

## COUNTRY REPORT ON CADASTRE AND LAND REGISTRAION IN IRAN

**By: Hamid Berenjkar, IRAN**

**Key words:** Comprehensive Cadastre, Cadastre System, Cadastral Survey, Land Book, Iran

### **ABSTRACT**

Land registration and cadastral systems are prerequisites for sustainable development and consequently the implementation and maintenance of an appropriate system which is necessary to perform the following tasks is recommended:

- Support Land Tenure Policy
- land and environmental planning
- development and maintenance of geospatial information system and NSDI
- real property tax administration
- Support Environmental Control for Sustainable Development
- Integrated Database
- Land Register Integration

Land registration and cadastre together play an important role in a society, as long as they act well and fulfill the goals set by that society. Although different countries and experts have different opinions, the following descriptions of land registration and cadastre, including the strong relation between them, are generally accepted: A Cadastre is normally a parcel based, and up-to-date land information system containing a record of interests in land (e.g. rights, restrictions and responsibilities). It usually includes a geometric description of land parcels linked to other records describing the nature of the interests, the ownership or control of those interests, and often the value of the parcel and its improvements. It may be established for fiscal purposes (e.g. valuation and equitable taxation), legal purposes (conveyancing), to assist in the management of land and land use (e.g. for planning and other administrative purposes), and enables sustainable development and environmental protection.

Land records are a critical resource in every society. Land ownership titles have been a major component of every society. Formal land title recording systems were put in place as states matured, adopted state constitutions, and became part of the Iran starting in the late 1910s. Over the last 25 years the storehouse of available land title records has grown quite large, as computers, geographic and land information systems, scanners, electronic documents, and global navigation systems have been added to the tool box for improving, maintaining, and making available a wide range of information about land.

This document is about the modernization of land records that has occurred over the past 20 years.

## OVERVIEW

IRAN comprises a land area of 1,648,195 square Kilometers (the 17th country in the world by land area). It is located in south west of Asia and is one of the middle-east countries. It has 31 provinces.

IRAN lies down the northern temperate zone, between latitudes 25 degree 3' north and 39 degree 47' north and between longitude 44 degree 02' east and 63 degree 20' east. Iran is bounded by Turkmenistan, Caspian Sea, Azerbaijan, and Armenia on the North, Afghanistan and Pakistan on the East, Oman Sea and Persian Gulf on the South, and Iraq and Turkey on the West. Totally Iran has a



border of 8731 kms of which 2700 kms go for water borders and 6031 kms for land borders.

- -The highest point in Iran is Mount *Damavand* being 5610 meters high.
- -The longest river is the *Karun* river being 890 kilometers long (only navigable river).
- -The largest lake is the *Orumiyeh Lake* with an area of 4868 square kilometers.
- The largest island is *Qeshm* with an area of 1891 square kilometers
- Iranian government system is Islamic republic and its national day is 22th Bahman (11th Feb). *Tehran* is the capital of Iran.

## BACKGROUND

The law for deeds & properties registration was passed in April 1911 by the second Iranian Parliament.

The 126-article law for deeds & properties registration was passed in March 1923 according to which Iranian Deeds & Properties Registration Organization (IDPRO) was founded to stabilize people's proprietary rights and registration of documents made by them. Official name of organization is” the state Organization for Registration of Deeds and Properties” which consisting of Cadastre and Land Registry and also deeds registration, as it comprises in one single organization. With the establishment of IDPRO, it was expected that people were encouraged to investment because of judiciary & legal stability, and the government received taxes for transactions.

In addition to its principal reason of existence, IDPRO is a source of income for the government and gets much more than what it needs for its costs. The surplus is transferred to the treasury.

## **NOTARY OFFICES**

All contract preparation and the decision on legal acceptance is carried out by the Notary Public. The Notary public then presents the Deeds to the Land Registry Office for registration. The Land Registry only receives a summary of the Deed; the original is given to the applicant.

The public Notary guarantees the content of the Deed and the Land Registrar is also responsible for the content on behalf of the administration in law.

## **CADASTRE PROJECT**

Iran's Urban Cadastre Project for Urban Areas was passed in 1989 by Islamic Iranian Parliament and officially started working under Iran's Deeds and Properties Registration Organization. On the basis of this project, a technical committee was established in 1990 to study and research. This committee prepared a plan for implementing the project and began executive studies on the main objectives, financial and also the required applications and instruments. It was assigned the project to be implemented within twenty years. Now this project has progressed and prepared a lot of digital cadastral maps and its attributes in an integrated Data Base.

Comprehensive Cadastre law for whole country (Urban and Rural) was passed in 2015 and. On the basis of this law it will be implemented within five years.

The organization is obligated to carry out the Cadastre within five years from the date of the act's entry to force, in a manner that the position and the limits of all properties and lands within the geographical borders of the country – whether governmental or non-governmental – and also the positions and the limits of all mountains, pastures, forests, seas, lakes, lagoons, constructed coastal lands, functioning and obsolete waterways, and the islands of the country are defined and registered, and the utilization of maps and other descriptive and registry data of all properties and lands of the country in form of maps and cadastral ownership documents becomes possible in a way that no point in the country is unmapped and lacking cadastral ownership documents. All agencies are obligated to cooperate with the organization to carry out the cadastre .

## **STAFFING**

- The IRAN Registration Organization system uses a government based staff of almost 10,000 (the cadastral surveyors who do the site surveys are included)
- Notaries: there are 8,000 public notaries in IRAN employing more than 40,000 people in different practices.
- Licensed Private Surveyors, there are an estimated 2,200 private surveyors active in cadastral building's surveying, (note: the cadastral surveyors also carry out this work and boundaries surveying)

## **MODERN CADASTRE AND LAND REGISTRATION**

In IRAN the Cadastre includes technical data on parcels and buildings thereon in written as well as in graphic (map) form.

The Land Book contains any sort of legal data on real estates and buildings thereon.

Cadastre and Land Book together form a national information system, which shows real estate data in an up-to-date form.

Land Book data is granted to be correct and complete; registration in the Land Book is the only valid method of acquisition of property rights. By this, the Land Book is kept updated and any correct conveyance based on registered information is deemed to be valid.

Generally no reliability is granted for cadastral data. For boundary disputes the district courts are competent.

Based on FIG Definition, The Cadastre is a land information system, usually managed by one or more government agencies. Traditionally the Cadastre was designed to assist in land taxation, real estate conveyancing, and land redistribution. The Cadastre helps to provide those involved in land transactions with relevant information and helps to improve the efficiency of those transactions and security of tenure in general. It provides governments at all levels with complete inventories of land holdings for taxation and regulation. But today, the information is also increasingly used by both private and public sectors in land development, urban and rural planning, land management, and environmental monitoring.

A Cadastre is normally a parcel-based system, ie. Information is geographically referenced to unique, well-defined units of land. These units are defined by the formal or informal boundaries marking the extent of lands held for exclusive use by individuals and specific groups of individuals (e.g. families, corporations, and communal groups). Each parcel is given a unique code or parcel identifier. Examples of these codes include addresses, co-ordinates, or lot numbers shown on a survey plan or map.

Graphical indices of these parcels, known as cadastral maps, show the relative location of all parcels in a given region and at the geodetic coordinate system. Cadastral maps commonly range from scales of 1:10,000 to 1:500. Large scale diagrams or maps showing more precise parcel dimensions and features (e.g. buildings, irrigation units, etc.) can be compiled for each parcel based on ground surveys or remote sensing and aerial photography. Information in the textual or attribute files of the Cadastre, such as land value, ownership, or use, can be accessed by the unique parcel codes shown on the cadastral map, thus creating a complete Cadastre. (FIG)

According to above definitions, stages for access to modern cadastre and land registration in IRAN were as follows:

❑ **Objectives**

1. Establishment of an efficient system for securing land titles
2. Creation of a general cadastre system which provided clear and current definitions of parcels for property registration and facilitated open access to registers.
3. Setting up a safe and cost effective procedure for property transactions in order to enhance the use of property as collateral.

❑ **Planning**

1. Definition cadastre for Iran (localization)
2. Total land area required for cadastral surveying
3. Capacity building, training and public awareness campaign
4. Monitoring and evaluation

❑ **Design**

1. 31 Provinces
2. Cadastral surveying instruction
3. Database modeling
4. Infrastructure

❑ **Implementation**

1. Cadastral data collection
2. Converting deeds information and map sketch to digital form
3. Integrated digital deeds information and digital cadastre for making DCDB
4. Using technology for services

❑ **Development of Cadastre**

1. Design of workflows and procedures for cadastre cases.
2. Methodology, specifications and quality assurance for data capture, index maps, orthophotos, and integrated information system, scanning of old maps, etc.

3. Design and development of an image web server application to store and retrieve digital graphic data.

❑ **Development of Land Book**

1. Design of workflows and procedures for real property transactions.
2. Technical specifications for data conversion.
3. Review and amendment of laws and regulation

**RECENT ACHIEVEMENTS**

**Project of Land Registry Archive Information System**

The objectives of the project are:

- To scan the existing archive documents, by using the latest technology,
- To transcribe them and transform them into a digital media,
- By installing the archive automation software and **establishing the framework, to**

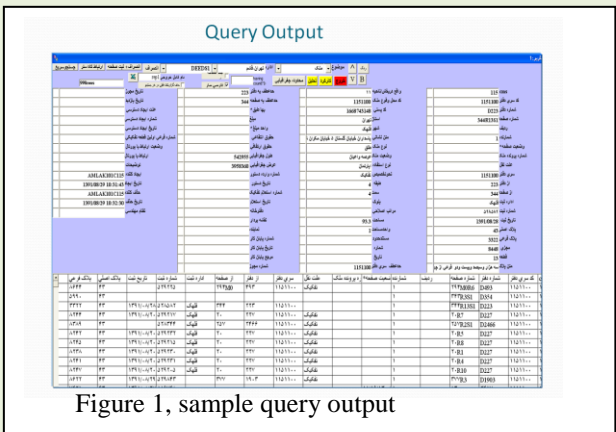


Figure 1, sample query output

- Ensure that the authorized people can easily access archive information and Documents within the required security framework.
- Now majority of gathering data are in digital format, and stored in easy accessible databases, it became easier to make special selections and combinations of data, also with those of other data providers, which creates opportunities to deliver reliable products, which obviously meet market demands and encourage economic activities and growth.
- Maintenance of cadastral data and land registry data is decentralized to the land registry and cadastre offices (more than 430 of each)
- The land register and cadastral data are linked by property (registered parcel) identifier (Parcel ID). Parcel Identification number is a unique number and has main role for linkage between cadastral map and registration information.

100% of the land registry records (land books) are available in computerized extract form

In IRAN, cadastre system and cadastral survey information play a main role towards legal, economic and social development through a stable and reliable property registration system. The system traditionally serves as the foundation for property transactions and securing the legal status of property boundaries. This function will not change and will continue to be significant. However, with the introduction of GIS (Geospatial Information System) that allows for capturing of geographic data on a seamless layer containing all property parcels, the cadastral survey information has become the most critical land base

information to support development and planning work in government. This cadastral GIS layer data is widely known as the digital cadastral database (DCDB). In fact Land registration and cadastre work closely. it means that cadastre prepares cadastral Digital map for land registration for linking legal attributes to related maps.

### **DECREASING LAND CONFLICT**

The governments of many countries and countries in Transitions are currently investing in the improvement of their land administration, the primary objective being the development of a transparent and efficient land market. As a by-product of this, there is a goal of decreasing land conflicts through the implementation of an official land registration and/or cadastral system.

### **APARTMENT REGISTRATION**

Transactions involving apartments are registered in the same manner as any other transaction involving a real estate object. There are some differences in the procedure, and in the agreements/ documents that are needed to support the process. A detailed survey plan is produced by the private surveyors. This is checked in detail by the cadastral office before acceptance.

### **NOTARIES**

Transferring Data are entered by notary offices through a mediator and then it verifies in registration offices (departments) for final confirmation and entering to main DB.

Until two years ago, the notarial deeds were submitted manually to registry offices, but since the Parliament endorsed a new law, the deeds might be submitted electronically, directly from the word processor on the notary's desk to land registry offices. Today almost all deeds are submitted in this way, and now we are working on the next step, which is automated updating of databases, as currently still manual intervention is needed. A fully automated updating process will be implemented in steps and completely realized in the end of year 2017.

### **SURVEYING**

#### **CADASTAL SURVEYING OF LAND**

-Historically to survey the cadastral boundary, the involvement of the owners and users is necessary, they are always invited to come to the field to point out where new boundaries are.

Cadastral surveying of land is the identification of the legal boundaries of a cadastral parcel in nature, marking and surveying. Only surveyors certified for performing the works of cadastral surveying are entitled to perform cadastral surveying of land. The data of cadastral surveying of land consisting of 4 class of accuracy in Digital form:

- Class 1 (urban)
- Class 2 (agricultural)
- Class 3 (adopted lower accuracy boundaries on large parcels)
- Class 4(existing boundaries on large parcels with missing or inadequate information - no accuracy standard specified)

<b>Urban Area</b>	<b>urban area(hectare)</b>	<b>1,200,000</b>
	<b>cadastre in class1(hectare)</b>	<b>1,188,711</b>
	<b>percent</b>	<b>99%</b>

<b>Rural Area</b>	<b>agricultural area(hectare)</b>	<b>18,000,000</b>
	<b>cadastre in class 2(hectare)</b>	<b>2,058,452</b>
	<b>percent</b>	<b>11%</b>

<b>state owned land Area</b>	<b>area(hectare)</b>	<b>139,000,000</b>
	<b>cadastre in class 3(hectare)</b>	<b>9,809,481</b>
	<b>percent</b>	<b>7%</b>
	<b>cadastre in class 4(hectare)</b>	<b>66,330,894</b>
	<b>percent</b>	<b>50%</b>

**Table 1: Realization of the IRAN Cadastral works (2014)**



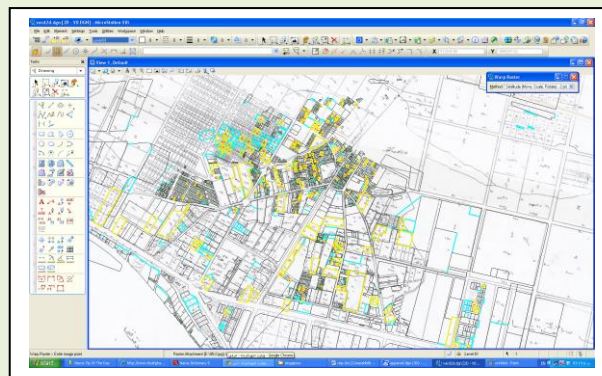
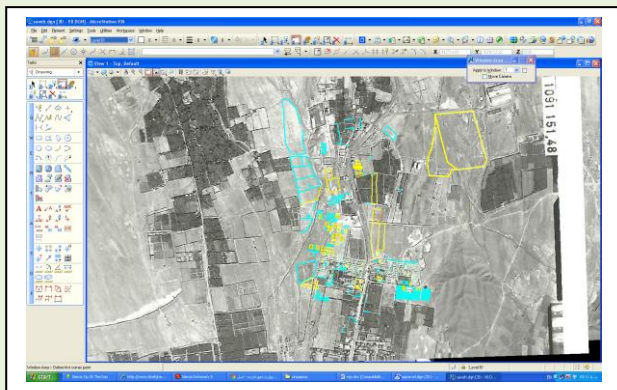


Figure2-overlaying old map and image on cadastral map

### GPS/GNSS Technology / Infrastructure

- Primary Triangulation with GPS technology (1992)
- Secondary control network (1996)
- Establishment of Network for DGPS applications (2007)
- Starting of Implementation of “SHAMIM” CORS GNSS network (for cadastre activities) (2014)

### INFORMATION AVAILABLE:

- Data of the parcel like address, size, usage as text (list) or in form of the cadastral map showing ID of parcels, their boundaries, land cover, buildings, street names.
- Data of the real properties like data of the owner and his/her ownership, mortgages, other encumbrances and servitudes (like right of way, usufructs), full text of documents which are the basis of these entries.

### PRODUCTS AVAILABLE:

If ID of Property is known and entered into the system the actual data of the real property is rendered as Table file. The output can be read, stored, copied or printed. The output can be restricted to specific share, to specific owner. Historic data can be inspected electronically too.

The ID of a specific Property can be searched by address, by name of owner or using the cadastral map. The search by name is restricted and available only at the court and in certain cases at offices of notaries or advocates.

## **FUTURE**

-Iran currently does not have a formal NSDI, but the subject has been addressed in Iran’s National Plan for Map and Spatial Data production (currently reviewed by the HCSM, High Council of Surveying and Mapping). The HCSM coordinates all geomatics and geodetics activities within the country as a whole and conduct the SDI in future. The **role of cadastral data** in establishment of NSDI is quite significant so that, Iran’s Deeds and Properties Registration Organization by it's project for cadastre performance, prepared a powerful integrated Database in country for more than 96 percent of Urban area and for legal attributes of more than 32million registered parcels of public and private owners, which are maintaining in digital Database. The Cadastre general office has right to have a nominate in HCSM and consequently, has a main role in establishing SDI in Iran.

- The organization is obligated to establish and organize the offices subject to the Act of Registration of Deeds and Real Estate and the Act of Official Notary Publics and their respective regulations, at the subsection of the data centre, comprehensive system, and related systems, electronically and in a manner that authenticity, integrity, credibility, and irrefutability is provided for. Furthermore, the organization is obligated to facilitate the official notary publics' connection to the respective systems previously mentioned, so that online registration of deeds and transaction, and instant response to registry enquiries are facilitated. By establishment of the above-mentioned electronic offices, registration in handwritten books will be abolished and the electronic offices will replace the existing offices.

-Bennett et al. (2010) discussed about setting a new vision and concept for future cadastres. The factors considered include globalization, urbanization, good governance, climate-change response, environmental management, 3D visualization, analysis technologies, wireless sensor networks, standardization, and interoperability. His team also outlined the potential characteristics of future cadastres. These characteristics include survey-accuracy, object-oriented design, 3D/4D data model, real-time information, global linkages and organic characteristics. Similarly, to cater for the current and future needs of cadastre information users, a high level strategic vision and plan for Countries is required. The strategic vision will provide a guide for systems development, data modeling including 3D models, standardization, technology acquisition, etc.

## **References**

- [www.sci.org.ir](http://www.sci.org.ir) - IRAN Statistical Digest 2011 (Statistical Centre of Iran)
- [www.ssaa.ir](http://www.ssaa.ir)
- Annual report of Cadastre general office.(2014)

- Bennett, R.M., Rajabifard, A., Kalantari, M., Wallace, J. and Williamson, I. (2010). Cadastral Futures: Building a New Vision for the Nature and Role of Cadastres. XXIV FIG International Congress 2010, 11-16 April 2010, Sydney, Australia.
- Berenjkar, H. (2009). 3rd UN-Sponsored PCGIAP Land Administration Forum (Re-Engineering the Cadastre to support E-government)24-26 May 2009, Tehran, Iran
- FIG Statement on the Cadastre, [www.fig.net](http://www.fig.net)

### **BIOGRAPHICAL NOTES**

Hamid Berenjkar is the Deputy of Cadastre General Office in the State registration organization for deeds and properties of Iran. He received his Master of Engineering from Mazandaran University of sciences & Technology, Iran and his Bachelor degree in Land Surveying from the K.N.TOOSI University of Technology (KNT). He is Official Expert In the Field Of surveying and Civil Engineering from Iranian Association of Official Experts(IAOE).He is member of the board of Iranian Society of Surveyors and member of Commission 7 of FIG. His specific areas of interest include RTK GNSS, Cadastral Surveying and Land Administration.

### **CONTACTS**

Mr. Hamid Berenjkar

Cadastre General Office

Tel. (+98)21 22035355

Fax (+98)21 22036660

Email: [H.berenjkar@ssaa.ir](mailto:H.berenjkar@ssaa.ir)

Email: [Hberenjkar@yahoo.com](mailto:Hberenjkar@yahoo.com)