Agricultural GIS Data Sharing and Integrating Platform Implementation

Interactive Digital Technology
White Chou
Outline

• Introduction
• Goal
• Set up a standard process
• Set up a platform to supply cadastral map
• Integrate Different survey map
Introduction

Cadastral map
- Each department do their own processing
- Data quality unequal
- Duplication of work

Different survey map
- Lack of integration
Goal

• Set up a standard process
  - to check the quality and repair the geometry of cadastral map
  - a coherent output format of cadastral map

• Set up a platform to supply cadastral map
  - Each department can access equal quality data
  - Can get the cadastral map by the attribute or location which they interest in

• Integrate Different survey map
  - Add those survey map attribute to cadastral map attribute
  - Apply to Portal for ArcGIS, helping each department to check their data
Set up a standard process

- Check the schema
- Check the section number
- Are there any section loss
- Check geometry error and repair
- Export error table for National Land Surveying and Mapping Center
- Create uniform format cadastral
Set up a platform to supply cadastral map

- Each department can access equal quality data
- Output format can be layer, table and Kmz
Set up a platform to supply cadastral map

- Can get the cadastral map by the attribute or location which user interest in

By the landuse column in cadastral attribute table
Set up a platform to supply cadastral map

• Can get the cadastral map by the attribute or location which user interest in

By a table with section number
Set up a platform to supply cadastral map

- Can get the cadastral map by the attribute or location which user interest in

By a layer
Using the overlap rate between this layer and cadastral map
Set up a platform to supply cadastral map

- Can get the cadastral map by the attribute or location which user interest in

By a table with section number
Integrate Different survey map

• Add those survey map attribute to cadastral map attribute

1. Map Overlap
   - Cadastral map
     - ID=1
     - ID=2
   - Landuse map
     - building
     - crop

2. Find out the largest overlap rate
   - ID=1
   - ID=2
   - Landuse (building)
   - Landuse (crop)
   - The largest overlap rate

3. Add attribute to cadastral attribute
   - Cadastral attribute table
     | ID | Landuse class | The largest overlap rate |
     |----|---------------|--------------------------|
     | 1  | crop          | 0.45                     |
     | 2  | building      | 0.45                     |
Integrate Different survey map

• Apply to Portal for ArcGIS
  - rapidly display and query
  - to check data (different department)

Land crop layer

Farm layer
Integrate Different survey map

- Apply to Portal for ArcGIS
  - Building layer

National Land Surveying and Mapping Center
- Land survey map
- Taiwan electronic map

Council of Agriculture, Planning Department

Agriculture and Food Agency
- AFA crop land survey

Taiwan Agricultural Research Institute
- TARI crop land survey

Only COA find out there are some building in that cadastral
Integrate Different survey map

- Apply to Portal for ArcGIS
  - Farm layer

Council of Agriculture, Farm Department
COA Farm map

Taiwan Agricultural Research Institute
TARI crop land survey map

Council of Agriculture, Planning Department
COA crop land survey map

Agriculture and Food Agency
AFA crop land survey map

National Land Surveying and Mapping Center
Land survey map
Thank you