

The Cadastral System in Lebanon Comparing to the other International Systems

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Key words: Lebanese Cadastre System, Lebanon, Land Registration, Real Estate.

ABSTRACT

In this paper, we compared the Lebanese Cadastral System with that of the German, Australian, Canadian, French, and English Systems. The current Lebanese Cadastral System was developed in 1926. It is a “Fixed and Precise Boundary, and Juridical System”.

From the comparisons, we conclude that there is no “Ideal Cadastre”, as Local Juridical Laws, and other variables influence every system. We attempt to provide an outline for an International Type of Technical Cadastre while respecting the Local Juridical Land Systems. The Technical Cadastral part of the suggested system could be unified internationally.

RESUME

Dans cette intervention, nous comparons le Système Cadastral Libanais avec les Systèmes Cadastraux de l'Allemagne, de l'Australie, du Canada, de la France, et de l'Angleterre. Le Système Cadastral Libanais contemporain a été établi en 1926, basé sur le type de Cadastre à Limite Fixe et Précise et Juridique.

De la comparaison, il résulte qu'il n'y a pas de « Cadastre Idéal », car les Lois Foncières de chaque pays diffèrent et influent sur chaque système. Une tentative de conception a été proposée pour un Type International de Cadastre en utilisant le Système d'information Foncière (LIS) et en respectant la Juridiction Foncière de chaque Pays. La partie Cadastrale Technique du système que nous proposons peut être unifiée internationalement.

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INTRODUCTION

Since the human population started to grow and the sophisticated social structure started to be developed, the right to use the land started also to be recorded as all administrative measures primarily designed to assure a more efficient collection of render in kind and money.

Consequently surveyors all over the world started to research and study ways to improve the Land Registration and Cadastre systems. This development was accompanied by national and international conferences and congresses for Land Registration and Cadastre.

And here, I Would like to draw your attention to the continuous preoccupation of the profession stated in the third article of the regulations of the First International Comity of Surveyors created in Paris in 1878: “To propose the best possible cadastre related to the bases and fair distribution of land tax, agricultural, industry and commerce ...”.

Then in the Vth International Congress of Surveyors, held in London in 1934, Mr. René DANGER, from Paris, lectured about the possibility of creating an international type of cadastre. Than followed a lot of conferences and congresses. And in April 14 to 17, 1975 took place in Washington D.C. the North American Conference on Modernization of Land Data Systems, and now in April 19 to 26, 2002, also in Washington D.C., 27 years later, the FIG XXIInd International Congress, is held and we still study and make research about Cadastre.

What does all this mean?

It means that the profession dealing with Land Registration and Cadastre is one of the most important pillars of society all over the world.

And being one of the professionals in this field, I will talk about the Land Registration and Cadastre. I will give you a brief outline about the Lebanese Land Registration and Cadastre System. Then I will make a comparison with other International Systems. Finally, I will try to make some suggestions, which I hope, will be useful in the improvement of our profession.

HISTORY OF CADASTRAL SYSTEM DEVELOPMENT

As far back as 4000 years B.C. Babylonians produced tablets with engraved maps of land properties and other relevant data. In the British Museum we can find the earliest monument of modern man; a stone discovered in Babylonia set up to mark a corner and inscribed with the circumstances under which the boundary was established. Every early record of the

“Fertile Crescent” found in the Tigris – Euphrates valley speaks of war between the city of Lagash and a neighboring town over the movement of a boundary stone.

History tell us also of Egypt under the Pharaohs and about boundary lines which were obliterated every year with the inundation of the valley of the Nile.

The Chinese also understood the importance of the services of skilled surveyors in the design of irrigation systems entailing the establishment of recognized property lines.

Then came the Romans who carried out maps specially to ensure adequate tax collection.

Formerly the land records established for taxation purposes also protected the land users in many ways. With time, these land records became the cornerstones on which the concept of cadastre was developed.

The word “Cadastre” comes from the Greek “Katastrikton” meaning “line by line”. It is the marriage of technical records of land parcellation, usually represented on maps of a suitable scale, with an authoritative documentary record, whether of a Fiscal or Juridical nature, or of the two combined, usually embodied in appropriate associated registers. These records are continuously updated with all new developments happening on the Real Estate.

THE LEBANESE LAND REGISTRATION AND CADASTRAL SYSTEM

The old system of land and publicity of real rights

The old system implemented before 1920 when Lebanon was still under Ottoman Empire rule was characterized by two main problems:

1. The extreme confusion of the various laws which regulated property status.
2. The deficiency of the system of publicity of real rights “Defter Khane” which was designed mainly for fiscal purposes. In addition, the role of “Defter Khane” was to establish and define ownership rights and other real rights, but did not provide any guarantee of accuracy because the property was not delimited by fixed boundaries and contradictory operations in the presence of the neighboring landowners.

The absence of any Cadastre made impossible the execution of large works improvement such as land development, parcellation of land subjected to periodic sharing due to inheritance, thus paralyzing efforts of owners. In addition, this absence of Cadastre hindered credit operations which require collaterals free from any dispute.

After World War I, even the new Turkish regime itself recognized these deficiencies and adopted in 1926 a new legislation based on the Swiss one, and a new system of publicity relying on a cadastre system analogous to the one being followed in Lebanon.

The New System of Land Registration and Cadastre

The implementation of this system started in 1926 when Lebanon was under the French Mandate. The task of the cadastral reform was entrusted to a French Officer, M. Camille DURAFFOURD. He carefully studied many Land Registration and Cadastre systems around the world before establishing an adequate Land Registration and Cadastre system for Lebanon. He especially drew on the Ottoman and German (which is influenced by the French Napoleon Cadastre) systems. Regarding the Land Title Registration, he drew on the TORRENS system. For the accuracy and the technique established by him, as a Precise and Fixed Boundary system, he based himself on the Civil Code of the Swiss Federation, and especially on the book written by the Director of the Swiss Cadastral Measurements Department M. BALTENSBERGER. He also followed the advice of the Director of the Department of Real Estate Reconstitution of the French Cadastre, M. ROUSSILHE who chose for Lebanon the Stereographic System of Projection, and also the advice of Colonel PERRIER, Head of the Geodetic Section of the French Army - Geographical Service. These eminent Professionals were speakers in The International Geodetic and Geophysics Union between 1922 and 1932.

After the sudden death, of M. Camille DURAFFOURD in 1941, his wife Mrs. Gallina ALEXANDROVNA DURAFFOURD, who was his personal secretary wrote in 1955 this following: "The testing performed in the Bekaa Valley (Lebanon), before the introduction of this Cadastral System by M. DURAFFOURD, allowed him to choose and introduce a system considered in Europe by known specialists, the most modern and most perfect system".

I will summarize this system as follows: The Lebanese Land Register does not consider the Owner but rather the Real Estate plot itself. Therefore the Real Estate itself has to be determined with regards to its physical identity, by means of a Precise Fixed Boundary and surveyed accurately. The Real Estate forms the invariable basis of the Property and its Real Rights.

The Land Register has to be exhaustive and open to public. In other words, it must show all the facts and conventions which concern the Real Estate, and further more it must be clear and easy to be consulted, which is what the Publicity by land folios tends to the establishment of a Cadastre which constitutes the essential bases of the Real Estate System and the inseparable complement of the Land Register.

The establishment of the Cadastral Map is based on the following:

1. The Juridical constitution of the Real Estates by means of their contradictory delimitation and establishment of their Real Rights
2. The easements which concern the Real Estates by the identification, immobilization and determination of the Real Estates, and their Precise Fixed Boundaries
3. The establishing of the civil status of these Real Estates by registering them in the Land Register.

This Cadastral map has a probative force in what may concern the Precise Fixed Boundaries and the Areas of the Real Estates because once they have been achieved, the Cadastral Maps and their Final Census Boards are deposited at the Land Registration Office for a period of three months, where the services and owners and interested third parties are allowed to consult them, and forward their remarks or objections to the Land Registrar who in turn forwards them to the Estate Magistrate for ruling. Once the Magistrate issues the ruling, the Land Registrar certifies the status.

The mission of the Land Registration Office is to maintain and update the Land Registers, the Cadastral Maps, and the Folios of each Real Estate and their accessories.

The Documents Constituting the Land Register: that is, those which give the descriptive status of each Real Estate, determine its legal condition, mention the rights and burdens of which it forms the subject, and state the transfers and alterations related thereto, are composed of the following:

1. The Land Register: where each Real Estate forms the subject of a special account constituted by a distinct sheet.
2. The Daily Register: where the declarations of transfers and Real Estate operations are recorded chronologically.
3. The Cadastral Maps: which accurately state the situation, boundaries, consistency, and area of the Real Estate.
4. The Supporting Documents: composed of the legal instruments, statements of delimitation, judgments, and conventions on which rely the records of the Land Register and which are classified chronologically in a special file for every Real Estate.
5. The Continual Maintenance and Updating of Maps and Records: All changes affecting the Real Estate on the related records must be registered in the Land Register and updated on Cadastral Maps. The new formality should also be filed in the special file of the concerned Real Estate.

The Cadastral Map, which constitutes the essential base for this new system of publicity, is generally established based on aerial photos used at the same time as sketches for processes of delimitation and census of Real Estates. In certain cases, the aerial photos can be used after restitution to the scale map, for some planimetric details not surveyed by classical land surveying, such as small gaps, embankments, tilling or plantation limits etc... This Precise Cadastre relies on Geometrical Measurements carried out according to the results of the Census and Delimitation of Real Estates. These measurements are tied to a Triangulation Network and Traverses based on a System of Projection. In Lebanon, we use the Stereographic System of Projection.

It is worth remembering here the statement of Captain John O. PHILLIPS in his 1972 paper “The contribution of Geodetic control to better land identifiers” presented in Atlanta, at the conference on “Compatible Land Identifiers - the Problems, Prospects, and Payoffs (CLIPPP)”, where he said: “Geodetic Control provides a national reference for the selection

of identifiers for land parcels. The identifier, a single computer word formed from state – county - geographic code, offer maximum flexibility for data storage or retrieval. Plane Coordinates derived from Geodetic Control may be used in land descriptions as a significant part of the file information”.

BRIEF DESCRIPTION OF SOME INTERNATIONAL SYSTEMS

German Cadastre

The origin of land registry can be traced back to the initiative of NAPOLEON (1808). The real estates were the main criteria through which taxes due to the state were determined. A general survey of all parcels was undertaken in 1808. The resulting documents of this operation contained areas, qualities of soil, and proprietors of each parcel. In 1921, a committee for surveying matters was elected as an advisory board. This committee suggested that the surveys should be laid down uniformly in a Rectangular Coordinate System.

The main task of the Cadastre is to record and describe according to legal statutes, parcels, buildings, nature of land, as well as all data related to administration, economy and industry, planning, and environment.

The aim of the Cadastral survey is to:

- Define and guarantee the property boundaries.
- Determine coordinates of all measurement points.
- Provides information and data regarding the size and the nature of land.
- Represent buildings or other constructions as well as the appraised land value.

The components of the Cadastre are the Land Register and the related Cadastral Maps.

Land Tenure in Australia

In Australia’s early history, land laws emanated from the English system. Crown land can generally only be disposed of by competitive auction.

The General Law and the TORRENS Systems of Tenure (1860) are in operation. Under General Law, transfer of ownership and registration of all dealings were by deed, and considerable trouble may be experienced in tracing such dealings. The broad features of the TORRENS System are to ensure a registration of title whereby the state authoritatively establishes such title by declaring, under guarantee of indemnity, that it is vested in a named person, subject to specified encumbrances and qualification. No transaction is effective until it is entered in the official record kept by the state. Once this is done, the transaction cannot be upset.

Two grants for each piece of land are issued, the original being kept by the Office of Titles, and the duplicate given to the grantee. Each grant describes the land by means of diagrams, and contains the name of the grantee, occupation, price paid, limitations as to depth, special

reservation and conditions, and area and Crown description. The Crown description incorporates lot number and plan of subdivision, number, if applicable, and Crown allotment number, parish, and county.

The French Cadastre

The French cadastre was established between 1808 and 1850. NAPOLEON BONAPARTE was willing to have a Juridical and Fiscal Cadastre. In 1807, he stated the following: “Half measures always result in loss of time and money. The only way to sort out the confusion in the field of general land record is to proceed with the surveying and evaluation of each individual land parcel in all the communities of the Empire. A good Cadastre will constitute a complement of any code as far as land possession is concerned. The maps must be sufficiently precise and complete so that they could determine the boundaries between individual properties and prevent litigations”. At that time, the French started to execute the Cadastre, currently called the “Old Cadastre”. Unfortunately the Registers were updated but the Maps were not. Based on laws issued in 1930-1955 and 1974, the French started to update Maps also. The law issued on July 30, 1990 established new conditions for general revisions of Cadastre evaluations for Fiscal purposes, managed by the Ministry of Finance - General Directorate of Taxes. On the other hand, the Juridical Cadastre is managed by the “Geomètres – Experts”.

Canadian Cadastre

The Canadian Act (1927) greatly benefited from the experiences of the earlier American Land Laws. The Canadian Statutes solved many of the problems confronting the Surveyor arising out of earlier American Real Estate laws.

Canada has adopted a Rectangular System for the survey of all public lands.

The Canada Land Survey Act provides that the lines bounding townships on the east and west sides shall be meridians and those on the north and south sides shall be “chords to parallels of latitude”.

It is provided that there shall be a road allowance along all range lines. Likewise there shall be a road allowance along alternate township lines.

English Land Registration

According to DOWSON and SHEPPARD, ancient Egypt provided the earliest references to registration of title land. They refer to opinion of Professor BREASTED stating that around 3,400 B.C, all land belonged to the King, who entrusted it to the noble class. This is analogous to the legal position in England, where, as the direct consequence of Norman Conquest in 1066, all land became the property of the King, who in terms of strict law is, even today, the only absolute owner of land in England.

In 1830, a Royal commission was appointed to enquire into the law of England related to real property. The object was to establish a “General Register of Deeds and Instruments Relating to Land”. Cairn’s Act introduced the concept of “General Boundaries”. The statutes resulting from the introduction of Registration of Title into England ensured the security of unregistered titles. They have also cut down the length and depth of examination of titles in the process of re-application for registration.

COMPARISON BETWEEN THE LEBANESE CADASTRE SYSTEM AND SOME INTERNATIONAL SYSTEMS

According to the book of “Land Registration” (2nd Edition) by Sir Ernest DOWSON and Mr. V.L.O. SHEPPARD, a straightforward definition of a CADASTRE is impossible, but the distinctive character of a CADASTRE is the marriage of:

1. Technical records of parcellation of the land through any given territory, usually represented on maps of suitable scale, and
2. Authoritative documentary records, whether of a Fiscal or Proprietary nature or of the two combined, usually embodied in appropriate associated registers.

A cadastre has four characteristics, i.e.:

1. It is a systematic operation
2. It is the classification and valuation of the different categories of land
3. It is the conjoint delimitation and mapping of parcels, together with the investigation into, and record of ownership and other real rights to and over such parcels
4. It is continually kept up to date.

The definitions of Guaranteed and General Boundaries according to DOWSON and SHEPPARD (For Boundaries pp. 83, 84, 85) is:

- Guaranteed Boundaries – Mathematical Positioning is more accurately fixed. 0.1 ft (3 cm) for farms, and 0.01 ft (0.3 cm) in towns
- General Boundaries – Exact position can only be obtained by inspection on the ground to locate hedge lines, etc...index map – helps owner to find land – not valid in court of law.

To compare between the Lebanese Cadastre System and other international systems, we are going to take the above-mentioned concepts as reference.

The contemporary Lebanese Cadastre System implemented in 1926, does not consider the owner, but rather the Real Estate itself. Therefore, the Real Estate itself has to be determined with regards to its physical identity, by means of Precise Guaranteed Boundaries. The Real Estate forms the invariable basis of the property and its Real Rights. This cadastre has a Probative Force in what may concern the Precise Guaranteed Boundaries and the Areas of the Real Estate. The Land Register, where each Real Estate is the subject of a special account constituted by a distinct sheet, is updated by the Daily Register. The supporting documents are chronologically classified in a special file for every Real Estate. Therefore, we have a continual maintenance and updating of the Maps and the Land Registers.

First: let us compare the dates where each country started to use its Cadastre System

- Germany – 1808
- Australia – 1860
- France – 1808
- Canada – 1927
- United Kingdom – 1830
- Lebanon – 1926

The Lebanese Cadastre System, which is one of the youngest Systems, benefited from the experience of previous Systems which were implemented in their respective countries at a certain time in history and influenced by conditions specific to those countries, such as geography, tradition, legislation, politics, etc.

Second: A Cadastral Map may be defined as a map or plan destined to identify a particular parcel of land for purposes of ownership and registration and thereby shows the boundaries with a degree of accuracy as defined in the legislation governing the transfer and holding of land.

- German cadastre - Mathematical Positioning Boundaries
- Australian cadastre – General Boundaries
- French cadastre – Mathematical Positioning Boundaries
- Canadian cadastre – Rectangular System
- English cadastre – General Boundaries
- Lebanese cadastre – Mathematical Positioning Boundaries

The comparison can go on and on between the Lebanese System and the systems of the other five Countries. We could also make comparisons with the Systems of other Countries, perhaps more than one hundred, but for what purpose? If it is to prove that the Lebanese Cadastre System is one of the most complete and its Land Register is one of the best with its necessary accessories, you can evaluate and make your own judgment based on the background information presented above. But, if it is to demonstrate that the Lebanese System is the “Ideal Cadastre”, let me tell you that for sure, there is no one “Ideal Cadastre”, because there are as many types of Cadastre as there are Countries in existence in the World; they will vary from jurisdiction to jurisdiction, depending on the physical, social, juridical and historical make up of the area they cover. They will differ from Country to Country.

But the one common feature for all of them is that they accumulate data on the individual *Real Estate, being the smallest knot of Urban and Rural fabric.*

Gerhard LARSSON, Head of Land and Consolidation and Planning Department at the Institute of Technology in Stockholm, Sweden stated in his Conference “The Social and Administrative Functions of a Cadastre” given in October 1974 at the Canadian Institute of Surveying in Ottawa: “It is impossible to predict all possible uses of a system of this type (Land Data Bank). But we can be rather sure that, as time goes on, more and more registers

will be built up, more and more information will be integrated in the data system and the possibilities of combinations between different types of Data System will increase.

A Land Data Bank based on the Cadastre, will be more and more valuable for all types of Administration, Planning and other activities in the Society”.

Mr. René DANGER from France stated in his lecture “Can we establish a Standard International Cadastre?” given in 1934 at the Vth International Congress of Surveyors in London: “Allow me to draw the attention of our friends from the International Federation on the consequences of the desire of unifying too quickly the various national formulas related to the most profoundly anchored right in the heart of human kind, the Property Right. It is evidently an ideal of peace and harmony to give all nations the same right or the same expression of right. But this is a bit like the “Universal Language”... Shouldn’t we be careful, in trying to impose ideas, methods, and formulas, not to hurt convictions, feelings, and even legitimate interests? Let us be prudent; let us build ourselves an International Spirit, yet let’s be respectful of the rights of creativity of each of our nationalities.”

CONCLUSION

Now that we are facing and confronting the twenty first century with its modern technical arsenal, all Systems of Cadastre should follow this modernization and try to take advantage of this new electronic technique to better fulfill the Cadastral requirements. These actual systems of recording and preserving legal, physical and fiscal data concerning the land are not coherent enough and consistent and still create problems for all those concerned with this data. These problems are particularly serious for the Surveyor who required not only a great quantity of data but also and particularly more accurate and precise information. Because of that, Precise Plane Coordinates derived from Geodetic Control Network and based on an adequate System of Projection may be used in land description as a significant part of the information file, like in the Lebanese Cadastre and other Cadastre Systems using the Fixed Precise Boundaries System.

Geographical and Land Information Systems (GIS - LIS) are now used almost all around the world, and it have been proven that these systems are the most adequate way not only for Cadastral purposes, but also for planners, administrators and others. What we suggest is a unification of a type of Land Information System using the following methodology:

- Input the Land Register Data and its supporting documents into the computer respecting the Local Laws and regulations of each Country without trying to impose a Universal Land Law.
- For Countries using the Precise Fixed Boundary System, all data related to Cadastral Maps are computerized using Mathematical and Precise Positioning Methods. For Countries using the General Boundary System, existing Maps are input into the computer, however for the use of Town Planners and other professionals, it is advisable to have Precise and Accurate Maps.

- Once the computerization process is completed, maintenance and updating of Maps and Land Registers can take place whenever there is a new operation affecting the Real Estate.

In other words, we suggest the use of a Unified and International Form of LIS while respecting all Local Real Estate Laws and Regulations.

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