

지적측량중심의 정보화 추진

측량정보 관리 및 활용체계 미흡

침수흔적도 관리 및  
정보서비스 체계 부재

## 추진배경

지적측량정보의 DB화 통합관리 필요

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# Korean Cadastre

# Contents

- Korean Cadastre**
- Cadastral Surveying**
- KCSC**
- Education & Training**
- Conclusion**

# □. Korea & Cadastre

## ● Korea

- Population : 48 millions
- Area : 100,000 Km<sup>2</sup>
- Capital : Seoul (10 millions , 605.53 km<sup>2</sup>)

## ● Cadastre

- Parcels : 37 millions
- Cadastral maps : 748,000 sheets
- Land use
  - Forest(65%), agricultural(21%)
  - Residential & Commercial(3%)
  - Road & Railway(3%)
  - Industrial, Water body, etc.(8%)



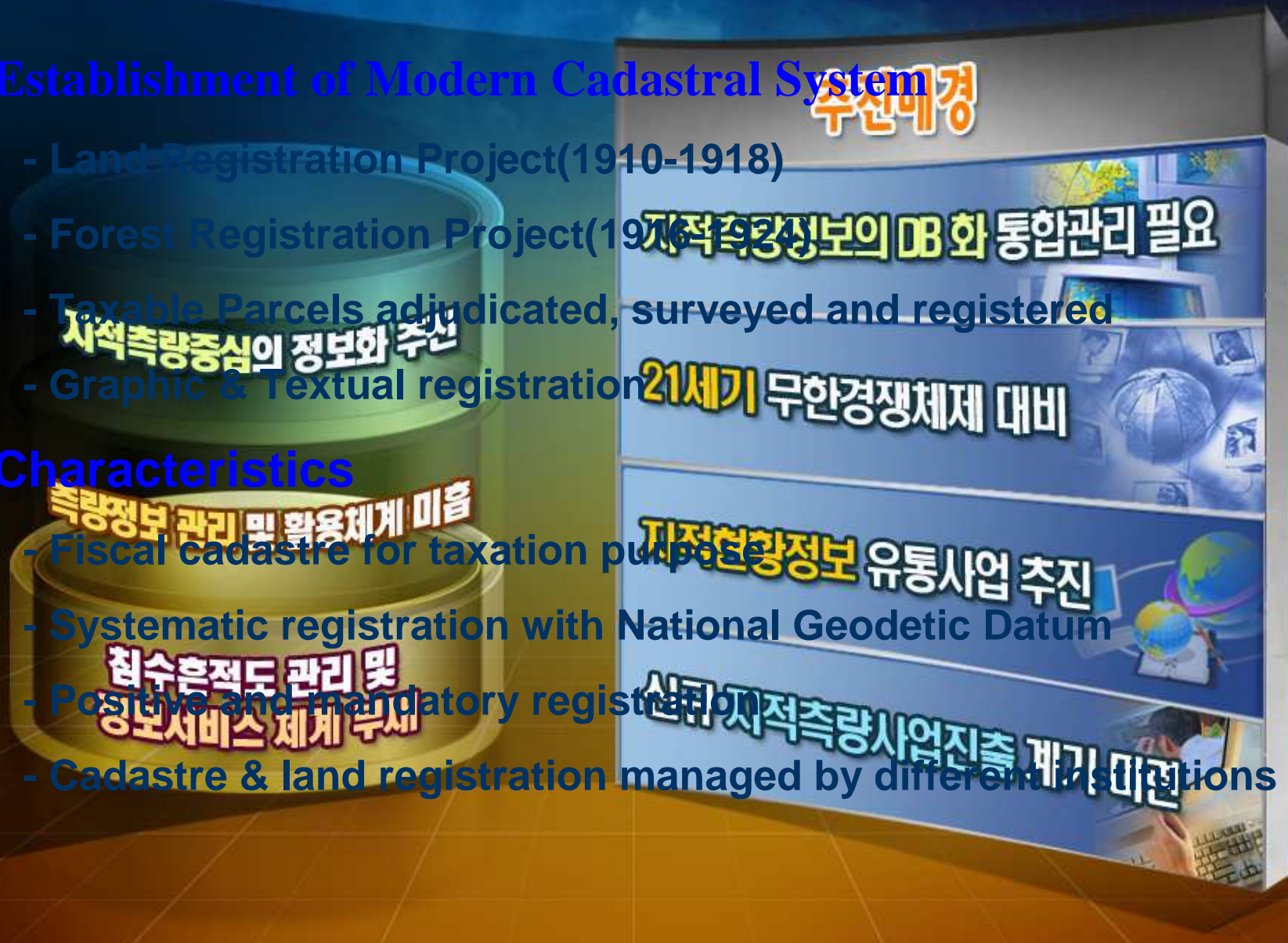
# □. Korean Cadastre

## ● Establishment of Modern Cadastral System

- Land Registration Project(1910-1918)
- Forest Registration Project(1916-1924)
- Taxable Parcels adjudicated, surveyed and registered
- Graphic & Textual registration

## ● Characteristics

- Fiscal cadastre for taxation purpose
- Systematic registration with National Geodetic Datum
- Positive and mandatory registration
- Cadastre & land registration managed by different institutions



# Surveyors



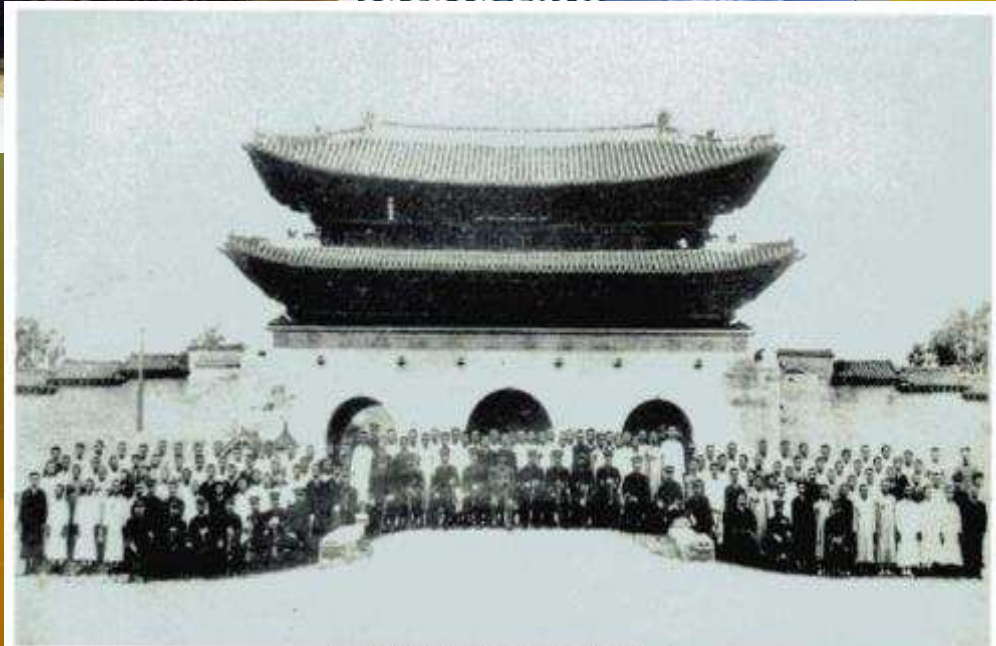
임시토지조사국 기수(1910년대)

배경

DB화 통합관리 필요

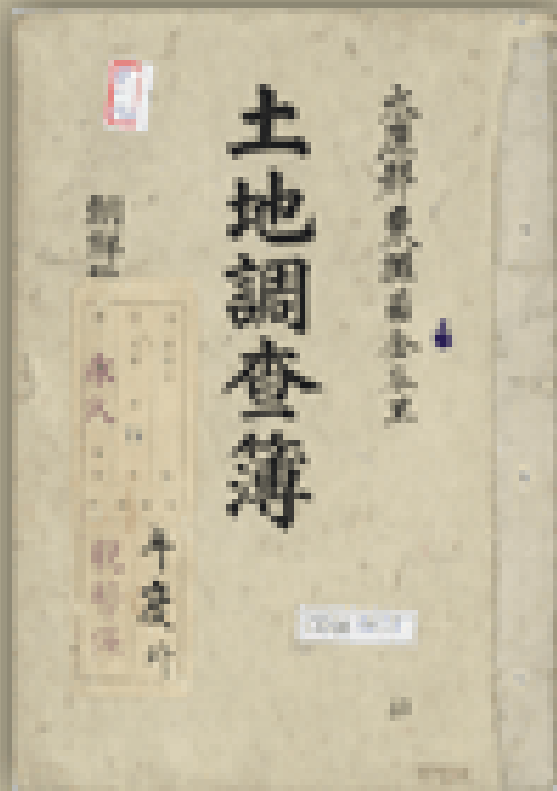
정보 관리 및 활용 체계 미비

침수흔적도 관리 및  
정보서비스 체계 부재



임시토지조사국원 양성소 졸업사진(1911)

# Registers



The image shows a page from a Japanese land survey register. It features a large grid with multiple columns and rows. The columns contain vertical text, likely representing land parcels or survey data. The rows are organized into sections, with some rows containing numerical data. The page is filled with handwritten or printed text, providing a detailed record of land survey information.



# Current Administration



추진배경

정보의 DB화 통합관리 필요

구한겨레시대 대비

Centre for NSDI

정보 유통사업 추진

지역적측량사업진출 계기 마련



## II. Cadastral Surveying

- Geodetic Control Network

- 1st order 1st class : 169
- 1st order 2nd class : 949
- 2nd order 1st class : 6,252
- 2nd order 2nd class : 12,051

- Cadastral Controls

- Triangulation Points : 4,311
- Supplementary Triangulation : 10,350
- Traverse Points : 431,058

- GPS Network

- consists of 80 GPS Continuously Operating Reference Stations
- connected to NGD & ITRF



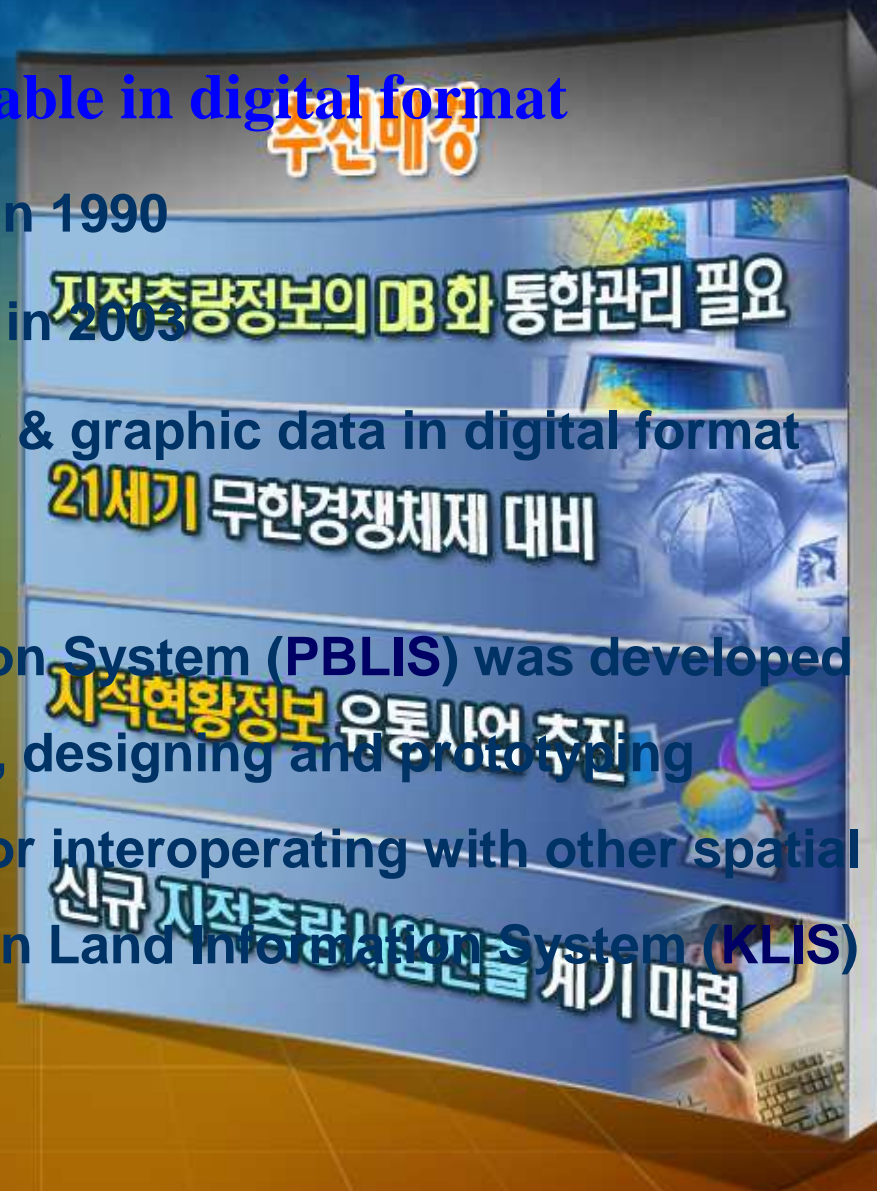
# Informatisation

- Cadastral information available in digital format

- Textual database completed in 1990
- Graphic database completed in 2003
- 37 million parcels of attribute & graphic data in digital format

- Application System

- Parcel Based Land Information System (PBLIS) was developed in 1996 after 4 years analysis, designing and prototyping
- Re-designed and upgraded for interoperating with other spatial DBs, name changed to Korean Land Information System (KLIS)



# III. Korea Cadastral Survey Corp.

- Establishment

- Established by Cadastral Act in 1938
- Renamed to the current KCSC in 1977

- Major business

- Providing cadastral surveying & services
- Supplying cadastral information
- R/D for improving cadastral systems and technology
- Training cadastral surveyors
- Performing overseas projects
- Promoting international cooperation



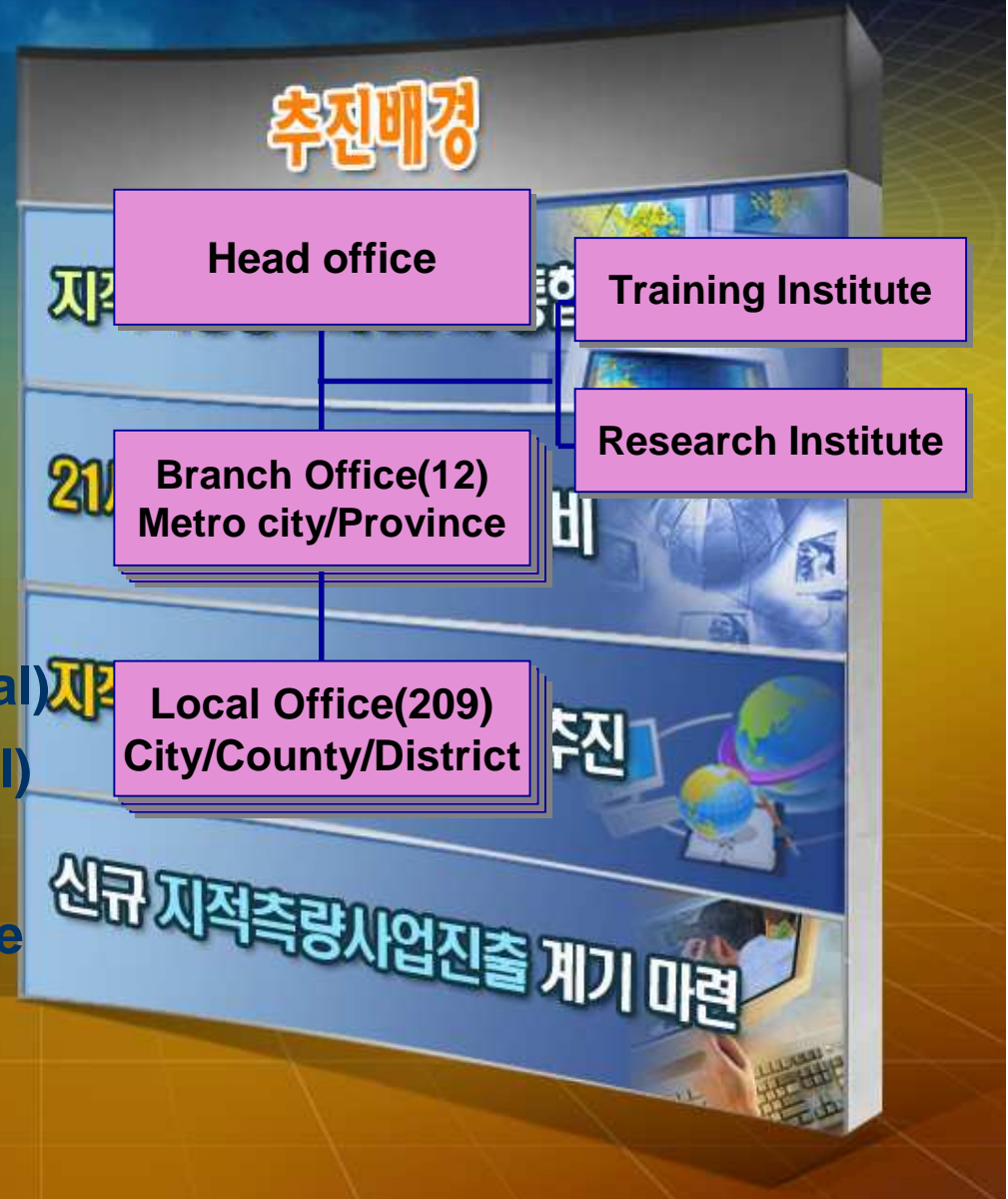
# KCSC

## ● Manpower (4,000)

- 940 Surveying teams(3,800)
- 200 Researchers, Office Workers, IT engineers, etc.

## ● Organization

- 1 Head office in Seoul
- 12 Branch offices (provincial)
- 209 Local offices (municipal)
- Cadastral Training Institute
- Cadastral Research Institute



# Business

## Surveying

- ↕ Control Densification
- ↕ Cadastral Surveys
- ↕ Engineering Surveys

## Consulting

- ↕ Improve Cadastral System
- ↕ Develop Registration methodology
- ↕ Application developed methodology

## IT Solution

- ↕ Establishment of Spatial Data Infra.
- ↕ Maintenance of up-to-date cadastral Information

## Training

- ↕ Invitational and/or On-site Training
- ↕ Transfer of Know-how



지적측량중심의 정보화 추진



# IV. Cadastral Education

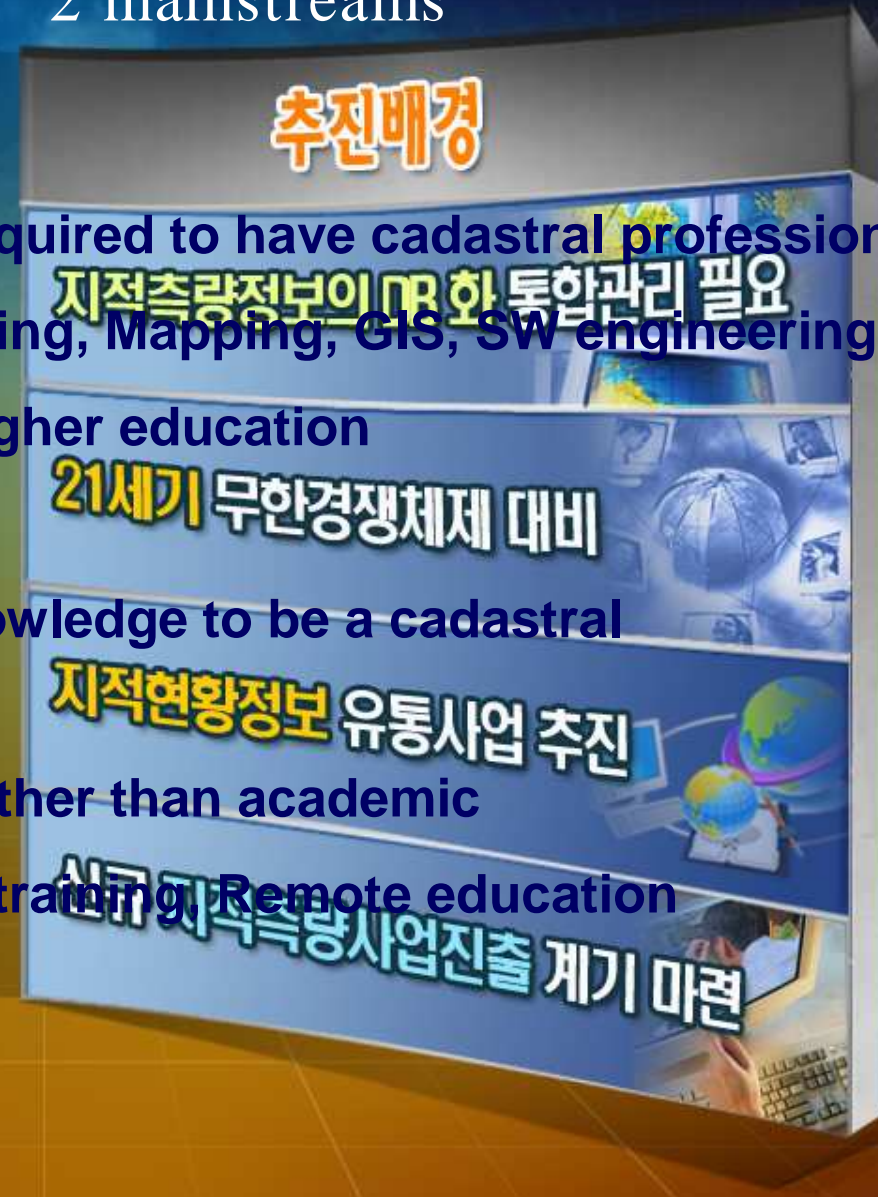
2 mainstreams

- Academia

- Acquisition of knowledge required to have cadastral professions
- Laws & Regulations, Surveying, Mapping, GIS, SW engineering
- From high school level to higher education

- Industry

- Acquisition of advanced knowledge to be a cadastral professional
- Know-how more practical rather than academic
- On-the-job-training, On-site training, Remote education
- Cadastral Training Institute



## Cadastral Education in Academia (2008)

### 추진배경

type	course	duration (years)	student (persons)
University 사적측량중심의 정보화 추진 - undergraduate	13	4	125
- Master's	6	2 - 2.5	
- Doctoral 중앙정부 관리 및 활용체계 미흡	3	3 - 5	
Junior College 합수준적 관리 및 정보서비스 체계 부재	6	2	535
Vocational High School 신규 지적측량사업 진출 계기 마련	5	3	165
Total	23		825



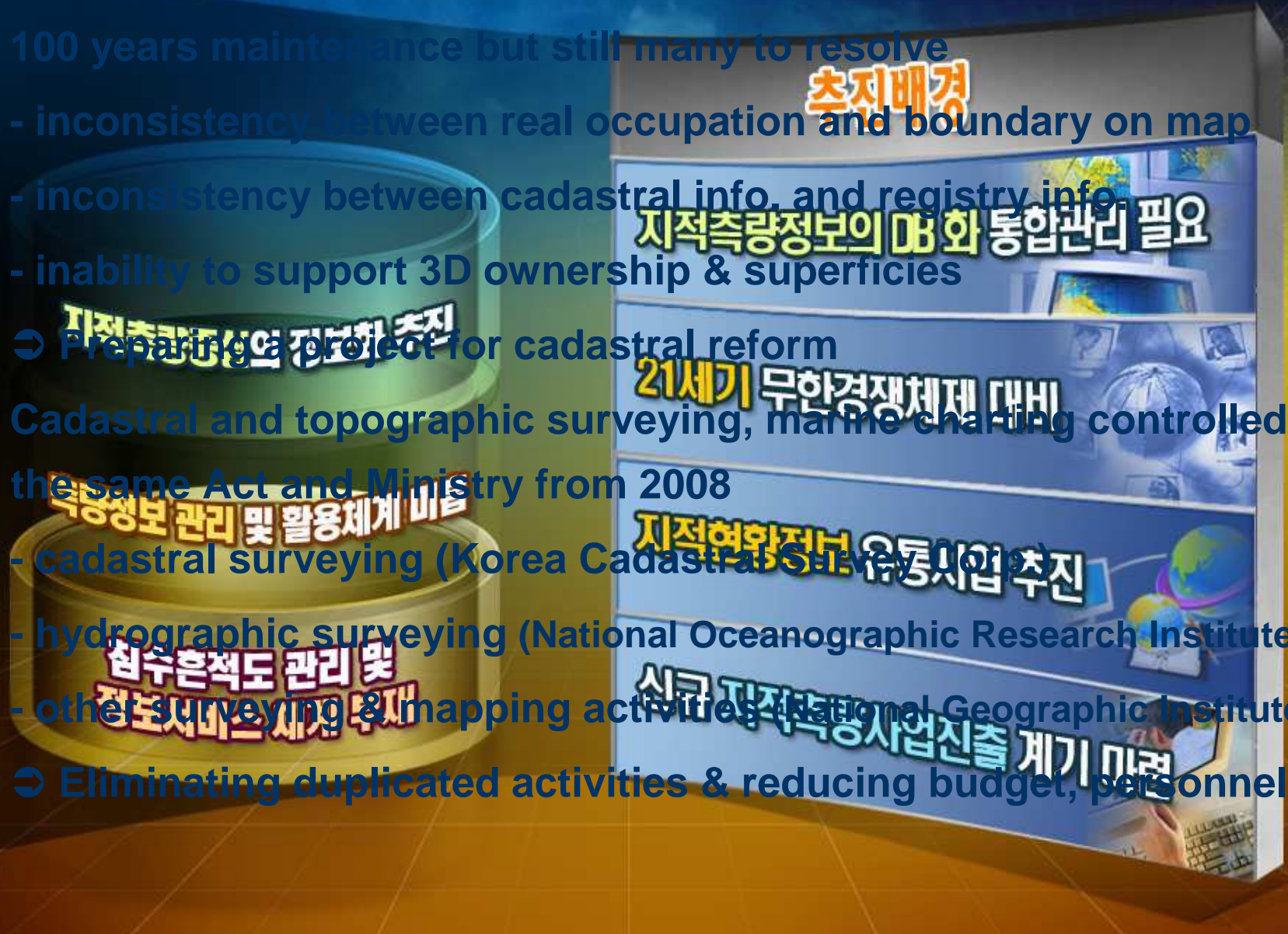
## Education in Cadastral Training Institute (2008)

주신매경

Course	days	times	participants
• KCSC staff		56	1,854
- General	5 - 20	20	669
- managerial	2 - 3	15	540
- Technical	3 - 15	19	615
- Remote education	30	8	8,460
• Others (officials, students,...)	5 - 10	16	620
• Foreign invitational program	10	2	30

# V. Conclusion

- 100 years maintenance but still many to resolve
  - inconsistency between real occupation and boundary on map
  - inconsistency between cadastral info. and registry info.
  - inability to support 3D ownership & superficies
  - ⇒ Preparing a project for cadastral reform
- Cadastral and topographic surveying, marine charting controlled by the same Act and Ministry from 2008
  - cadastral surveying (Korea Cadastral Survey Office)
  - hydrographic surveying (National Oceanographic Research Institute)
  - other surveying & mapping activities (National Geographic Institute)
  - ⇒ Eliminating duplicated activities & reducing budget, personnel, ...



Thanks you

for your attention!

