Systematic registration of properties – a new challenge for Romanian cadastral system

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Abstract
The dynamic international professional environment and the constant contacts among similar institutions have contributed in time to the creation of a common vision on relevant issues and identification of common targets, meant to diversify the products and satisfy ever more customers and make them loyal.; that is precisely why we consider not only important, but also interesting that one should learn as many things as possible about the activity performed by National Agency of Cadastre and Land Registration in the field of international relations, within a multicultural professional environment in which, due to common efforts, we have our part, very well defined.

For many decades, traditional cadastral systems have tended to enjoy a reputation for reliability, well defined processes, and a well-recognized guarantee of security of private land ownership. Tremendous technological progress, social change, globalization, and the increasing interconnection of business relations with their legal and environmental consequences, however, have put a strain on the traditional systems.

They cannot adapt to all the new developments. An obvious indication of this is the many reforms that cadastral systems are going through.

Keywords
Systematic cadastre, land registration, real estate, cadastral system, land ownership.

1. Introduction

Nowadays, the Romanian cadastral system faced a new provocation, namely to elaborate and sustain a new approach of level registration, which includes parcels, buildings and legal owner. Today, there are four main directions of cadastral activities in Romania:
- moving towards a modern Land Administration – Transition from Sporadic to Systematic registration;
- the integrated Electronic Cadastre and Land Registry in Romania using an informational interface called E-TERRA;
- CESAR project financed by World Bank for continuous systematic registration of all properties;
- Romanian Government and National Agency of Cadastre and Land Registration project for an estimated 40 million estates in all counties between 2015-2023.

The major achievements of these challenges could be classified as follows:
- establishing unified institution for cadastre and land

Fig. 1. Data model approach for easy and fast registration [10]
administration;
- full operational centralized IT system managing sporadic registration;
- start of systematic registration projects from both local and central level with World Bank financial support;
- political and social awareness of limitations of the current system. [4]

After the radical changes in the former communist countries, the cadastre has gained importance to secure the newly created private land rights and to support the emerging land markets in the transition nations. But also in all countries where private land ownership or even land use rights of the citizens exist, cadastre is an important issue (Fig. 1). Without a reliable documentation on the legal situation concerning land, economic development is hampered. [5]

Cadastres (Fig. 2) together with the land registries help to transform the land rights and resources into tradable assets.

Cadastres and land registries document and localize pieces of land, which are objects of ownership or land use rights, which are defined in the constitutions and laws in many countries of this world. [3]

Realizing cadastre is a process which involves all legal owners from an administrative territorial unit. This fact implies effective participation of the legal owners by their engagement to field activities and publishing the results.

2. Major problems of actual cadastral system

According to Romanian Law on cadastre and land registration no. 7/1996, general cadastre is the unitary and compulsory system of technical, economic and juridical inventory of registering of the whole land fund of the country (Fig. 3), regardless of the destination of land or related constructions, or the quality of owners. [1].

The basic entities of this system are the parcel, the building and the owner. Immovable means one or more adjacent parcels, with or without buildings, belonging to the same owner. Parcel means the land area having the same land use. Cadastre and Land Registration Law no. 7/1996 laid the legal foundations of a unique system of land registration for the entire country, which was to replace the existing land registration systems: the one of the registers of transcriptions and inscriptions, regulated by Civil Code and Civil Procedure Code, the one of the former land books respectively, regulated by Decree no.115/1938 regarding unification of provisions on land books. As its name suggests, the new law regulates two different institutions in the same normative instrument: the technical institution of the cadastre and the legal institution of new land books.

The cadastral and land registration entry system keeps records of: immovable, property rights, inscriptions on divisions of property rights and charges (Fig. 4). Buildings represent a special case of registration if their owner is different from the one of the land, as well as apartments for the blocks of flats. The buildings on the parcel are registered together with this if the owner is the same.
The amount of legal procedure has caused through the years, multiple issues in the field works, which became major problems of actual cadastral system (Fig. 5):
- land fragmentation (land reform / land management projects before the reform);
- inconsistent land information as a result of land reform (lack of modern standards when land reform was started);
- large areas with no cadastral information;
- limitation of the current sporadic registration procedure with risks on secure system. [6].

3. Technical infrastructure of the E-TERRA cadastral system and e-CF - the Romanian real estate land book

The integrated cadastre and land registration IT system (e-Terra) is National Agency of Cadastre and Land Registration’s main operational computer system that ensures the management of the electronic cadastre and land registration records.

The purpose of this computer system is to unify, standardize and automate the processes of updating and inquiring the cadastral and juridical records administered by NAACL, having as final target the increase of quality of services delivered to the citizens and the institutions of this country.

E-Terra system functional components (also called modules or applications) are divided into main components and auxiliary components depending on their contribution to the achievement of the general purpose of the system: cadastral and legal records management.

Each module (Fig. 6) offers functionalities for the settlement of specific problems related to the cadastral and legal records management activity described hereinafter.

The e-C(arte)F(unciara) system ensures the electronic filling in and solving of the applications made for land book and cadastral services provision by professional groups (notaries, banks, real estate agencies, licensed persons etc.) (Fig. 7). The functionalities offered by the system are: solving of applications for information extract, authentication extract, inscription in the land book of the applications for the inscription in the registers of transcriptions and inscriptions, user authentication based on digital certificate, signature of documents and applications enclosed by professional groups having qualified digital certificate, remittance slip for notaries, payment modalities (advance payment, electronic payment, regular payment).

For every real estate, a different land book is drawn up, in which juridical acts and deeds regarding that immovable are registered based on the application submitted by applicants. The land book represents the basic unit of the legal records.
orthophotomaps, on a 1:5000 scale, for the whole country, used both for cadastral documentations acceptance and for preparation of projects by the persons/institutions concerned. [2]

The use of e-Terra integrated cadastre and land registration computer system has started as of June 2008. Currently, the system operates in all 42 counties, and has as main objectives: standardization of processes related to document verification, reception and inscription in the land book, computerization of main NACLR/OCLR workflows, automation of certain processes and achieving of operations efficiency.

4. The Implementation Phases of the CESAR Project in Romania

Making the general cadastre is of interest to all the building owners in a territorial administrative unit. This implies their effective participation to the process, by involving themselves not only in the field activities but also in the stage of the publication of results.

In the process of general cadastre works juridical information will be used, i.e.: the ones which envisage the identification of all the owners, the transcript of the property right in the land registry, as well as the transcript of other real and possession rights. This will be done according to transfer acts, constitutive or declarative rights, as well as on the grounds of possession documents which prove the possession expert rights.

The CESAR Project (Complementing EU Support for Agricultural Restructuring) envisages the inventory of all real estate and the free registration of real estate rights in 91 territorial administrative units in the rural areas. The project is worth EUR 51.4 million and its was scheduled completion date until June 2013. Its results will have profound implications for the economy, setting a solid foundation for the development of national infrastructure and agriculture in the geographical areas covered by the project.

The project envisages the free cadastral and land roll registration of all real estate, by identifying the legal owners. The first two phases encompass systematic registration services for approximately 423,000 ha, respectively 620,000 properties.

Phase 1 – pilot: 19 Territorial administrative units, with an estimated 225,000 buildings on an area of approximately 150,000 ha;

Phase 2 – 31 Territorial administrative units, with an estimated 395,000 buildings on an area of approximately 273,000 ha.

Phase 3 - 41 Territorial administrative units, with an estimated 402,000 buildings on an area of approximately 302,000 ha.

Phase I and II are in progress, and phase III shall start only after the approval for extending the project with 2 years. NACLR takes all the necessary measures to extend the CESAR project or to obtain funds from the state budget in order to continue the systematic registration of properties.

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5. Systematic registration of properties – The future of Romanian Cadastral system

Providing free systematic cadastral and land roll registration services (systematic recording) envisages three main phases:
- the phase for performing preliminary works – establish a data base in electronic format, through: digital conversion of existing analog archives (land rolls, cartographic documents, scanning and georeferencing maps and plans scale 1: 10,000 – 1:500), carry out orthophotoplans;
- the execution phase of the cadastral plan and registry. It shall contain:
  - the limits of territorial administrative units;
  - the limits of real estate (lands and buildings) inside - the built-up area, as well as outside the built-up area;
  - the cadastral numbers of all real estate inside and outside the build-up area.

Table 2- Required funds for applying the project

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Territorial administrative units</th>
<th>Area (ha)</th>
<th>Required funds (EURO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>152</td>
<td>1,000,000</td>
<td>43,000,000</td>
</tr>
<tr>
<td>2014</td>
<td>280</td>
<td>2,000,000</td>
<td>104,400,000</td>
</tr>
<tr>
<td>2015</td>
<td>420</td>
<td>3,000,000</td>
<td>156,000,000</td>
</tr>
<tr>
<td>2016</td>
<td>510</td>
<td>4,000,000</td>
<td>190,000,000</td>
</tr>
<tr>
<td>2017</td>
<td>510</td>
<td>4,000,000</td>
<td>190,000,000</td>
</tr>
<tr>
<td>2018</td>
<td>510</td>
<td>4,000,000</td>
<td>190,000,000</td>
</tr>
<tr>
<td>2019</td>
<td>510</td>
<td>4,000,000</td>
<td>190,000,000</td>
</tr>
<tr>
<td>2020</td>
<td>319</td>
<td>1,800,000</td>
<td>81,400,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3181</td>
<td>23,800,000</td>
<td>1,105,400,000</td>
</tr>
</tbody>
</table>

- the land roll ex officio registration phase. The opening of land rolls will finalize the identification of limits and owners of real estate, existing at the time of the systematic registration works. All the subsequent changes, referring to the area and owners of real estate, shall be registered in the cadastral and real estate publicity records based on maintenance works of the cadastre.

The program is performed:
- based on the strategy of the National Agency for Cadastral Surveys and Real Estate Publicity, approved by the administration committee;
- with expenses financed by:
  - state budget;
  - budget of territorial administrative units;
  - public-private partnership - concession of services
  - international sources.
A reliable real estate publicity system would ensure the ownership right through precise recordings, thus contributing to the fast and safe development of numerous national infrastructure elements, and eventually, it would function as a prerequisite for national prosperity.

The economical quantification of the Project is based on the statistical data of ANCPI, as well as on the status and results of the projects carried out so far.

Table 3- Areas and Territorial administrative units

<table>
<thead>
<tr>
<th>Territorial and Administrative Unit</th>
<th>No. of Territorial and administrative units</th>
<th>Total</th>
<th>inside the built-up area</th>
<th>outside the built-up area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipalities and cities</td>
<td>320</td>
<td>3,071,794</td>
<td>426,874</td>
<td>2,644,920</td>
</tr>
<tr>
<td>Communes</td>
<td>2861</td>
<td>20,767,850</td>
<td>1,432,540</td>
<td>19,335,310</td>
</tr>
<tr>
<td>Total</td>
<td>3181</td>
<td>23,839,652</td>
<td>1,850,423</td>
<td>21,089,229</td>
</tr>
</tbody>
</table>

The systematic registration will be developed from 3 levels:

First level – Public auction for 10 lots with 5-15 administrative territorial units (UAT)/lots from 41 counties:
- 10 lots with 147 UAT consisting 853,458 ha from 41 counties;
- Estimated budget: 159 million lei (VAT included);
- Period: 4 years -2015-2018
- NA CLR – National Organizer
- Participants: Experienced companies with sustainable financial capacity.

Second level – Public auction for 1 lots with 1-3 lots/counties:
- Estimated budget: 1,395 million lei/UAT (VAT included);
- Period: 1 year;
- OCPI – Counties Organizer;
- Participants: Small-medium companies with competent cadastral works skills.

Third level – financed by the local authority:
- Estimated budget: 60 lei/parcels or 150 lei/hectare for properties registered in e-CF;
- The cadastral works could be operated in small regions – cadastral sectors;
- Small companies and all authorized person by NA CLR and OCPI.

At 31 January 2015, the current state regarding the systematic registration of properties in Romania has reach the following statistic situation:
- 7 cities of 320 has ongoing cadastral works funded from local budgets;
- 7 administrative territorial units has been completed, with registration of 70,000 properties;
- 53 administrative territorial units has cadastral works in progress, in different phases of implementation.
6. Conclusions

Cadastral systems need to be flexible, because users require daily updates on modifications of legislation, technology and those regarding new means of registration. Internet use, the use of GPS technology, exchange of data through XML and of modeling standards of UML (Unified Modeling Language) data have contributed over the past few years to the efficient development of some viable cadastral systems. Cadastral systems have developed over time all over the world on the base of national or regional models, in various forms, meeting different needs. [9] We distinguish between: cadastral systems with fiscal functions, accounting and territorial administration systems, urban planning, environmental protection, multi-purpose cadastral systems, land registration systems. Nevertheless, the main functions of cadastre are parcel representation and establishing the owner.

Presently, in Romania, cadastre is carried out systematically and sporadically, while locally, at the level of the territorial and administrative division, general cadastre is still in the pilot project phase. In the future, the plan is to connect the data bases belonging to different institutions, namely the data base of the Cadastre Agency to the data base of the National Register of Personal Data.

One can thus find out in real time if a person is still alive, if they possess the ownership right over a building subject to cadastral operations.

Also for verification purposes we have the attempt to connect to the data base of the Trade Register, thus knowing whether companies are active, dissolved or in insolvency.

Another important achievement would be putting together, at the level of each territorial and administrative division, an electronic cadastral register of the street nomenclature that could be accessed by both the agency and the city halls.

References