasssal* (detailed) book is one of them which is a detailed domestic book of a province containing all information about the population, land tenure, crops, taxes, etc. (see Appx.2). Land boundaries were also described in that book but these descriptions were not supported with maps. Based on the written boundary descriptions, an approved demarcation certificate (*sinirname*) was given to landholders and the boundaries were demarcated on land by stones (Ayni, 1602). In case of boundary disputes, the local judge (*kadhi*) was referred to *mufasssal* books. The summaries of the *mufasssal* books were also kept in different books called *icmal* (see Appx.3). From 1634 to 1847, the *Kuyud-u Hakani* registration books were called *Temessuk Belgeleri* (Title Deed Records).

After 1847, with some re-arrangements the title records were called *Yoklama* (Inspection Books) (see Appx.4). Based on these inspection books, the first time, the land deeds were started to distribute to landowners. In 1858 the Ottoman Government made a major change in land administration by consolidating various land laws into a Land Code. The registration of arable land was made compulsory by the law. The official system of Land Books and Records was started, but the books were based on registration of deeds and not on any preliminary systematic land survey.

Today, all of these land-related records including the *Kuyud-u Hakani* have been legally recognised and used to solve legal disputes on land transactions in Turkey as well as in other countries which were the part of the Ottoman Empire.

5. THE OTTOMAN ARCHIVES

Most of the Ottoman documents have been destroyed during the wars. However, the remains are kept in the archives and museums of different countries. These documents are very important from the historical, political, and cultural point of view because they include notable information on today's 35 countries which were under the Ottoman rules in the past. The Ottoman archives hence can be divided into two categories (Akgunduz, 1990). These are:

(a) Archives in Turkey;

- **The Prime Minister's Ottoman Archive in Ankara:** The main Ottoman land registration books which are the *Kuyud-u Defter-i Hakani* are kept in this archive. Most of these books have been classified and opened to investigators by the General Directorate of the Title and Cadastre. Today, these documents are still referred and used in land transactions. Some other land-related documents are also kept in the Turkish historical administration's library.
- **Istanbul Libraries:** There are many other land-related Ottoman documents in different libraries in Istanbul. The most important among these are; *The Suleyman Library, Topkapi Palace, Atif Efendi Library, Istanbul University Library, Koprulu Library, Nuruosmaniye Library, Ragip Pasha Library.*

(b) Archives in other countries;

Some other Ottoman documents are kept in different countries. These are;

- Albania (The National Archive in Tirana)
- Austria (The National Library in Vienna)
- Bosnia-Hercegovina (The National Library in Sarajevo)²
- England (The Cambridge University Library)
- France (Paris Bibliotheque Nationale)
- Germany (The Crown Library in Berlin)
- Russia (The Institute of eastern studies in St. Petersburg)

6. THE ARCHIVE WORKS IN TURKEY

The Ottoman land records were written with Arabic letters in the Ottoman language. In Turkey, the Ottoman alphabet has not been used because the Latin alphabet was introduced in 1923. Therefore, the interpretation of these documents is a difficult task. The translation of the documents from Ottoman language to Turkish language with Latin characters has been done by the General Directorate of the Title and Cadastre since 1968. Almost 200,000 documents are renewed and classified each year. Totally, there are almost 60 million land-related documents to be renewed in these Archives. It has been estimated that to interpret and classify the remain documents will take nearly 275 years to complete, if the current manual transformation procedures are used (Biyik, 1987). For this reason, the procedure should be speed up using the latest information technology such as artificial intelligent.

7. CONCLUSIONS

In the past, there were initially two basic reasons for records regarding land: the need for the private vendee of land to get publicity for his acquisition of land and the need for the state to know all land units liable for taxation or other services, dues and fees (Larsson, 1991). During the time of the Ottoman, land was registered and classified for these purposes. The Magnificent Suleyman however provided some land legislations and established a land registration system in 1534. The *Kuyud-u Hakani* books were used to record all available land-related information. Due to its vast territory, the entire land could not be registered.

In the Ottoman Empire, the existence of a land registration system was one of the main reason on their success for 600 years. Even today the Ottoman land records have been used in land transactions. One of the difficulties with these records is to interpretation. However, the Turkish Government has opened the Ottoman archives to all scientists to investigate and analyse the land administartion structure of the Empire. The General Directorate of the Title and Cadastre is doing the translation of the land-related documents from Ottoman language to Turkish language. Using such historical land records, some knowledge on the early practice of land information and more importantly the land administration process which was used by one of the greatest empire in the past can be gained.

²This library was destroyed in the Civil War in 1992.

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Appendix.1

Appendix.2

Appendix.3