Romanian Cadaster and Land Registration System
Developing a secure Land Rights System for Romania

FIG Working Week 2012
Knowing to manage the territory, protect the environment, evaluate the cultural heritage
Rome, Italy, 6-10 May 2012

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Introduction

- Romania – towards a modern Land Administration - Transition from Sporadic to Systematic registration
- The integrated Electronic Cadastre and Land Registry in Romania
- CESAR project financed by WB
- Conclusions

Major achievements

- Running unified institution for cadastre and land administration
- Full operational centralized IT system managing sporadic registration
- Start of systematic registration projects from both local and central level with (WB)
- Political and social awareness of limitations of current system
Major problems

- 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... risks on secure system

Land Fragmentation
Inconsistencies

Sporadic cadastre map
Romania Land Administration on Global map

Two Land Registration Systems before communist period

- Land Tile system established in 1870
- Deed system in the rest of the country
Merger of cadastre with the land registration activity

In 2004,

• The Government of Romania decided to merge the cadastre activity with the land registration activity,

• by reorganizing the cadastre activity managed by the former National Office for Cadastre, Geodesy and Cartography, and by taking over the land registration activity from the Ministry of Justice.

• The new agency:

NATIONAL AGENCY FOR CADASTRE AND LAND REGISTRATION
- ANCPI -

ANCPI

• Mapping, cadastre and land registration activities

• Self – financed: 2004 - 2009

• State budget financed: 2009 - present
ANCPI’s financial incomes in 2005

- Land registration activity 79%
- Cadastre 19%
- Others 2%

Source: ANCPI

C & LR before ANCPI

- Long registration time
- Two applications for registration needed
- Inconsistencies between cadastre and land books records
- Double archives
- Lack of financing resources
### The integrated Electronic Cadastre and Land Registry

- Digitization of current daily documentation
- Data Conversion
- Local network and IT setup
- 42 cadastral offices and 145 land book offices throughout Romania

### CADASTRE AND LAND REGISTRATION IT SYSTEM “e-Terra”

- Pilot - 2006
- Improvements - 2007-2008
- Rollout - 2009
- Rollout completed - 2010
What is e-Terra

• Integrated computer system Cadastre and Land Registration of NACLR (production system)

• Currently used by approx. 2,000 employees in 157 offices and offices of Cadastre and Land Registration

• Ensures the operation of approx. 10000-15000 calls daily

• Developed by IBM Romania with more local partners (Blom) in between 2005 - 2006 (version 1) and 2007-2008 (version 2) and Rollout till - 2010

• Fully implemented in all country (now in Bucharest City)

Objectives of the system

• Standardization of processes
• Computerization of the main flow of NACLR/ Regional offices
• Automation of certain processes (where technically possible)
• Streamlining operations
• Increased data security and transactions
• Early detection of attempted fraud
• Create premises for greater transparency - on-line
• Improving the capacity for interoperability with third parties
System components

Primary components

- Registration Module (RGI)
  1. Applications
  2. Completions

- Cadastre Module (CAD)
  1. Call completions
  2. Conclusions, communication file, extracts

- Land book Registration Module (LB)
  1. Applications
  2. Completions

- Licensing Module (CAS)
  1. Call completions
  2. Response papers

Secondary components

- Administration Module (CA)
- Tool for loading digitized PADS
- Tool for loading converted land books

System architecture

- Centralized Architecture (Data Center Bucharest and Center Disaster and Recovery in Covasna county)
- Communication: own network, VPN
- Software Technology:
  - Frameworks: Java (WAS application server), .NET
  - GIS platform: ESRI ArcGIS 9.2
  - Storage: single database (textual & graphic): Oracle 10g RAC
  - Digitized content management (PAD, CF): IBM Content Manager
- Hardware
  - Technical Infrastructure IBM
Benefits

- Process automation
  - increased efficiency of workflows
  - limit human error by implementing automated validations
  - avoid redundant or overlapping activities
  - cost and time savings

- Secure production environment
  - increased reliability and security of data/information
  - complete tracking of all changes performed
  - timely observation of fraud attempts

- Improved quality of public services by significantly decreasing response time for requests

- A more transparent, controllable, predictable and efficient environment
Systematic registration of the properties in 19 UATs
(4 Lots 2011-2012)

Complementing European Support for Agricultural Restructuring (CESAR)

Systematic registration of the properties within the Project
concerning Complementing European Support for
Agricultural Restructuring (CESAR)
Romania and The *International Bank* for Reconstruction and Development have ratified the Loan Agreement for Project concerning Complementing European Support for Agricultural Restructuring.

Project is undertaken by The Romanian State through the Ministry Of Development and Tourism, represented by ANCPI.
Publicity campaign

The publicity campaign phases are:
• Social study,
• The implementation,
• The monitoring,
• The analyze of the results.

Evolution:
• Before starting the works in the field,
• During the works, to inform the stakeholders about the status,
• Before the public display

Communication channels:
• meetings with the citizens in every village,
• local mass-media,
• letters,
• information points,
• posters and flyers,
• web page.

Benefits

General Benefits to be acknowledged by society are:
• Registration at no costs for citizens and any legal entity
• Facilitating UE fundraising for agricultural grants
• Completing the process of land reform
• Registration of state and public lands
• Creation of Address Register (ANCPI)
• Registration of lands without legal documents
• Registration of buildings
• Clarify owner identity problems
• Contribution to INSPIRE implementation
Other indirect benefits

The special benefits of the project are:

• Clear cadastral situation at local level
• Land market development and transparency
• Reducing the transactions costs for users
• Enable E-services for taxation, permitting and professional users

Work Phases

1. Preliminary works
2. Publicity campaign
3. The technical works (interviews, measurements, collecting the legal documents)
4. The acceptance of the technical works
5. The public display
6. Solving the complaints
7. Updating the technical documents
8. Opening the new electronic land books
9. Lessons learned
Deliveries

<table>
<thead>
<tr>
<th>Project Phases</th>
<th>The Obtained Document</th>
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<tbody>
<tr>
<td>The preliminary study</td>
<td>Report</td>
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<td>The preliminary works</td>
<td>Report</td>
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<td>The information campaign</td>
<td>The monitoring report</td>
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<td>The identification of the immovables/owners/holders</td>
<td>The validated interview sheets</td>
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<td>The creation of the technical documents</td>
<td>The alphabetical index of the holders,</td>
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<td>The cadastral register of the immovable properties and of the holders</td>
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<td>The cadastral plan</td>
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<td>The acceptance of the technical documents by the OCPI</td>
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<td>The Public display</td>
<td>The ANCPI’s Director’s Order to allow the public display</td>
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<td>The solving of the complaints</td>
<td>The land book resolution</td>
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<td>The opening of the new electronic land books</td>
<td>The land book resolution, the information extract, the cadastral plan extract</td>
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<td>Updating the information held by the city hall</td>
<td>The specific registers of the city hall – in an electronic format</td>
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</table>
UAT – Commune - Localities

Location – Vulcana Bai
Key figures

- Area: 2815 Ha
  - intravilan – 407 Ha
  - extravilan – 2408 Ha
- No. of localities : 3
- Inhabitants : 3026
- Proprieties (estimated): 7150
- Land reform titles : 407
- Other property documents: 1000
- Land books :
  - la 31.03.2011 – 709
  - la 30.09.2011 – 825

Key facts for UAT Vulcana-Bai

- The parcels always belonged to the landlords, they never belonged to the Romanian State
- Most of the people do not have legal documents to sustain their property rights
- High hills landscape
- 40.85 % is forestland
- Many parcels outside intravilan without clear limits and irregular shapes (fruit trees lands and grass lands)
- Most of the parcels do have a complex configuration with boundaries which can not be easily identified
- Many owners are not living in the comuna
Contractor

• Joint Venture
  S.C. THEOTOP S.R.L. (leader)
  S.C. BLOM ROMÂNIA S.R.L.
  S.C. CORNEL&CORNEL TOPOEXIM S.R.L.
  S.C. GEOTER PROIECT S.R.L.

• For Vulcana Băi, all the works are carried out by BLOM ROMÂNIA

DATA sources for cadastral map

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<thead>
<tr>
<th>Holder</th>
<th>Document</th>
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<td>OCPI</td>
<td>E-terra vector PADs</td>
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<td>Digital or paper PADs not incorporated in e-terra</td>
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<td>Parcelling maps from land reform or sketches for each individual parcel block</td>
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<td>Other maps with cadastral content if available</td>
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<td>Other maps with cadastral content if available</td>
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<td>Private owners</td>
<td>Confirmation of boundaries during field survey and property visits</td>
<td>Digital field books or sketches (20/40 cm)</td>
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<td>Institutional owners</td>
<td>Other maps with cadastral content if available</td>
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### DATA sources for ownership info

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<td>Private owners</td>
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<td>Field forms</td>
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<td>Institutional owners</td>
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<td>Property or other legal documents (certificates)</td>
<td>Paper</td>
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### Project Team

**Senior management**
- Project Manager (client)
- Deputy Project manager – Cadastral expert

**Experts**
- Land registry expert
- WF Expert/Development analyst/Programer
- Comuna coordinator – cadastral expert
- Designer
- Communication & Social mobilization expert

**Production teams**
- Field teams production coordinator
- Office production coordinator
- Surveyors
- Data collectors
- Local support (Foremans = variable function of field teams)
**Cadastre data integration in production system**

The information contained by the source data

Comparing the information and creating the final record

Data regarding the immovable  

Data regarding the parcels
Cadastre data integration in production system

Data regarding the owners

Statistics regarding the usage of the source data
Cadastre data integration in production system

Updating the textual database

Generating the interview sheets

Generating CGXML files

Automatic check of the CGXML files
Cadastre data integration in production system

Visualizing the PDF files

Generating the Cadastral Register and the Alphabetical Index of the Owners

The Cadastral Register

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Cadastre data integration in production system

The Alphabetical Index of the Owners

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<th>ID</th>
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<th>Área</th>
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<td>JKL</td>
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Reactivating the erased immovables

Updates on the textual part

Updates on the graphic part
Cadastre data integration in production system

The graphic part of the database

Conclusions… on transition from sporadic to systematic

Very slow process under current set up

Lack titles and current legal (40% of territory) on non coop. lands

Reconstruction of land reform cadastral data is complex and not clearly regulated

IT system and cadastral regulation has to be adapted to the scope

Financial challenge (local / national budgets, EU support, or PPP?)
Questions?

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