Mongolian NSDI development

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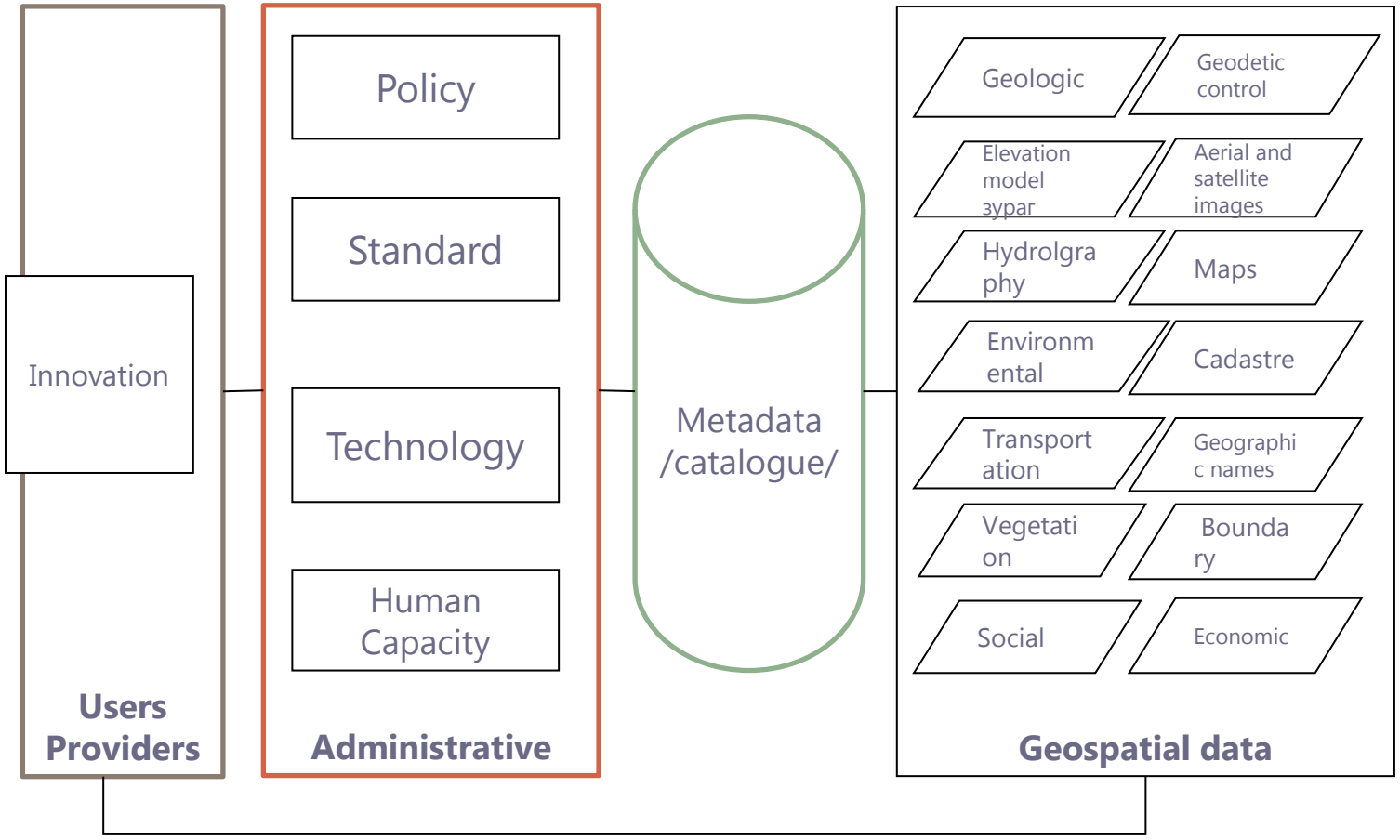
Content

- Mongolian NSDI Development
- Terelj Declaration
- Future goals

Components of NSDI



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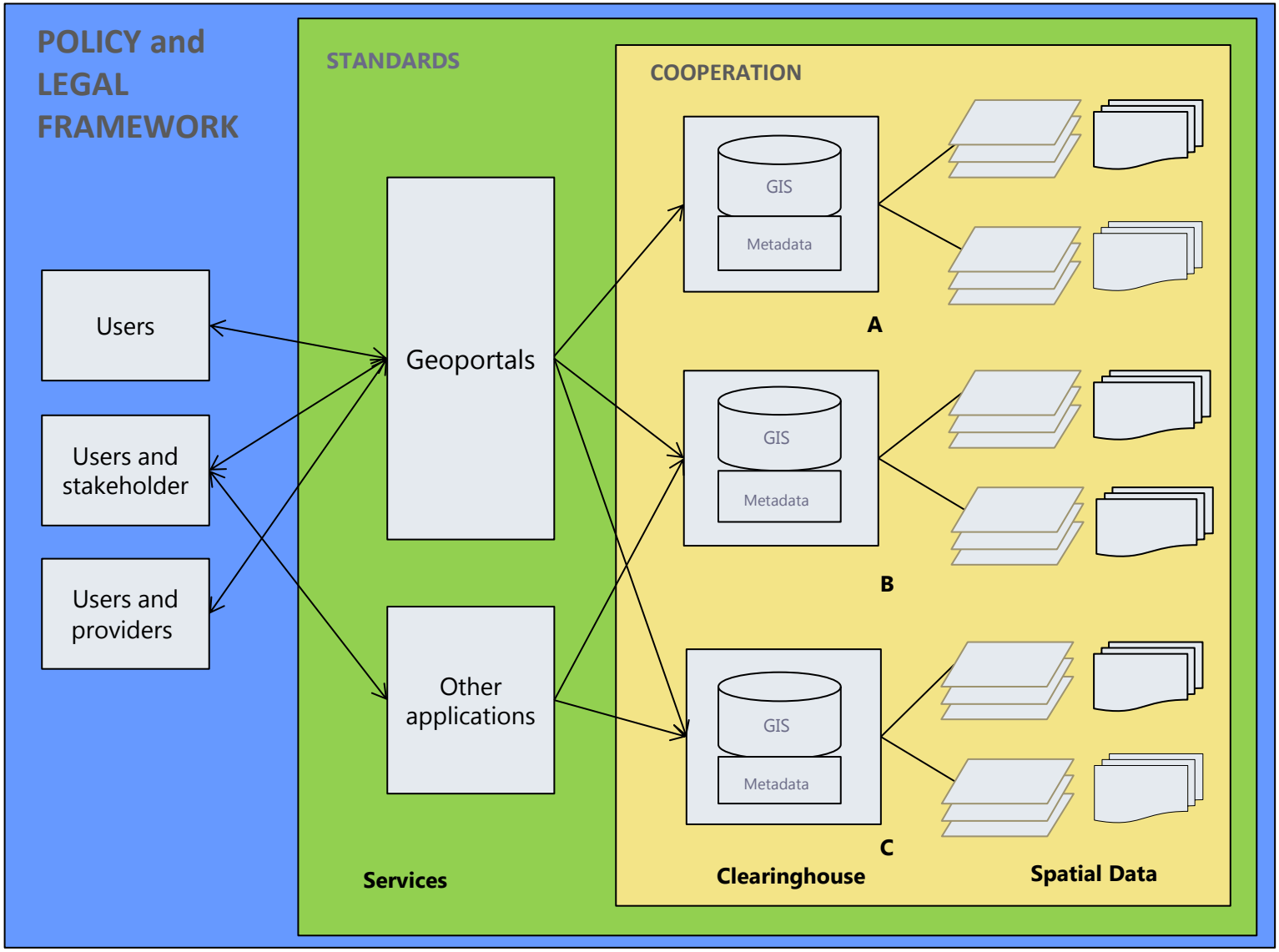
Efficient and effective **decision making**

innovation

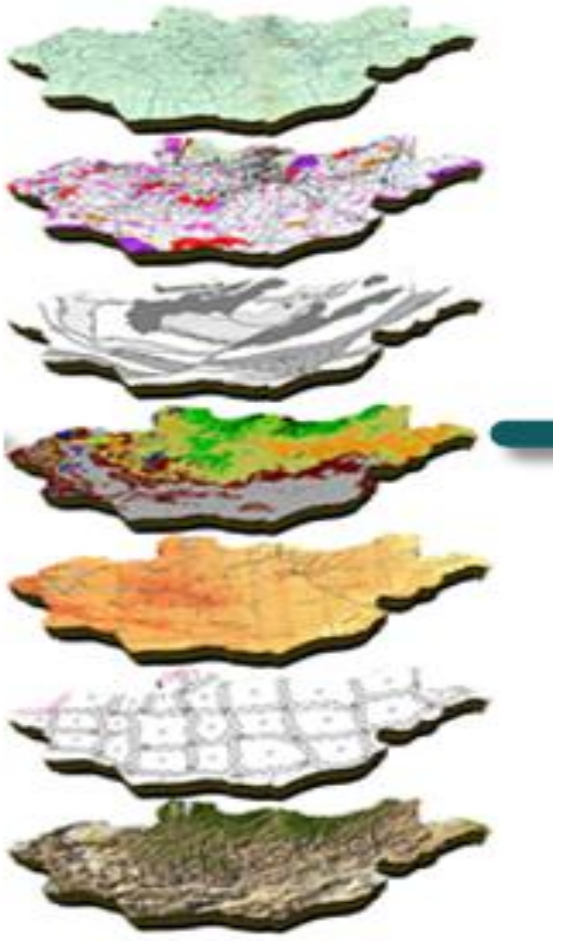
Environmentally friendly social and economic **development**



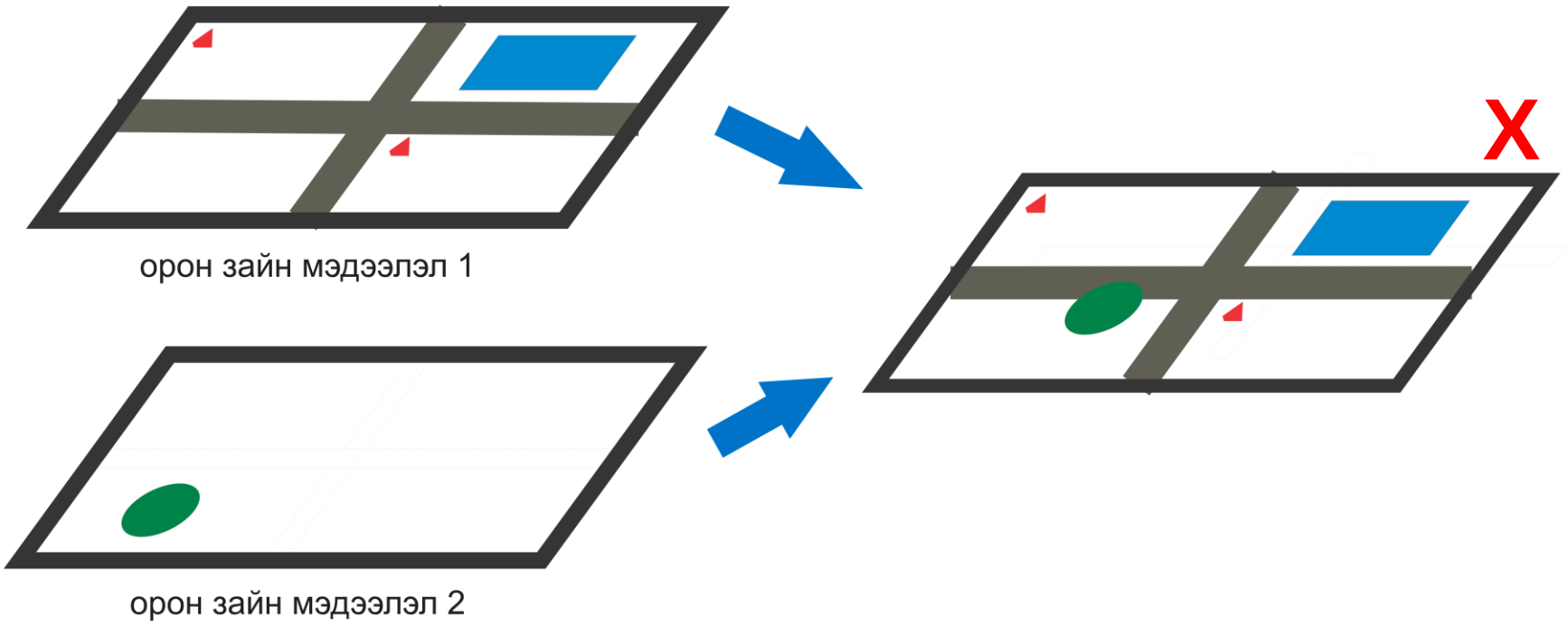
Spatial data

Problems

- Duplication of data
- Lack of data sharing
- No standardization among organizations
- Inefficient use of Government budget
- Out-to-date
- No quality assurance

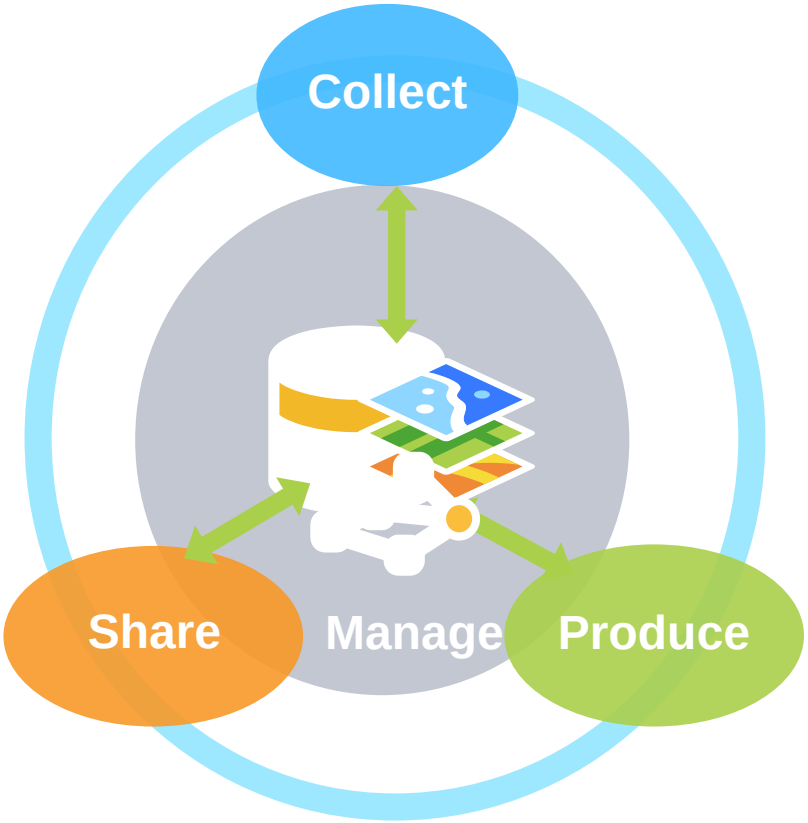


Importance of base maps – Data quality



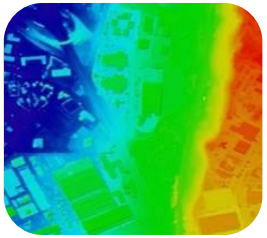
Actions

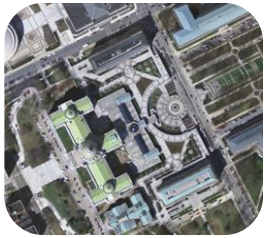
- Collection and acquisition of fundamental geospatial data
- Establish fundamental data framework in accordance with **geospatial standards**
- **Share, disseminate and make accessible** geospatial data through SDI to support effective and efficient use of GI



Operation processes

Defining and collecting fundamental geospatial data





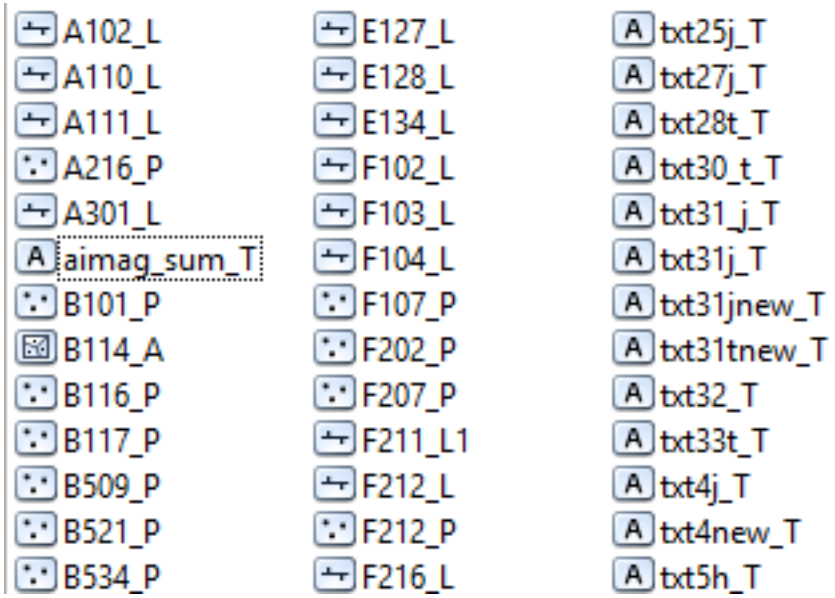
- Geodetic networks
- Topographic maps
- Elevation/DEM/contour
- Geology/environmental information
- Cadastral map
- Orthophotos

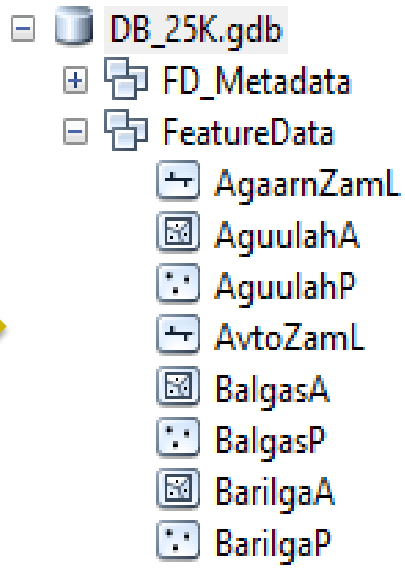
Standardization – geospatial standards

- Topographic map - large to medium scale
  - 1:100000, 1:50000, 1:25000
  - 1:1000, 1:5000

- Optimizing database
- Well-structured/coded
- Geoprocessing
- Allowing automatic data quality check

Example, Geodatabase design for topomaps



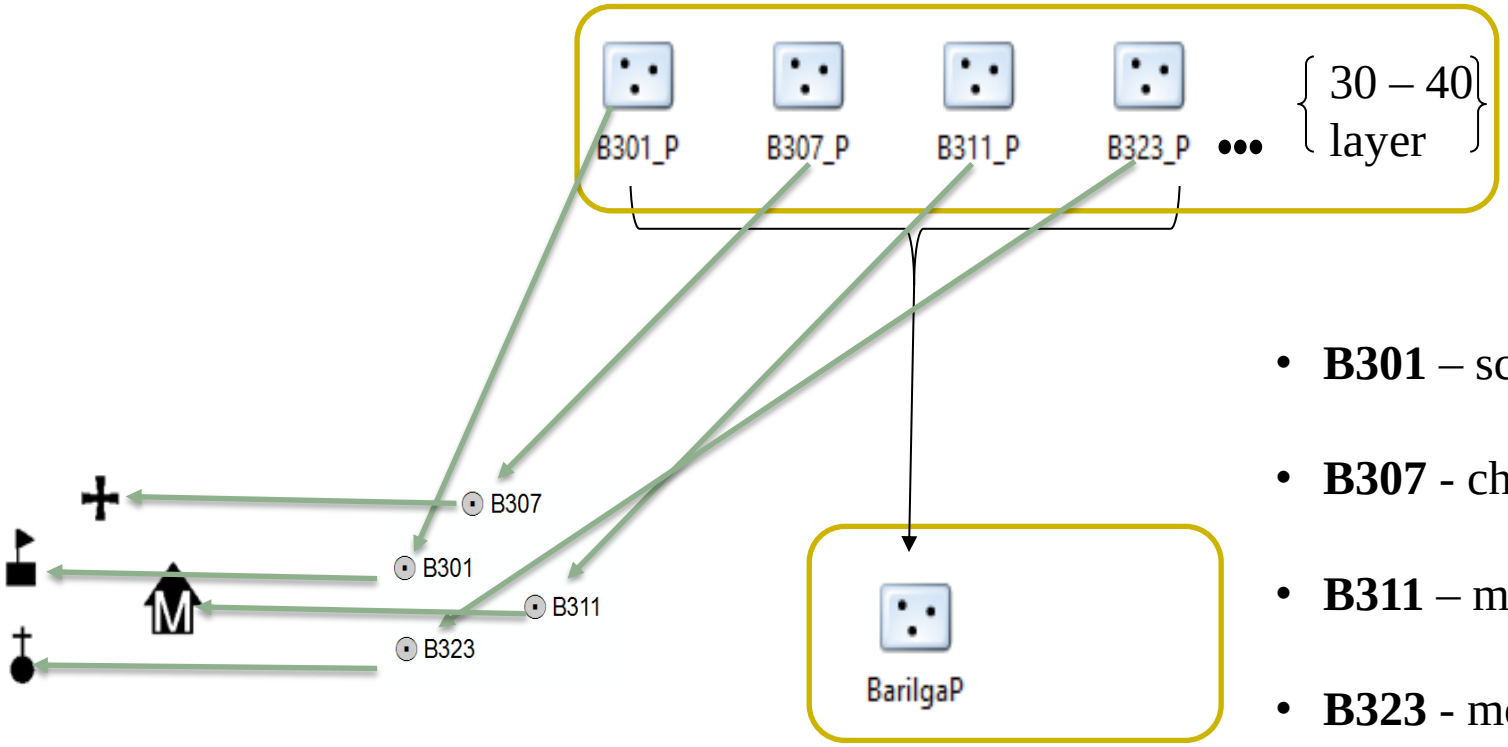


Previous digital topo maps
~361 layers
~40 annotations

Example: 1:25000 map
97 layers

Example

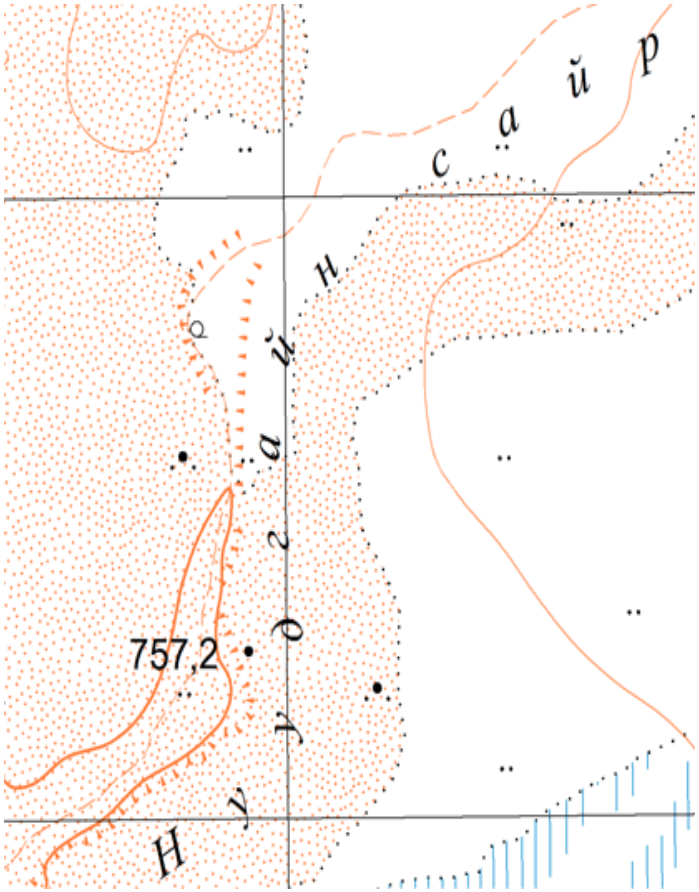
BarilgaP – Building /by Point/

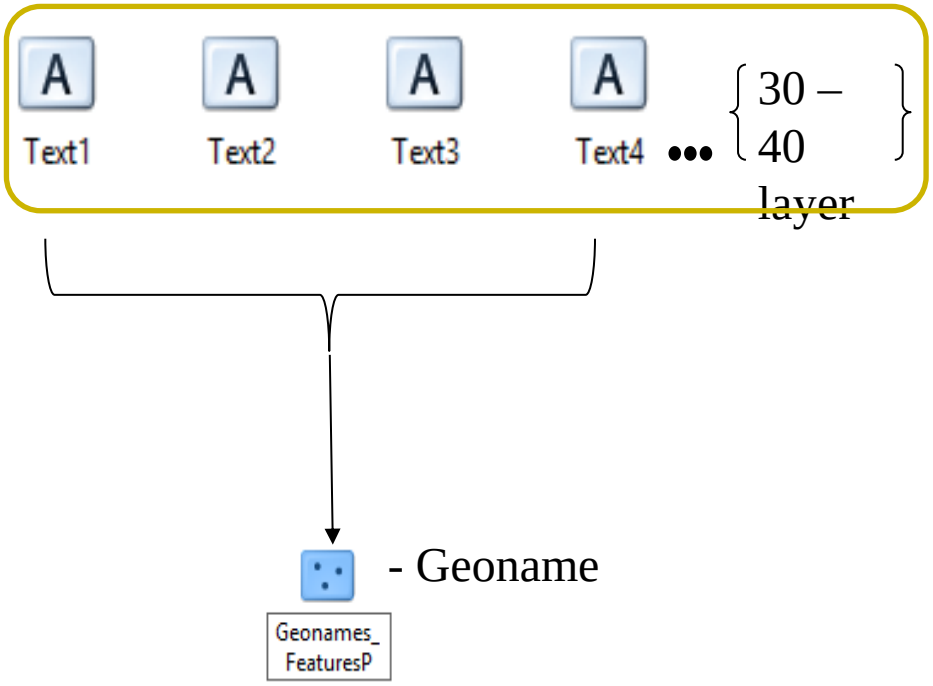


- **B301** – school
- **B307** - church
- **B311** – museum
- **B323** - monastry

Example

Geonames_FeaturesP – Geographic names





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Technology – System Architecture design

1. System design process

2. Definition of the software

3. Software capacity

4. Servers

5. DBMS

6. Network Connectivity

7. Architecture

8. Platform

9. Safety and security

Policy and legal framework

- Accessibility of the data
- Pricing on geospatial data
- Restrictions
  - confidentiality
  - vulnerability
  - integrity
- Several different laws contain provisions about data and data bases
- No definite legislation and regulation towards SDI activities

Draft NSDI Act concepts

- Based on the National Programs
  - NSDI Act has been drafted since 2013
    - Learning the experiences of other countries' acts such as **Korea, Indonesia, Japan, INSPIRE, China etc**.
  - Challenges that encountered
    - Other organizations have not realized importance of SDI
    - Insufficient awareness in decision/policy making levels
  - Since 2014, realizations have increased in all levels of users/decision makers, NGO, institutions and academic/higher educational organizations

Sight into draft NSDI act

- NSDI act aims to
  - Effectively and efficiently establish the NSDI
    - Guarantee availability and access to Geospatial information
    - Provision of cooperation, coordination, and integration among various stakeholders and users
    - Encourage the use of Geospatial Information for planning, development and management as well as industrial promotion
    - Support Geospatial Applications

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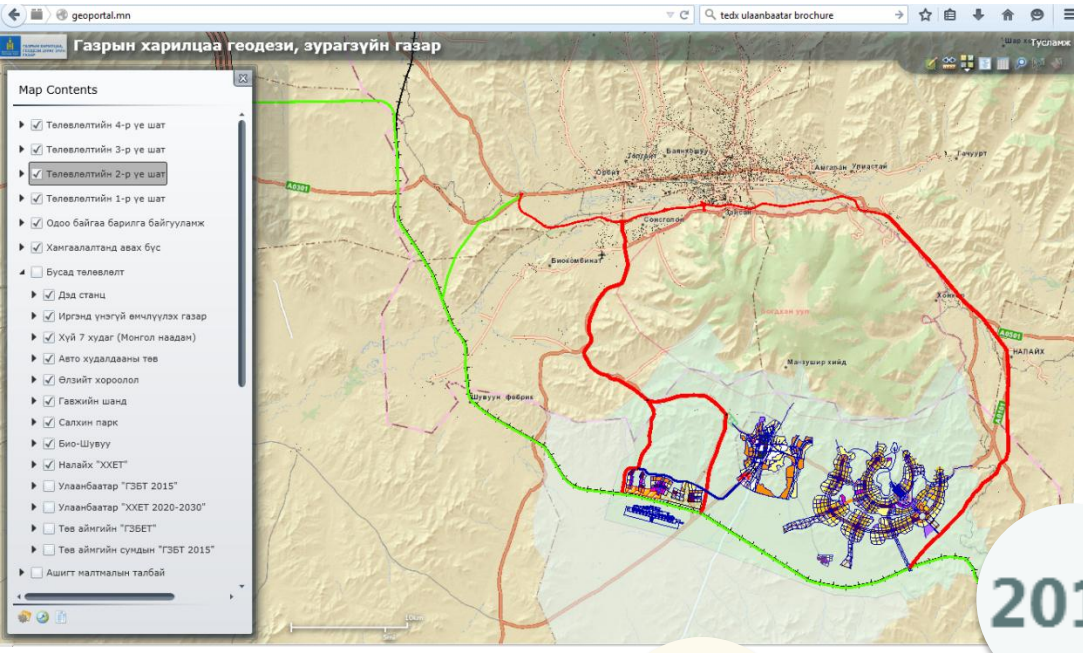
Strategy towards NSDI



2017 NSDI establishment

2016 Establishment of SDI /Local SDI/

2015 Strengthen the policy and legal framework

2014 Collection of spatial data theme /organizational SDI/

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“National Spatial Data Infrastructure”
International workshop
9th June, 2015
Terelj Hotel, Mongolia

Terelj Declaration

- To contribute to the development and utility of an effective and efficient NSDI,
  we resolve to -
- **NSDI Policy and Legal framework:**
  - be inclusive and cognizant of national context, cultures and constraints,
  - support the establishment of interoperable legal framework in member states, such as NSDI act, to bring about collaboration amongst stakeholders including users of the NSDI,
  - formulate collaborative strategic plan to systematically develop NSDI within the legal framework,
  - promote research and development in the geospatial information domain and the allocation of adequate budgetary resource within the Government, and

Terelj Declaration

- **NSDI Framework Data, Standardization and Architecture:**
  - adopt standards that enhance interoperability including standards for data entry and database design to effectively share and disseminate geospatial data amongst stakeholders,
  - evaluate and analyze existing geospatial data that are used by different organizations and users, and classify into certain category such as base and thematic,
  - use global geodetic reference frame recommended by United Nations Resolution in data acquisition and production,
  - incorporate land information including that of tenure, ownership and custodianship that encourage a plurality of tenure types,
  - encourage users to use base maps provided by NGIAs including ALAGaC,
  - define fit-for-purpose architecture design for integrated geospatial information management system including rapid data acquisition, updating, and service of geospatial data, and
  - intensify cooperation and contribution from amongst government and non-government organizations, research institutes and academia, private sectors and individuals.

Terelj Declaration

Issued on 9th June 2015
Gorkhi-Terelj National Park, Mongolia

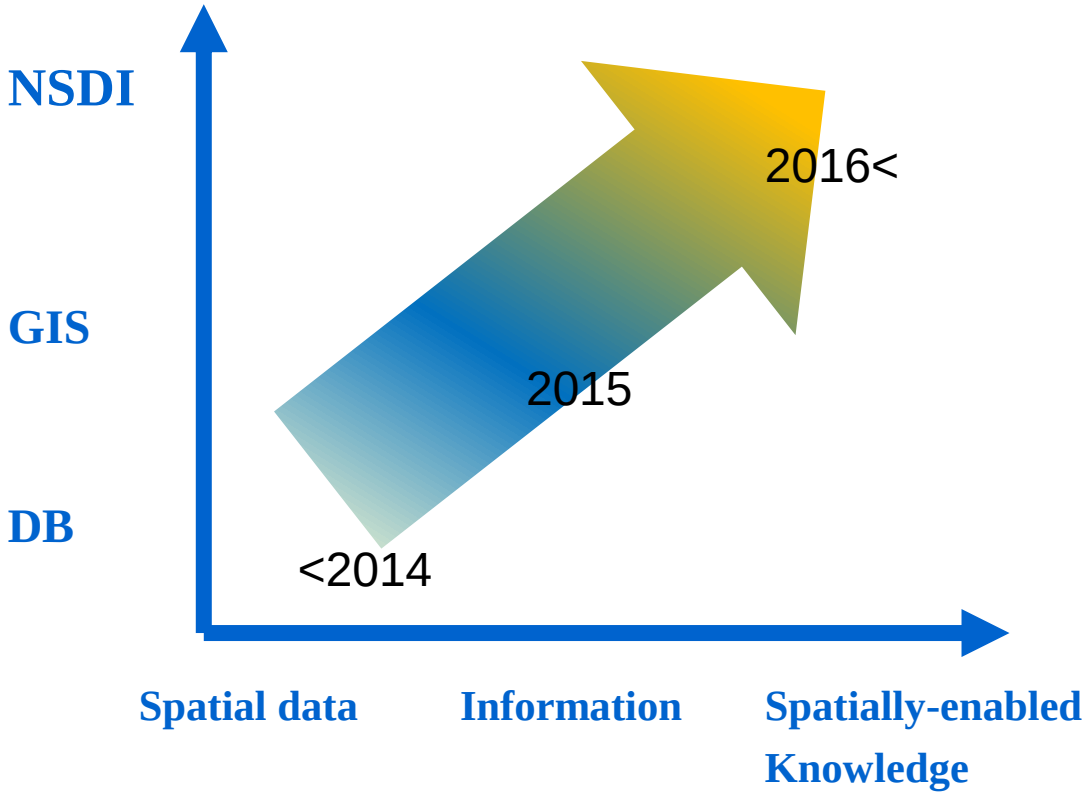
NSDI Applications:

- establish integrated system for access granting, sharing and distributing of geospatial data and information based on the meta-data catalogues,
- continue to encourage policy and decision makers to use geospatial information in the government's daily activities including the use of fundamental geospatial data in national development planning and local development planning,
- promote research and development to support policy and decision makers, applications of NSDI towards the wider use and re-use of geospatial information as well as promoting national geospatial information industry, and
- continuously promote NSDI related activities, achievements and results through media to increase awareness amongst different levels of users and stakeholders.

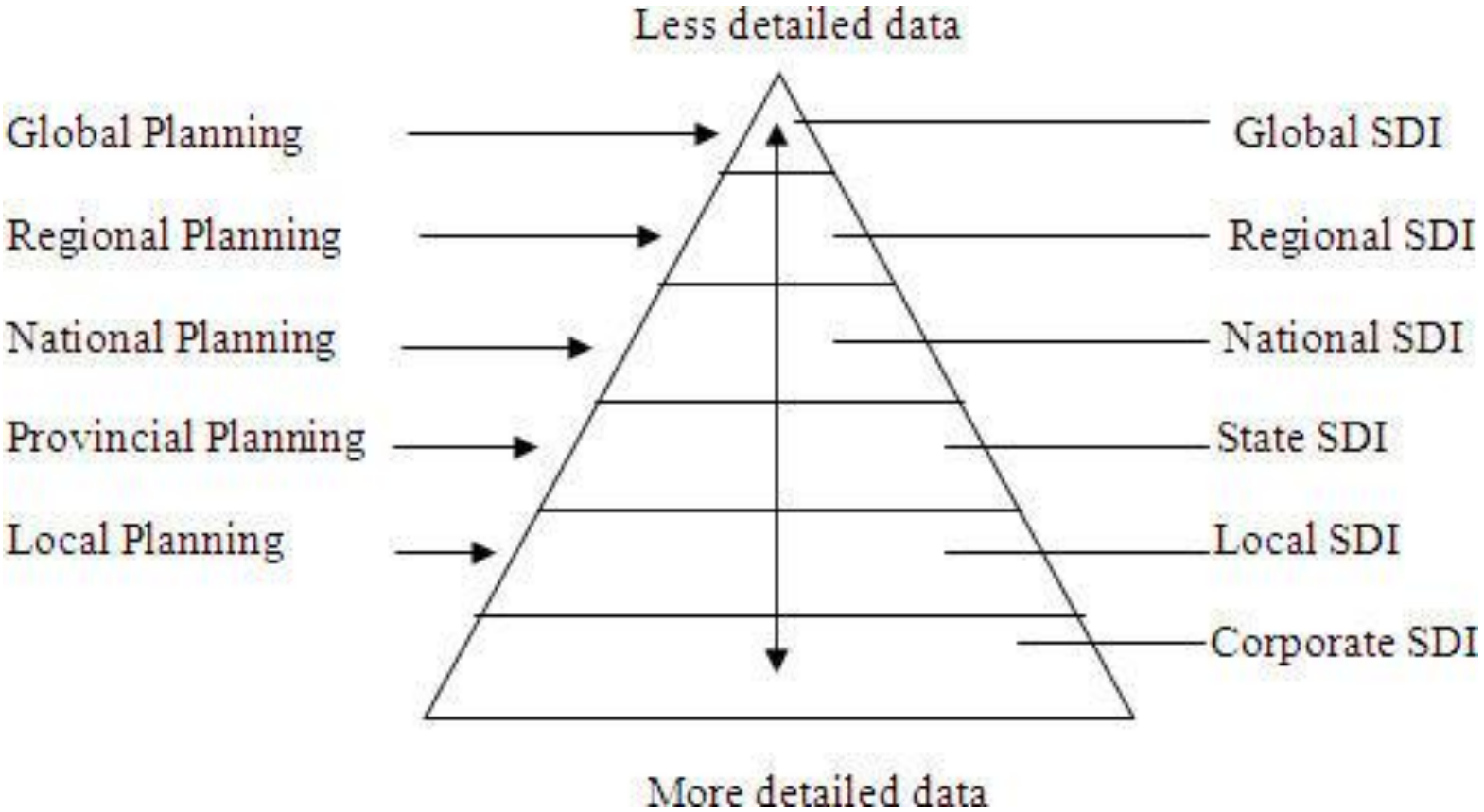
NSDI Capacity Development:

- promote the sharing of knowledge, experiences and good practices in NSDI development and implementation,
- encourage cooperation and resource sharing amongst member states in the development of NSDI in close cooperation with UN-GGIM-AP and relevant international organization, and
- urge Academia, NGOs, CSOs and international organizations to contribute to the human capacity development.

Future Goals



Step by step development



SDI Development steps

National Development

Regional Development

Global Development

Mongolia

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THANK YOU FOR ATTENTION