

Property Based Land Information Systems of Turkey

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Key words: Cadaster, Land Registry, GIS, Property, TURKEY

SUMMARY

The property, addition to the economic dimension, is an important aspect of social and moral concept. General Directorate of Land Registry and Cadastre(TKGM) can be considered the heart of property in Turkey, carried out reforms in last decade has gained more powerful structure, more innovative and more sophisticated. Projects implemented by the institution such as provides significant gains in the country's administrative and sociological perspective, has achieved to a large extent economically. Innovative policies following TKGM, also has a modern and integrated system of land registry and cadastre information. This paper suggests a brief and general information about property based land information systems of Turkey.

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1. INTRODUCTION

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2.PROPERTY BASED LAND INFORMATION SYSTEM

2.1. TAKBIS

Land Registry and Cadastre Information System (TAKBIS) is one of the basic e-State projects aiming at uploading all ownership information within the country and allow people to search all kinds of answers in the electronic environment. The purpose is to allow carry out all kinds of transactions online; this would allow effective follow and control of both private and state immoveable properties by computers. TAKBIS is modeled as a three-phase project.

I. Phase: The existing mechanism was analyzed and system was designed in this direction
Software was encoded according to the designs and application trials were conducted on a system model.

II. Phase: After the success and experience of the pilot project, data entry process started.
After 3 years, 25% of entire data integrated to the system.

III. Phase: All data integrated to the system in line with Country Action Plans.

4 main software has been developed under the project. These are;

- Land Registry Application Software
- Cadastre Application Software
- Project Tracking Software
- Resource Management (Office Automation) Software

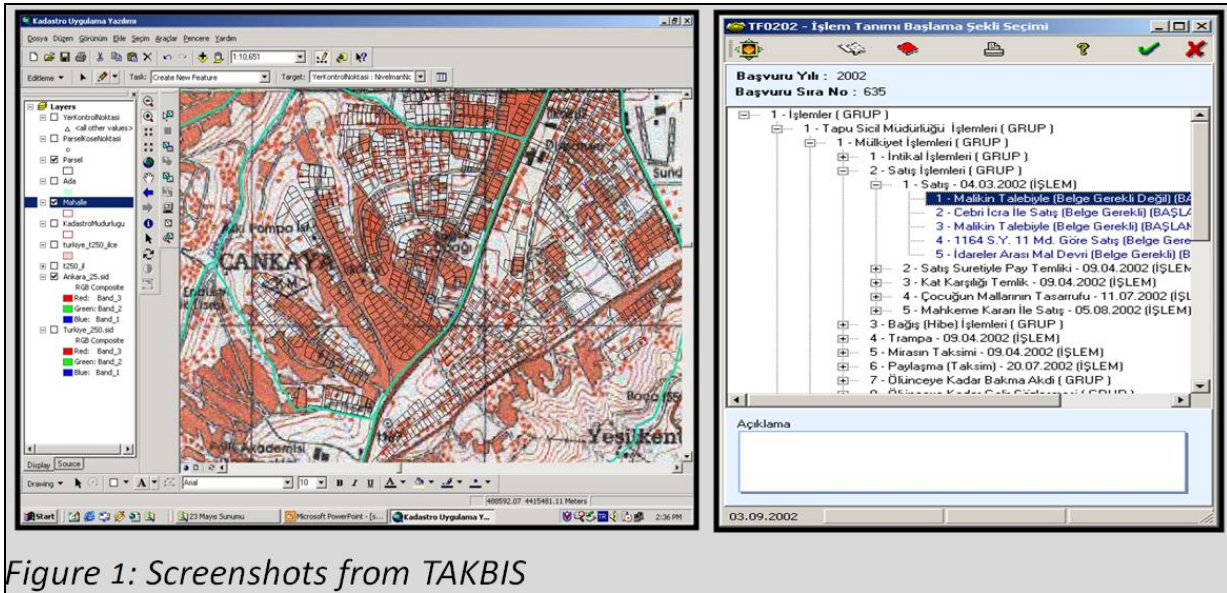


Figure 1: Screenshots from TAKBIS

TAKBIS is an integrated information system that provides;

- standardizing operations relating to land registry and cadastre technique of General Directorate of Land Registry and Cadastre and enabling transactions carried out in Land Registry and Cadastre Directorates (including chiefdoms), in accordance with the legislation and in computer environment;
- minimizing or eliminating the employee's risk associated with the transaction he/she carries out through control and warning mechanisms included in application software developed;
- providing the related employee with the latest legislation support for the transaction he/she carries out on the computer screen, providing Computer Aided Education through descriptive information relating to the transaction on the screen,
- forming an integrated structure with the flow of data generated to the system to be established in the Directorate General and enabling citizens, provided that legislation is amended, to perform operations similar to selling from any part of Turkey;
- providing opportunity for the top management to monitor staff performance of directors and employees of the directorate,
- developing a sense of trust between the citizen and the government which has been damaged over time by eliminating employee initiative, ensuring compliance of procedures with regulations and providing the citizen with accurate results in the shortest possible time,
- generating Decision Support functions reports for Regional Directorates and central offices of the Directorate General using data compiled in the centre,
- producing instant statistical results for a public organization in strategic issues related to real estate,
- centrally monitoring information related to foreign-owned property and the areas of concentrated property movement by foreigners, which is necessary in terms of national security,
- forming accurate and current information base for Agricultural Information System and the Farmer Registration System based on Direct Income Support,

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- enabling effective control of the state in the fight against corruption by carrying out financial crime investigations and interrogations of assets from a single centre and concluding inquiries in financial crimes as soon as possible,
- and performing all these operations with the logic of Geographic Information System/Land Information System.
- Aims of TAKBIS Project are;
- providing valid and reliable land information necessary for land and all kinds of activities and decision-makers, reflecting the current situation; updating land records and maps; transferring all the data to the computer environment; keeping data up to date and re-evaluating them within the scope of information systems technology and making them available,
- converting land registration and cadastre studies and data into a multi-purpose land data system (TAKBIS) and keeping these data in a secure environment and to ensure safe access,
- sound, fast, reliable, and efficient planning, management and operation of TKGM services,
- generating data provided to other organizations and institutions in such a way not to cause any double counting, and ensuring widespread utilization of up to date, reliable proprietary data,
- reviewing operation structures of Land Registry and Cadastre Offices, analysing jobs and ensuring standardization in practice, data entry and integration followed by performance of related to any kind of work related to land registry and cadastre in computer environment, developing applications that staff at all levels can easily use.

The main objective of the TAKBIS: to create ownership and cadastral information in land registry based on spatial map data. Today, when there are great expectations in performance of such services, accurate, reliable, easy and quickly accessible land registry and cadastre information (proprietary information) is needed. This is why TAKBIS Project is important in the development of the country. TAKBIS project aimed at creating Land Registry and Cadastre Information System (TAKBIS) across the country. In this context, the land registry and cadastre services will be analysed throughout the country within the logic of Geographic Information System (GIS) and Land Information System (LIS) to determine the problems, and to find solutions. The land registry and cadastre services will be carried out in this way in a standard and electronic way and local governments and public institutions and organizations will be offered reliable and up to date information in the logic of land information system.

Benefits of TAKBIS are;

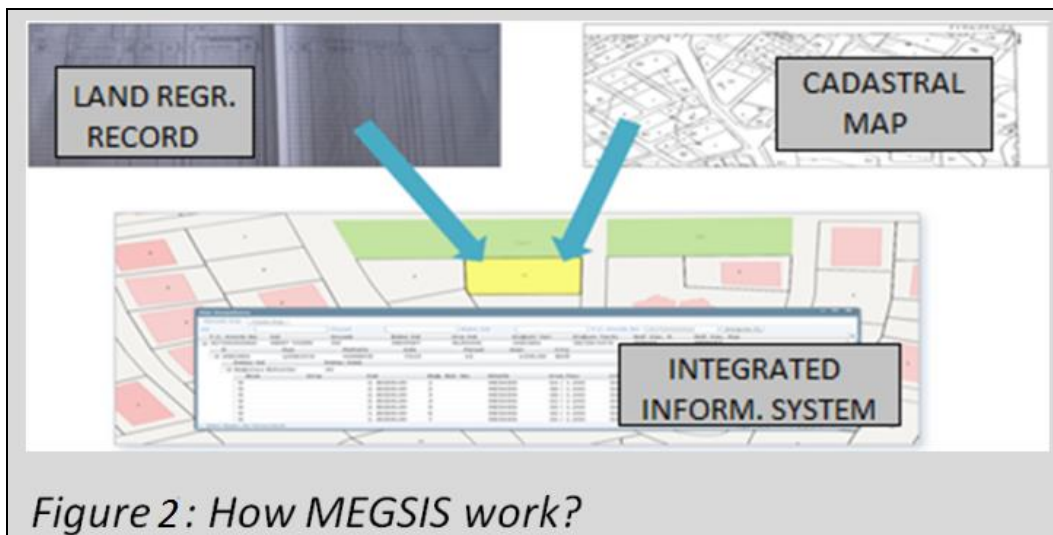
- the problems caused by becoming worn out of register or similar material will be eliminated,
- Standardization will be achieved in the applications carried out in accordance with the demands of the citizens,
- Processing errors and deficiencies caused by the missing documents or information are eliminated
- Smart applications prevent errors of employees thus employees are also prevented from damage,
- Document forgery will be avoided,

- Possible registry errors from the past will be determined and completely eliminated,
- Possible loss of the rights of citizens will be completely eliminated,
- In this way, the firm confidence in land records will be consolidated,
- Public or citizen receivables will be collected reliably and quickly (SSI, execution, health department, etc.),
- Time spent preparing the courts or research investigations will be reduced, thus contributing to alleviate the burden of the Ministry of Justice,
- Bureaucratic difficulties faced by institutions or citizens will be eliminated,
- Corresponding expenses will be minimized by the application of e-signature,
- Unfair profits will be avoided in Green card or similar practices, by correct identification of the right holder and delivery of service on purpose,
- Tax losses will be prevented,
- Accurate, reliable, standard information will be accessible.

TAKBIS project is the winner of 2006 e-TR awards e-service to citizen's category.

MEGSIS

Spatial Property System (MEGSIS); is an open-source application developed by GDLRC, where cadastral data are collected by the center system from de local users in the cadastral offices in digital .cad format and are harmonized with land registry data in order to be submitted to stakeholder institution, organization, municipalities and citizens by e-government link.



Studies held under *MEGSIS* are collected under four main topics.

1.1.1. Web-based application software ,it can be used for different levels and requirements and by the administrative frame of identification/authorization , internal and external users can input data, collect data, integrate land registry data and make queries using this software. It includes also modules for following-up and controlling a process.

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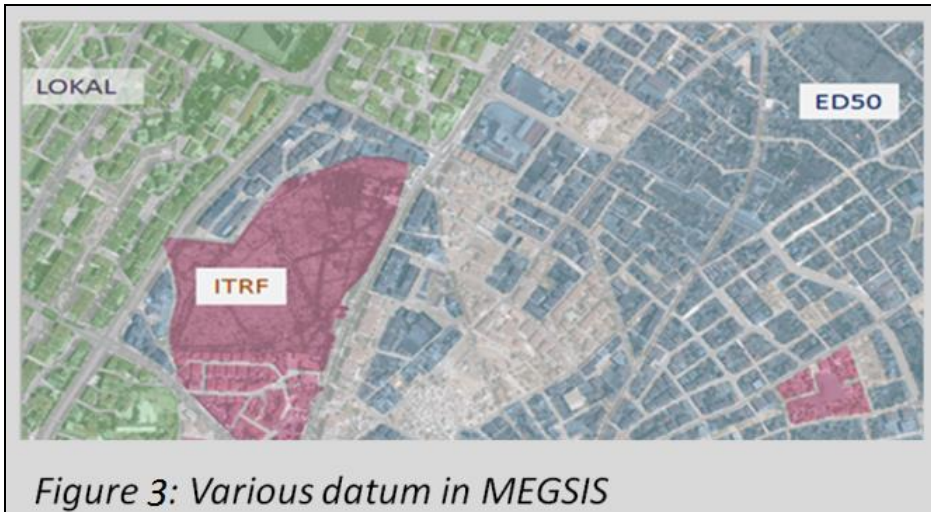
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1.1.2. International standard map services, collected cadastral data within MEGSİS requested by institutions, organizations, municipalities within protocol is shared in standard format, which is open source and tested by commercial products.

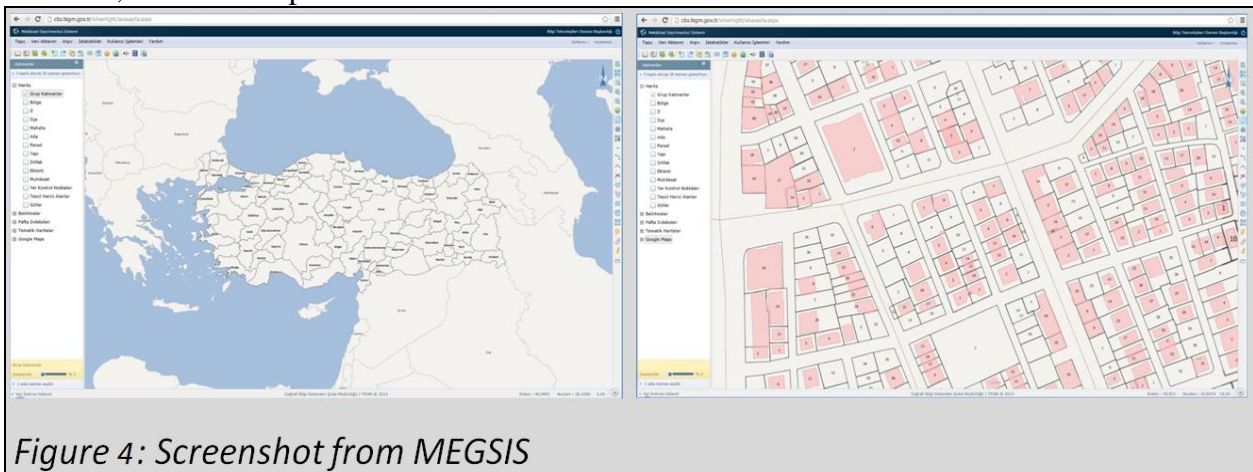
1.1.3. E-Government Services, collected cadastral data combined with land registry data as a map service is offered to the citizens for information purposes. These services offered by the www.turkiye.gov.tr internet address have the characteristic to be the one and only geographical service.

1.1.4. Orthophoto Services, orthophoto maps produced in 1/5000 scale are offered via prepared services by the open source GDAL Library in TileMapService (TMS) standards.



MEGSIS can present various datum in common.

Also users can be display data integrated with several choices of layers like orthophoto, Google earth, thematic maps etc.



BIOGRAPHICAL NOTES

Mehmet Fatih DIRİ, Born in Elbistan, Kahramanmaraş in 1982. Survey Engineer. Received a BS Degree in Geomatic Engineering from Istanbul Technical University in 2006. Continues MSc studies about Geographical Information Technologies in Middle East Technical University. Worked as various positions such as engineer, chief engineer, unit chief for 10 years in General Directorate of Land Registry and Cadastre. Working as Land Registry and Cadastre Expert in TKGM for years.

Bilgehan ÖZSOY, Born in Amasya in 1979. Land Registry and Cadastre Expert. Received a BS Degree in Business Administrator from Anadolu University in 2006. Worked as officer in Mechanical and Chemical Industry Company. Working as Land Registry and Cadastre Expert in TKGM for 4 years.

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