The Cadastre of Korea

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Contents

1. Cadastral System
2. Restructuring of Korea’s Cadastral System
3. Topic of Interest for the Future Cadastral System
1. Cadastre

1) Definition

- 지적 (地籍) : Log of lands (book)
- Cadastre(-ter) : n. land book

In Korea, Cadastre refers to the public record of land. By definition, it is the record of certain aspects of the national land that a country registers and keeps or does so through its commissioned agency.

書籍, 戶籍(民籍, 本籍), 國籍, 學籍, 兵籍(軍籍), 車籍, 墓籍, 僧籍
An administrative action of registering and managing land into the public record

A government’s land-administration to maintain and manage all immovables that carry financial value including ground level, spaces, underground
3) Components of Cadastral System

**Subject of Cadastre**
- All land (and fixed objects on it) within the boundary of governing of one nation.
- [noun] Land used for the living and activities of people as in farming land or residential land
- [legal] Land subject to possession or use by people

**Main Content of Cadastre (Major Actions)**
- The action of logging the (physical) status of land into public record

**Result of Cadastral Action (Registering)**
- A public record (land record) of the (physical) status of land
2. The Beginning of Cadastral System

- 1910~1924: Land survey of farm lands, forests and fields led the establishment of a cadaster system
# 3. Milestones of the Cadastral Administrative Organization

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1895</td>
<td>Cadastral Division under Former Korean Gov.</td>
</tr>
<tr>
<td>1910. 8. 23</td>
<td>Land Survey Law Enacted</td>
</tr>
<tr>
<td>1910 ~ 1918</td>
<td>Land Survey Project (land books, cadastral maps)</td>
</tr>
<tr>
<td>1916 ~ 1924</td>
<td>Forestry Survey Project (land book &amp; maps on forests and fields)</td>
</tr>
<tr>
<td>1950</td>
<td>Cadastral Law</td>
</tr>
<tr>
<td>1962</td>
<td>Cadastral function transferred from Treasury to MOI</td>
</tr>
<tr>
<td>1975. 12.31</td>
<td>Cadastral Law amended</td>
</tr>
<tr>
<td>1998</td>
<td>MOI restructuring</td>
</tr>
<tr>
<td>2008. 2. 29</td>
<td>Transferred from MOI to MOLIT</td>
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</tbody>
</table>

## Stages

- **Stage 1** (Establishment Stage)
  - 1975. 12.31: Cadastral Law amended

- **Stage 2** (Modernization Stage)
  - 1998: MOI restructuring

- **Stage 3** (Development Stage)
  - 2008. 2. 29: Transferred from MOI to MOLIT

- **Stage 4** (Transition Stage)
4. Change of Purpose of the Cadastral System

- 3 Elements of a Nation
  - National Land, People, Sovereignty

- 3 Elements of Production
  - Land, Labor, Capital

- Concept of Cadastral System (1950 ~ 2009)
  - Entire national land in public record by parcel
    - Efficient land management and ownership protection

- Concept of Cadastral System (December 10, 2009 ~ )
  - Land Registration System
    - Infrastructure (foundation) to nurture GIS-based industries
1) Content of Land Registration

A national administrative system of registering into public record and publicly disclosing certain aspects of land (including buildings).

- Physical Status (Cadastral land record) (topographical map)
- Regulatory Status (Land Use Plan cert.)
- Rights Status (Real Estate Register)
- Environmental Status
- Value Status (Publicly Announced Appraised Price)
A. Register & Disclosure of Physical Status

National Land
(Land & Fixtures)

- Land (Fields & Forests)
- Constructs
- Topography

Land Record

Cadastral Map

Building Record

Topographic Map

MOLIT
B. Register & Disclosure of Rights-related Status
5. Korea’s Cadastral System

**Administrative**

<table>
<thead>
<tr>
<th>MOLIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Office of Spatial Information Policy</td>
</tr>
<tr>
<td>• National Spatial Information Center /total 25 person</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metropolitan/Province (17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cadastral Division (Land Management Div.): 262 person</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Municipality (251)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cadastral Division (Public Service) : 3,642 person</td>
</tr>
</tbody>
</table>

**Surveying**

<table>
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<tr>
<th>LX</th>
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</thead>
<tbody>
<tr>
<td>• HQ: 391 person</td>
</tr>
<tr>
<td>- Cadastral Training Center 30</td>
</tr>
<tr>
<td>- KRIHS: 45 person</td>
</tr>
<tr>
<td>• 12 Regional Head Office</td>
</tr>
<tr>
<td>• 208 Local Branch Office</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Private Surveyor (individual /corporate)</th>
</tr>
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<tbody>
<tr>
<td>• 178 agencies</td>
</tr>
<tr>
<td>※ implemented in 2004</td>
</tr>
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Total 4,173 person

Total 3,768 person

Total 1,458 person

Source: DEC 31, 2018 (Cadaster statistics)
### 6. Changes in the Purpose of Cadastral System

<table>
<thead>
<tr>
<th>Category</th>
<th>Content</th>
</tr>
</thead>
</table>
| **Tax Cadastre**       | • The oldest type of cadastral system  
                         • Purpose highlights *taxing* land  
                         • Made in agrarian age when national income relied on land taxes  
                         • Land fertility level or crop yield which serve as taxing base was important & area size and land grade was major items recorded |
| **Legal Cadastre**     | • Advanced from tax cadastre after land was accepted as private property  
                         • Purpose highlights *property right protection of land*  
                         • Boundaries are important for safe land transaction and protection of land ownership |
| **Multipurposed Cadastre** | • Comprehensive recording and management of various types of information on land *made available for multiple use purposes* |
7. Functions of Cadastral System

- Base of land register
- Base of urban/national planning
- Base of land taxing
- Base of land transaction
- Base of land appraisal assessment
- Fundamental Infrastructure of national/local administration
Restructuring of Korea’s Cadastral System

1. Current Status of Cadastral System

1) Short fallings of Cadastral Maps

Digitize damaged paper-based maps

Repeated copies and multiple scales (7 types)
Limit the accuracy of cadastral surveying

Cadastral / topographic map over 100 years old

Redone in 1940

Redone 1960

Redone 1970

Redone 1980
Japanese CRS (Tokyo Datum) shifts position of Korea’s geodetic datum (365m difference with WGS)
3) Discrepancies Accumulated

Boundary line disputes due to huge discrepancies of cadastral & real boundaries

<table>
<thead>
<tr>
<th>Parcel no.</th>
<th>Discrepancy</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.53 mil</td>
<td>5.54 mil</td>
<td>14.8%</td>
</tr>
</tbody>
</table>

Discrepancies Nationwide

Property right exercise limited

Development activities limited

Administrative litigations due to discrepancies

Faulty management of state-owned properties

Hurts national competitiveness

Boundary line disputes cause litigation cost 400 bil KRW
2. Resurveying Projects for Improved Cadastral System

**Resurveying Project**

- Gradual and phase-based resurveying of the entire nation
- 30 years (2012~2030)
- Naming: Right Land, Slogan: Upright, Worthy, Happy
3. Resurveying Project Outline

- Discrepancy 14.8%
- Confirmed survey 13.2%
- WSG conversion 72%

Form Digital Cadastre
4. Effects of a Project Resurveying Cadastre

- Effective land management and ownership protection by resolving land disputes
- Utilize NSDI (National Spatial Data Infrastructure)
- Jump start the spatial information industry

Resurveying Project

Detailed digital cadastral information

Utilize sharing and integration

Integration of basic spatial info

Linked interface

Basic spatial information

- Statistical area
- Admin. area
- Digital cadastre
- Building
- Road
- Water system
- Control pt. survey
- Terrain survey
- Images

Forest

Agri. area

Underground fac.
1. Diversification in registration of cadastral records

- Redefine land descriptions and expand and revise items regarding registration of cadastral records
  - Expansion of registered information (Comprehensive real estate records)
  - Integration of land related records (Comprehensive real estate records)

Cadastral records
Survey, and analyze Manager and user

- Changes in role and environment of cadastral records
  - Changes in land policies and social environment
  - Social request for data integration
Expand public records

Cadastral records → Comprehensive real estate records

Expand target of registration

Items related to rights

Other items

Land related
- Land descriptions
- Rights(ownership)
- Price(Official appraisal price)
- Regulation status, etc.

Building related
- Buildings
- Subways
- Transmission line
- Tunnels, etc.

Topography related
- Terrain
- Shape
- Height, slope, and direction
- Land information, etc.

Env. related
- Minerals
- Underground water
- Atmosphere
- Noise
- Oil leakage and pollution, etc.
Official environmental status

- National Land (Land & Fixtures)
- Ecosystem
- Water
- Soil quality/earth
2. Changes in Registration of Cadastral Records

Land Category (地目)

- Land categories are too small in number
  - **Korea**: 28, Japan 23, Taiwan 36, Germany 64
  - Insufficient functions to offer various land use policy-related information

- Lack of use of land category on cadastral records in parts such as imposing taxes, etc.
  - Tax imposing dept. surveys actual land use status
  - Cities and provinces survey land use separately when setting official appraisal prices; it is same for other appraisal and bank work
  - Impose fee for occupation and use for national/public land, and tax reduction for public land are not reflected

- Method of improvement
  - User-centered land classification system – Survey people of demand – Diversify land categories
  - Manage various statuses
3. 3D Cadastre Registration

- **3D cadastre registration**
  - Register 3D rights of lots ➔ Registration of 3D status
  - 1st step: Register divided surface rights
  - 2nd step: Register partitioned ownership
  - 3d step: Register real world (based on cadastre)
  - Resolve the mismatch between 3D cadastral map and 3D topographic map
4. Adoption of Marine Cadastre

- Concept of marine cadastre
  - Investigate and survey objects of rights regarding territorial waters to register and manage in cadastral records
  - Division of roles between MOLIT and the Ministry of Oceans and Fisheries

Marine Cadastre views information from a property rights perspective
5. Establishing cadastral system as basic infrastructure of land administration

Land ownership (Legal)

Land ownership (juridical purpose for land registration)

Land Administration

Land Value
(fiscal purpose for valuation & taxation)

Land Use
(regulatory purpose for planning)

Land price (Financial)

Land use (Regulation)

Three key components of land (Dale and McLaughlin, 1999)
Thank You