PREPARATION OF JUDICIAL DOCUMENTS ABOUT CADASTRAL STUDIES IN TURKEY AND AN AUTOMATION SOFTWARE

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1. INTRODUCTION

Cadastre is a service that regulates land-human relationships. The current task assumed by the Turkish cadastre is to determine the nature of proprietorship and base it on technical principles. Furthermore, information on land registers and cadastre forms the basis of all kinds of project services regarding land. Cadastre is benefited from in planning economic projects, in settling judicial matters, in agricultural activities, in determining forest and grazing lands, in planning urban land use, in determining treasury and public properties, in scientific researches, and statistics. Cadastre establishes the relationship between cadastral knowledge and cartography while conducting these tasks (TKGM, 2005).

Founding cadastre of Turkey has not yet been completed

In this study, information will be provided about automation software involving judicial applications of cadastre which will accelerate cadastral activities and reduce possible human errors to a minimum and the results obtained will be illustrated.

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2. CADASTRAL WORKS IN TURKEY

Today, with these activities performed in accordance with the Cadastral Law no: 3402 dated 21.06.1987, the borders of the real estate on land and the rights on them are determined, their maps are made and thus modern land registries as proposed by the Turkish Civil Code are being formed. Cadastral services conducted in Turkey are summarized in Table 1.

Table 1. Types of Cadastral Activities

A.) Activities of Institutional Cadastre	B) Other Cadastral Activities
Village Cadastre (law no: 3402)	Renewal efforts
Urban Cadastre (law no: 3402)	Cadastre of Catastrophe
	Forest Cadastre
	Cadastre of 2/B lands (law no: 6831)
	Activities regarding pastures, summer and winter pasturages (law no: 4342)
	Activities of construction amnesty

The procedures pursued in institutional cadastre activities in Turkey are below.

A- Preparatory Activities
- Determination of cadastral zones
- Announcement of cadastral work zone
- Selection of experts
- Taking out registers and documents
- Obtaining maps and values
- Making control plans and control books
- Appointment of cadastral technicians

B-Application/ Land Operations
- Establishment of cadastral commission
- Determination of the boundary of cadastral work zone
- Making partition of blocks of houses
- Triangulation and polygon work
- Limitation and determination, measurement, drawing, calculation and control work

C- Legal/ Office Work
- Preparation and submission of the final report and cadastral records
- Announcement on notice board
- Approval of records
- Revision work
- Registration work
- Preparation of title deeds
- Preparation of card-indexes and science files
- Preparation of lists for taxes and charges
- Transfer work

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3. AUTOMATION ACTIVITIES IN JUDICIAL ACTIVITIES OF CADASTRE

Getting cadastral services automated is an inevitable goal. The archiving of the quantitative information regarding the first establishment cadastre and change operations sent to the central archives will enable the re-formation of the provincial archives with the help of the information stored in the central archives.

One of the most important components for the Geographical Information System is the software and its properties. There are no already established standards in our country regarding Geographical Information Systems. Consequently, problems arise in the selection of appropriate software and the exchange of information between institutions (Durduran, 2005).

In the legal documentation activities of cadastral work conducted so far by the General Directorate of Land Registry and Cadastre, manual work has been done but automation software that will act as a basis for an information system does not exist yet. Although CAD-based software is currently being used for land-registry and cadastral activities, problems are still experienced in linking information to one another.

3.1 Sample Software for the Preparation of Judicial Documents in Cadastre: KadastroSoft

Figure 1. The main window view of the KadastroSoft software

One of the sample software used in institution cadastre is "KadastroSoft". This software has been developed by Seyfettin Kaya, an Engineer of Geodesy and Photogrammetry. The KadastroSoft software is an automation programme prepared in the Delphi programming language, operating on Windows operating system and having a relational database (Figure 1).

Measurement operations in institution cadastre are conducted in CAD based software in the form of drawing and accounting operations. The KadastroSoft software is exemplary software that can access to CAD-based information or information in other data formats regarding the preparation of judicial documents in institution cadastre.

The formation of cadastral records involves the formation of archival documents such as lists of valuation and other lists, title deeds and their printing, announcements, science files, notice/announcement lists in different file formats on computer and similarly the formation of land registry.

Through the file operations menu, it is possible to open new files of desired numbers, define the task and the information about the place of work and roam among these task files. Information about the place of work can be entered on the file menu; Information on the directorate, technicians and the experts. Also, it is possible to backup and index the files at will by following the steps in the menu (Figure 2).

After these operations of definition comes the 6 cadastral operations menu where the actual operations of institution cadastre are conducted (Figure 3).

Figure 2. File Menu   Figure 3. Cadastral Operations Menu
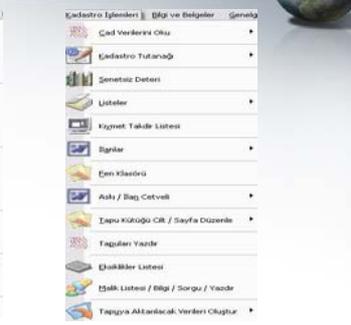
Through data entry, information on the area of work (province, district or village), section, city block, plot, surface measure and information on proprietors can be entered in digital medium or data transfer can be performed by making import from CAD software in different formats (NETCAD, EGHAS, GEOCAD).

Following the entry of records, operations of forming all the necessary lists, tables, unbilled lists and valuation lists through the menu of lists can be made.

Also, land registers which are the main registers of Directorates of Land Registry can be printed in accordance with the regulations and their printouts can be obtained. In practice, these registers are written by hand as big and small registers. The small land registers are also sent to district directorates while the big ones are processed in land registry directorates.

It is also possible to form cadastral records in accordance with the regulations through entry of information page by page and line by line that conform to standard printed forms in determining real estate in the entry menu (Figure 4).

Figure 5. Cadastral Record, **A**. The section where plot information exists **B**. The section for acquisition and proprietorship
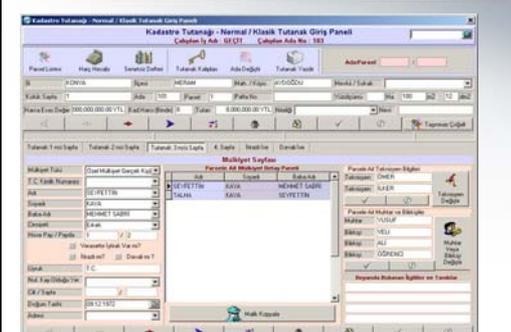
4. CONCLUSION

Today, efforts to set up information systems have intensified in many state offices and institutions. The Land and Cadastre Information System (TAKBIS) project launched by the General Directorate of Land Registry is one of these efforts. The pre-requisite to implement this project is to form a sound database. Cadastral efforts in the country must soon be completed and renewal efforts must be initiated in areas that do not meet the needs of the day.

The use of KadastroSoft automation software in efforts of Installation Cadastre in order to speed up efforts bring along various benefits such as ensuring data quality, data standards, uniformity of data in digital format, providing speedy access to archive information and forming an archive database, and printing of documents in accordance with the standards. Data transfer from CAD-based software and transfer operations to NDEF data formats with dbf format for land registry directorates are very important for cadastral automation.

Increasing the number of such software which will accelerate cadastral services and bring solutions to problems is a national service.

Thank You

for your attention!