GEO SMART ASIA 2017

22-24 AUG, 2017

SDI+

Smart Development Infrastructure for Sustainable Development and Investment

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Kuala Lumpur, Malaysia
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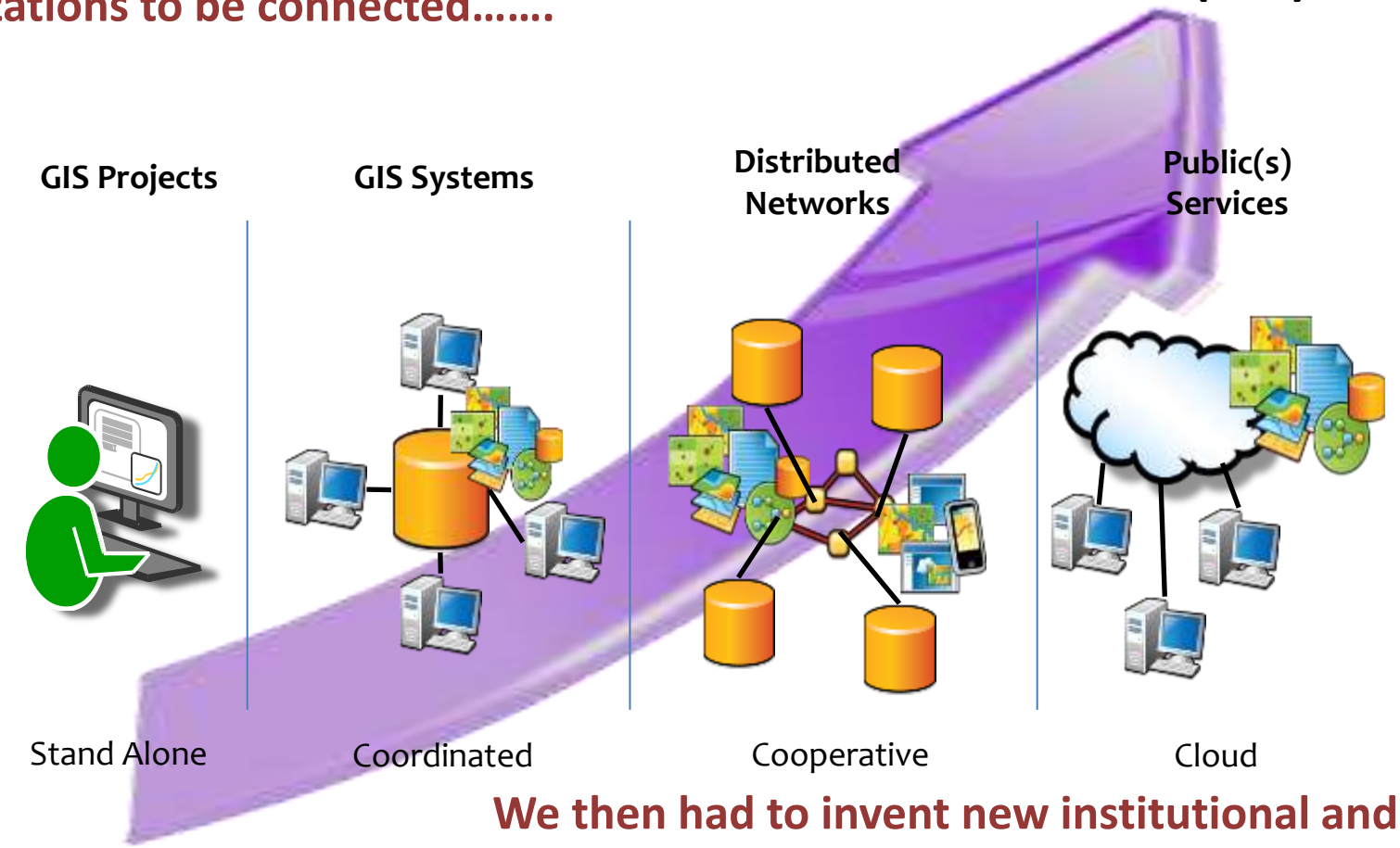
Spatial Data Infrastructure (SDI)

Technology advances over the years made it technically possible for more people and organizations to be connected…….



We then had to invent new institutional and governance frameworks to take maximum advantage of these developments

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1994

The definition of SDI has
not changed substantially
but the world around us
Is evolving radically…….
WINDOWS 95
EXCLUSIVE PREVIEW

Core Proposition

SUPPLY

Spatial Data Infrastructure (SDI)

Largely technical program based on supply-side geospatial data development and sharing

SUPPLY/ DEMAND

SDI +

Smart Development Infrastructure for Sustainable Development and Investment

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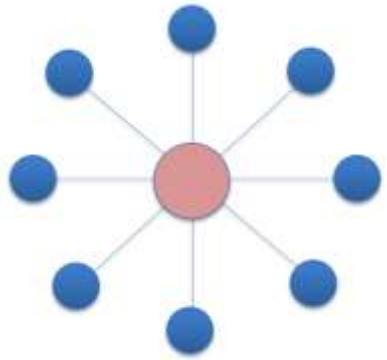
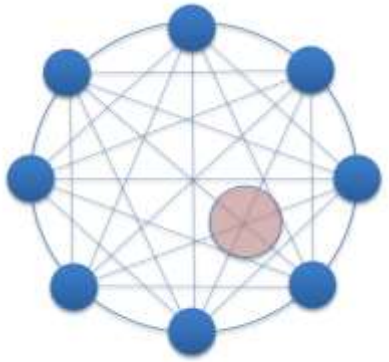
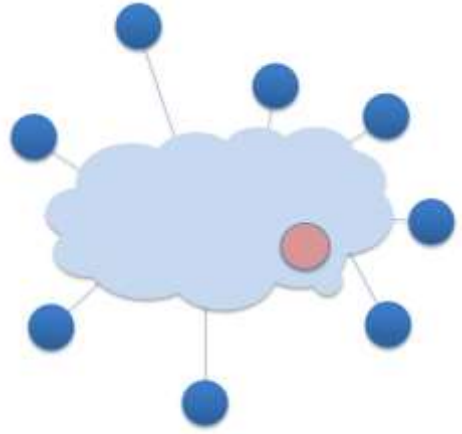
Organization Form & Function



Hub and Spoke



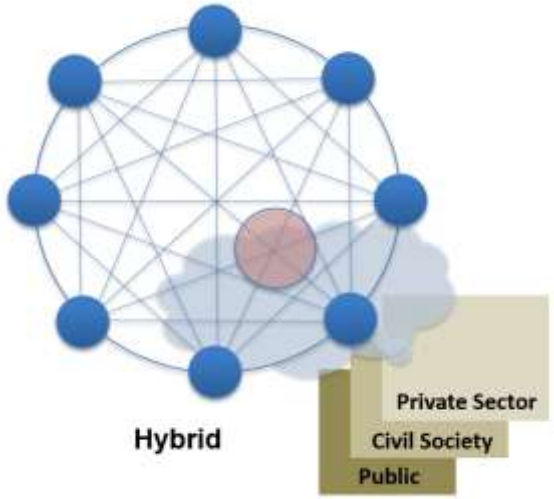
Orchestrated Distributed Network



Curated Cloud

Many different operational models for NSDI have been tried over the years, in part in response to new technological capabilities.

There is no "one size fits all" that is appropriate for every situation.



Hybrid

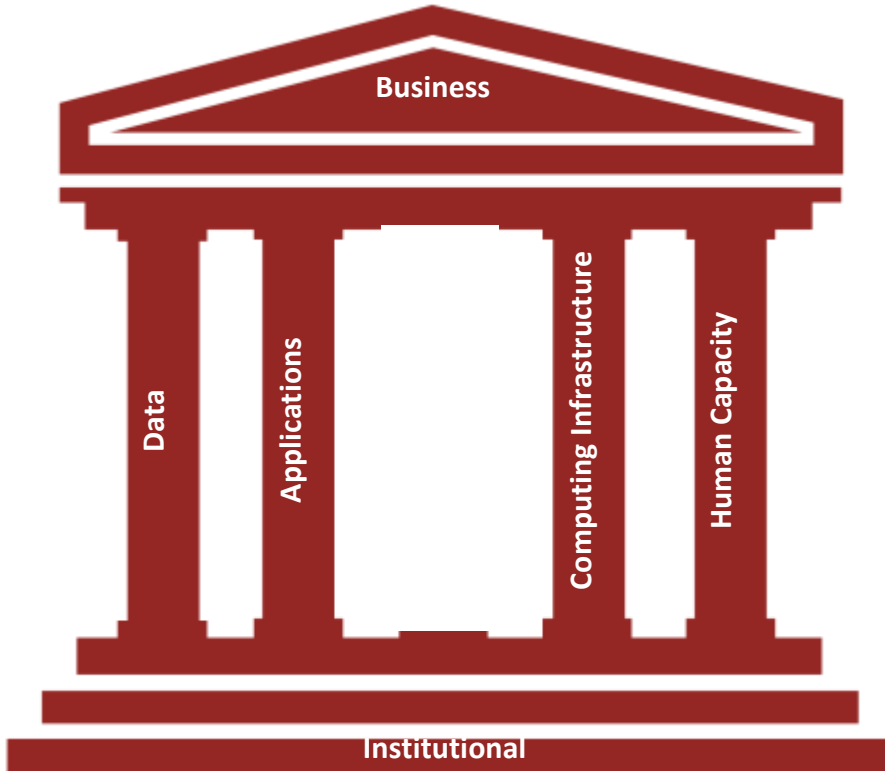
Beyond Data and Human Capacity, there are institutional structural issues that need to be addressed…….

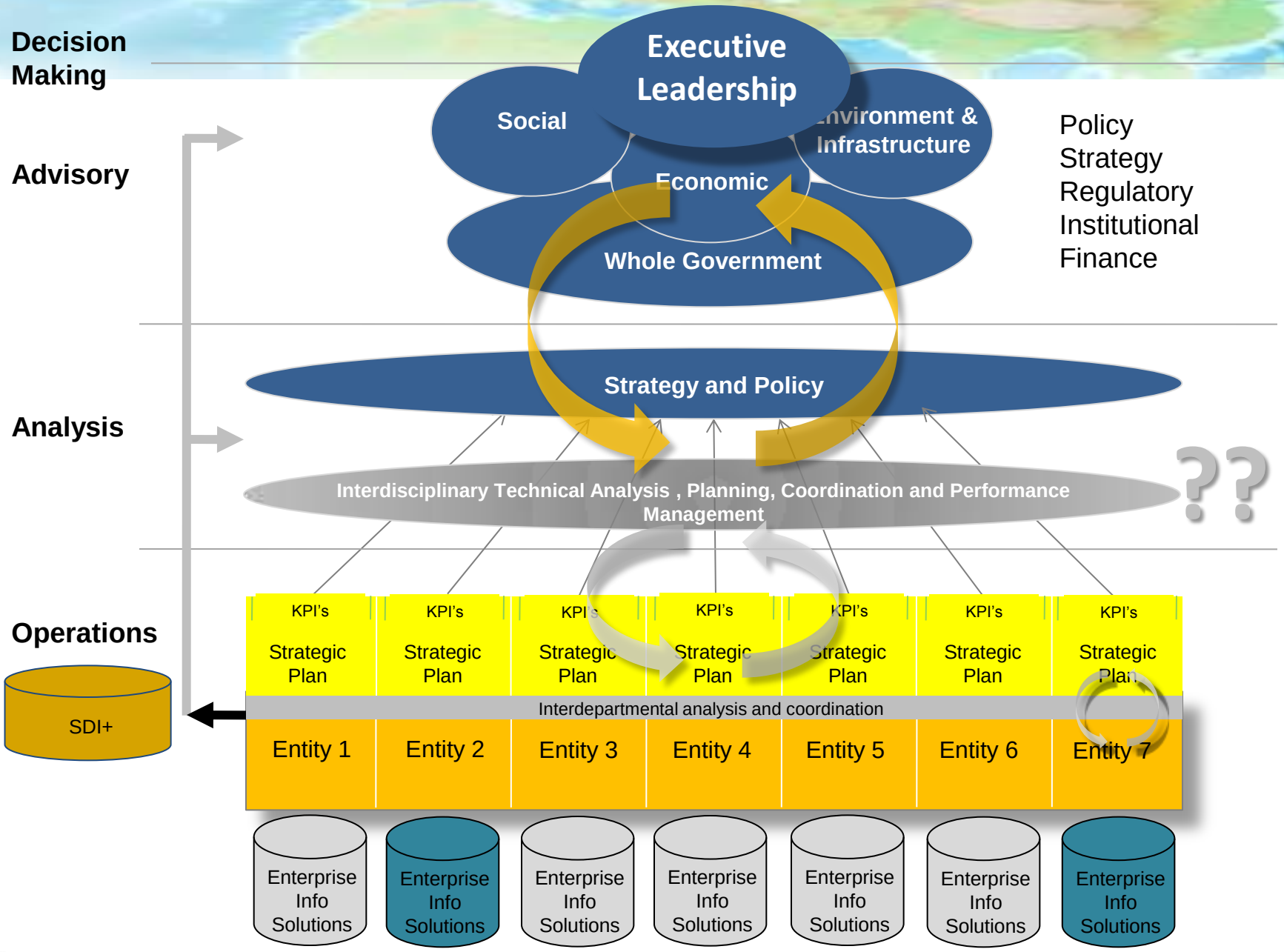
Institutional Ecology

Business Framework
- Mandated business area
- Business processes
- Change management

Technology Framework
- Data
- Application Software
- Computing Infrastructure
- Technical Staff Capacity

Institutional Framework
- Policies and Regulations
- Institutional Agreements
- Finance





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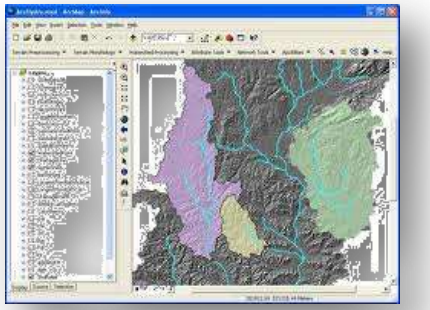
GIS technology is being used across nearly all sectors of the International Development field today….

Agriculture and Food Security

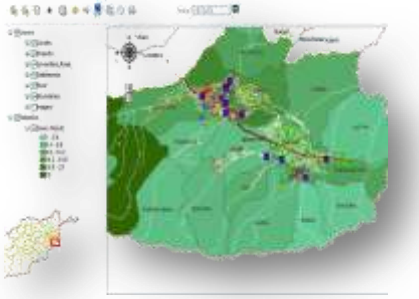
Water Security



Humanitarian Assistance

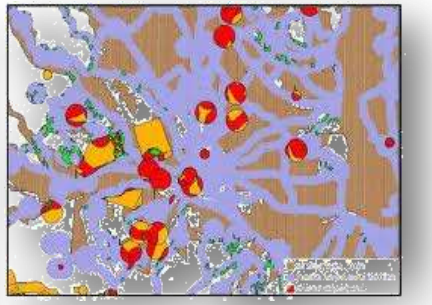
Cadastral Survey and Land Registration

Project Monitoring and Evaluation

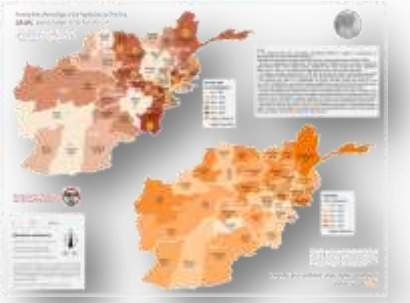


Disaster Management

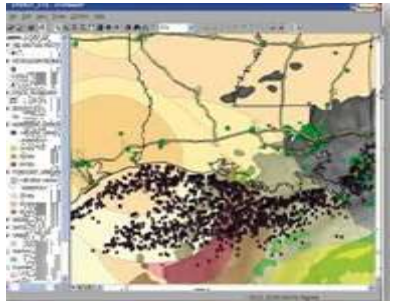
Demining



Poverty Mapping

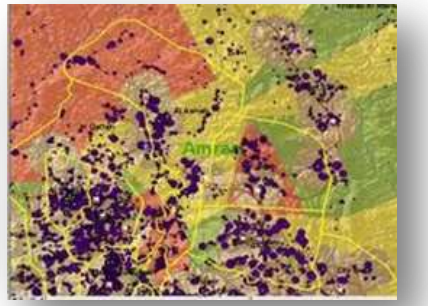


Renewable Energy

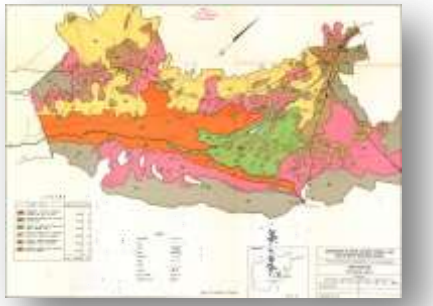


Reconstruction

Health Services



Environment



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- Many development needs
- Multiple projects
- Different sectors
- Different Agencies
- Different sources of project financing
- Different sources of technical support
- Different project implementers
- Different scales of projects
- Different timeframes
- Variable local capacity
- Duplication in data collection
- No comprehensive picture of the development situation
- Most projects developed with poor information

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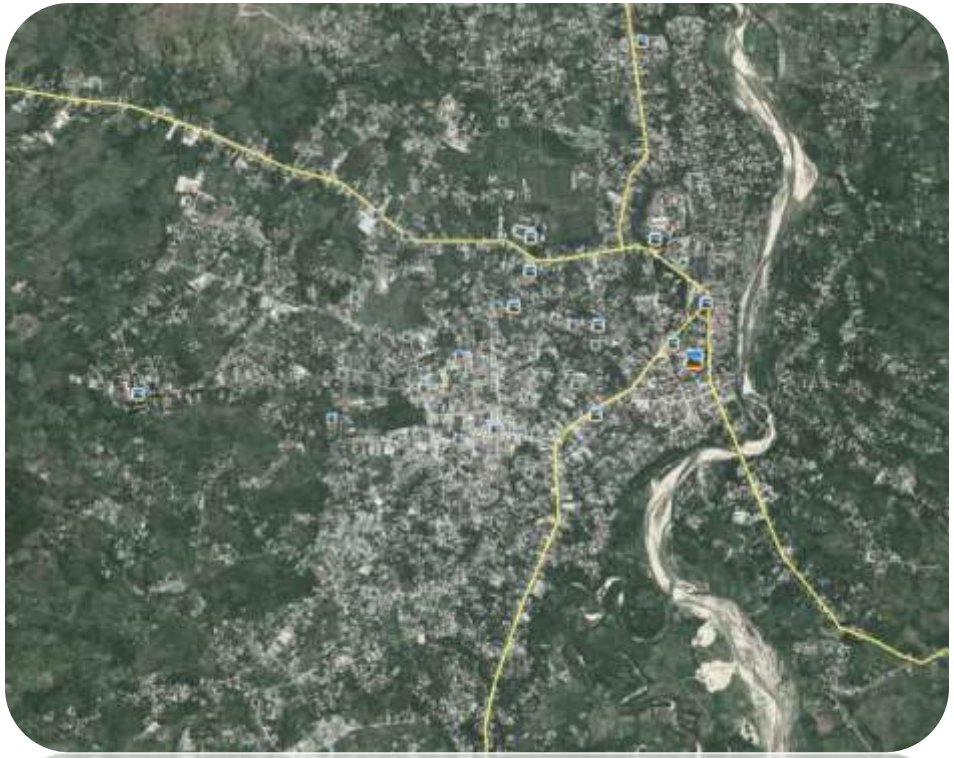

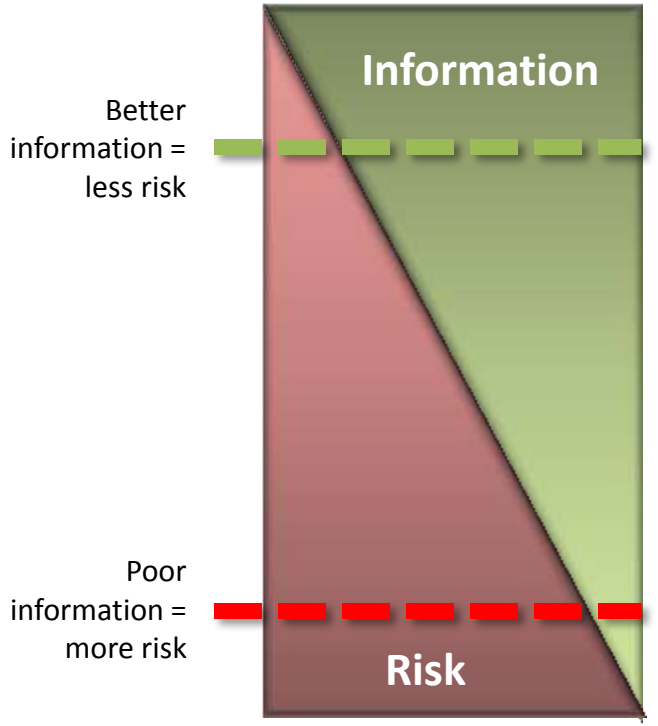

- **Good information can increase positive impact and reduce risk**
- **De-risking projects can attract more finance options (sovereign funds, private sector, foundations, etc.)**

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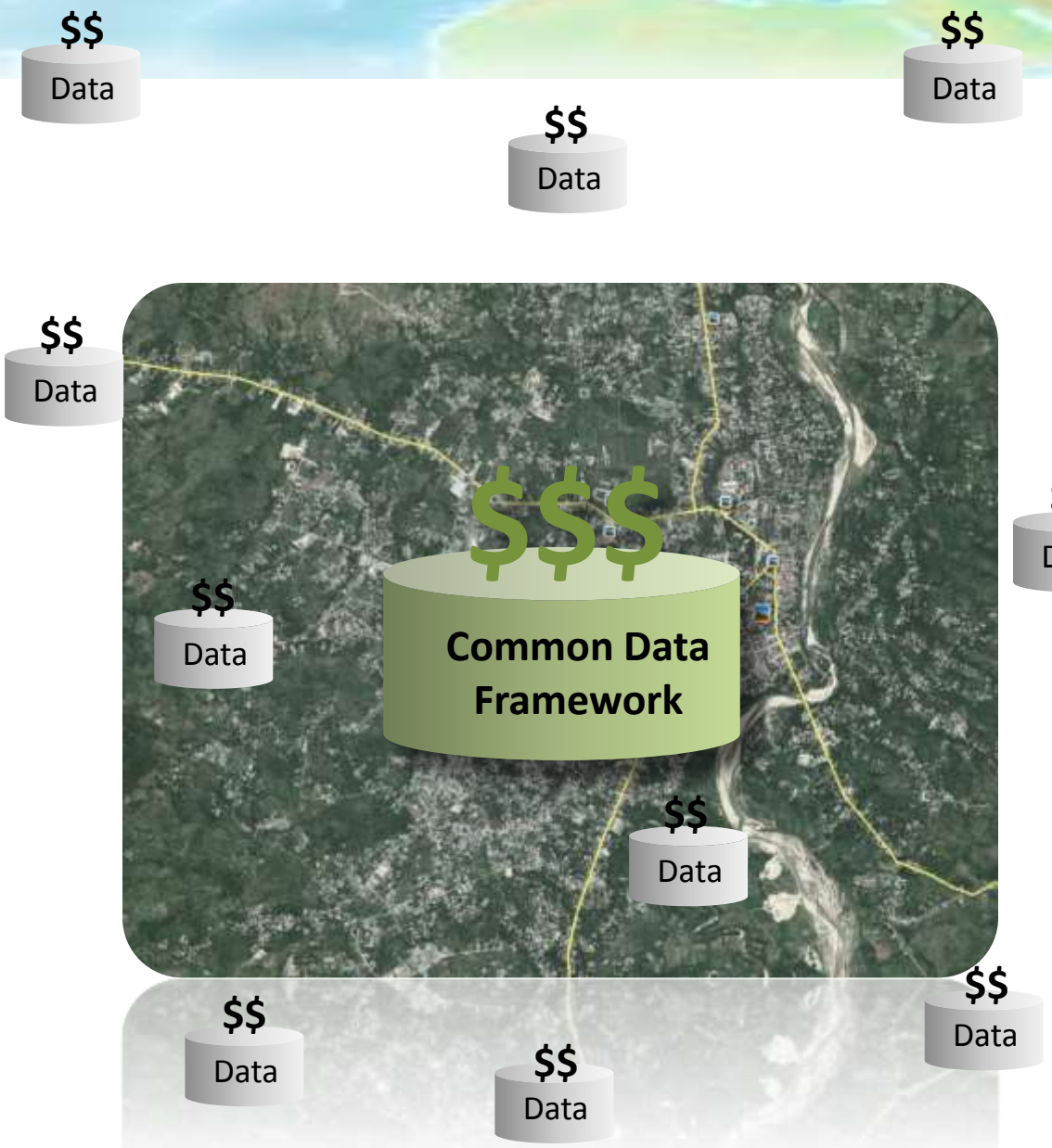

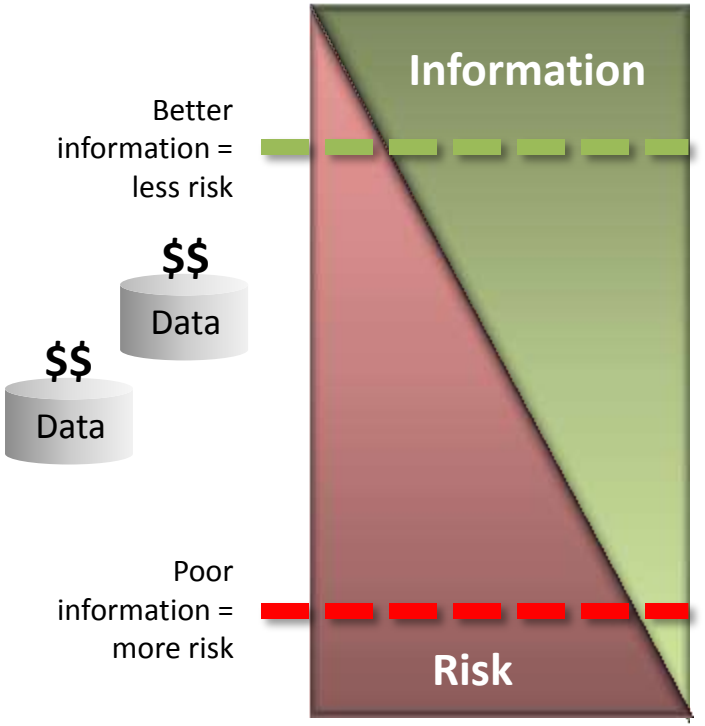

- **What required to retain and reuse the information we have and attract additional investment???**

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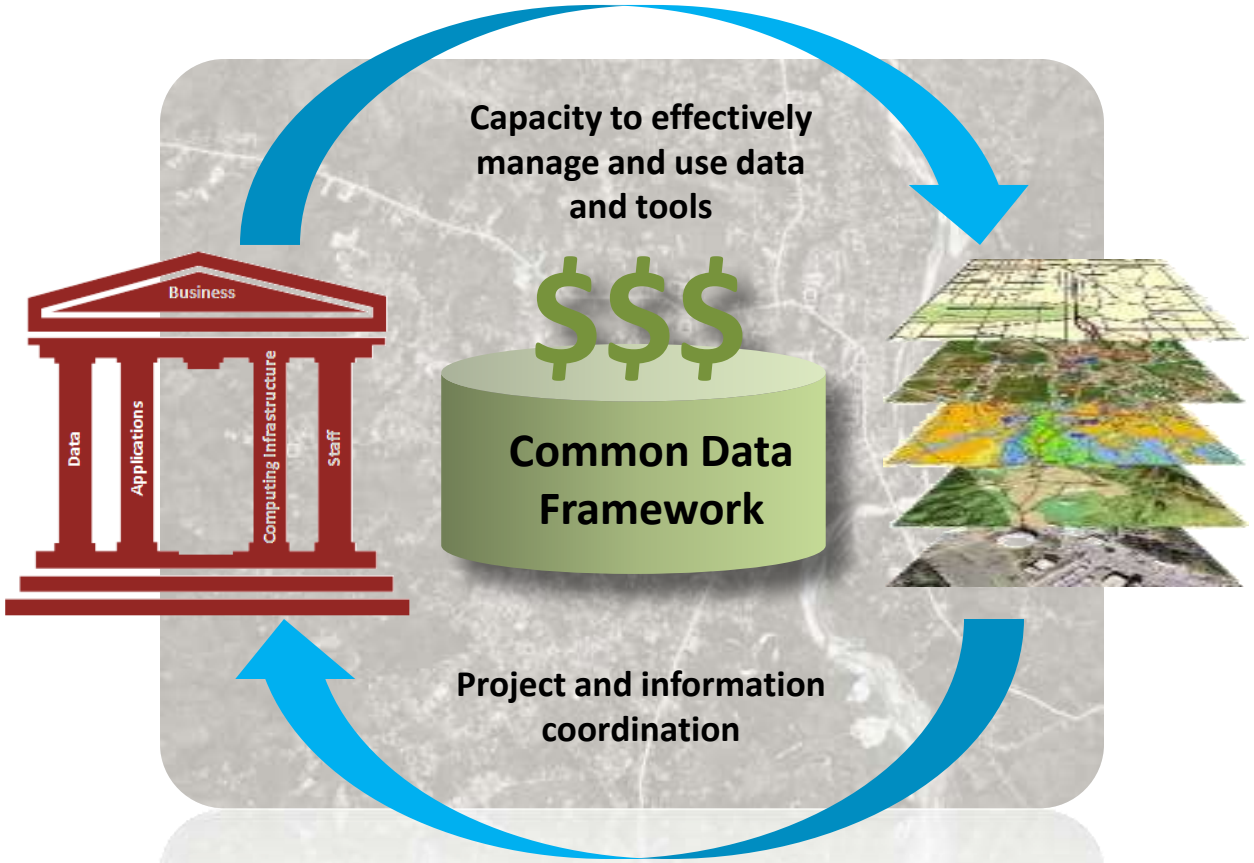
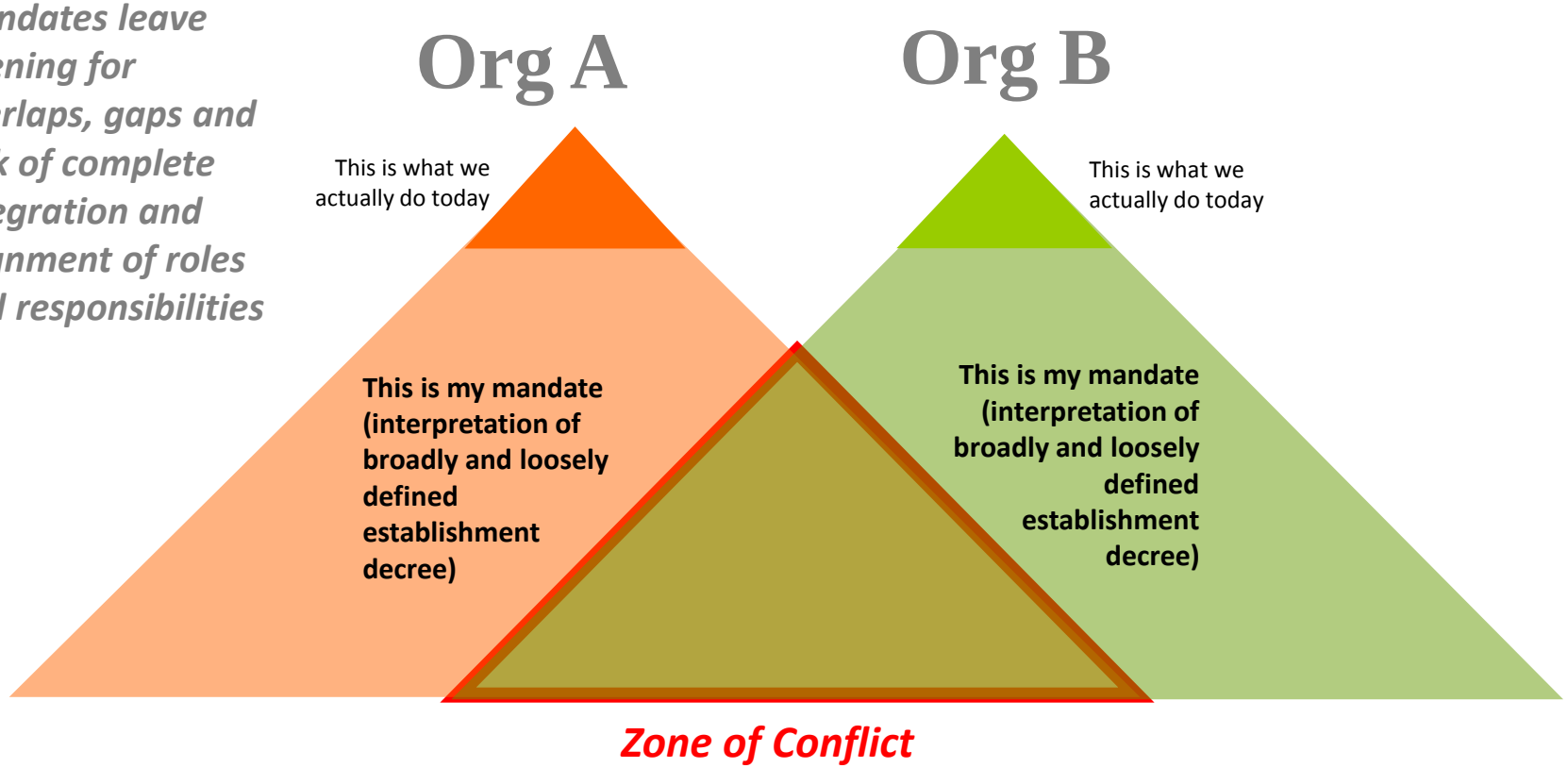


- What required to retain and reuse this information investment???
- Policy requiring repatriation of project data to host government
- Policy acknowledging project coordination and SDI+ function in government as an enabling environment for effective and sustainable development and investment
- Capacity building program
  - Central coordination unit
  - Agencies
  - Other Stakeholders

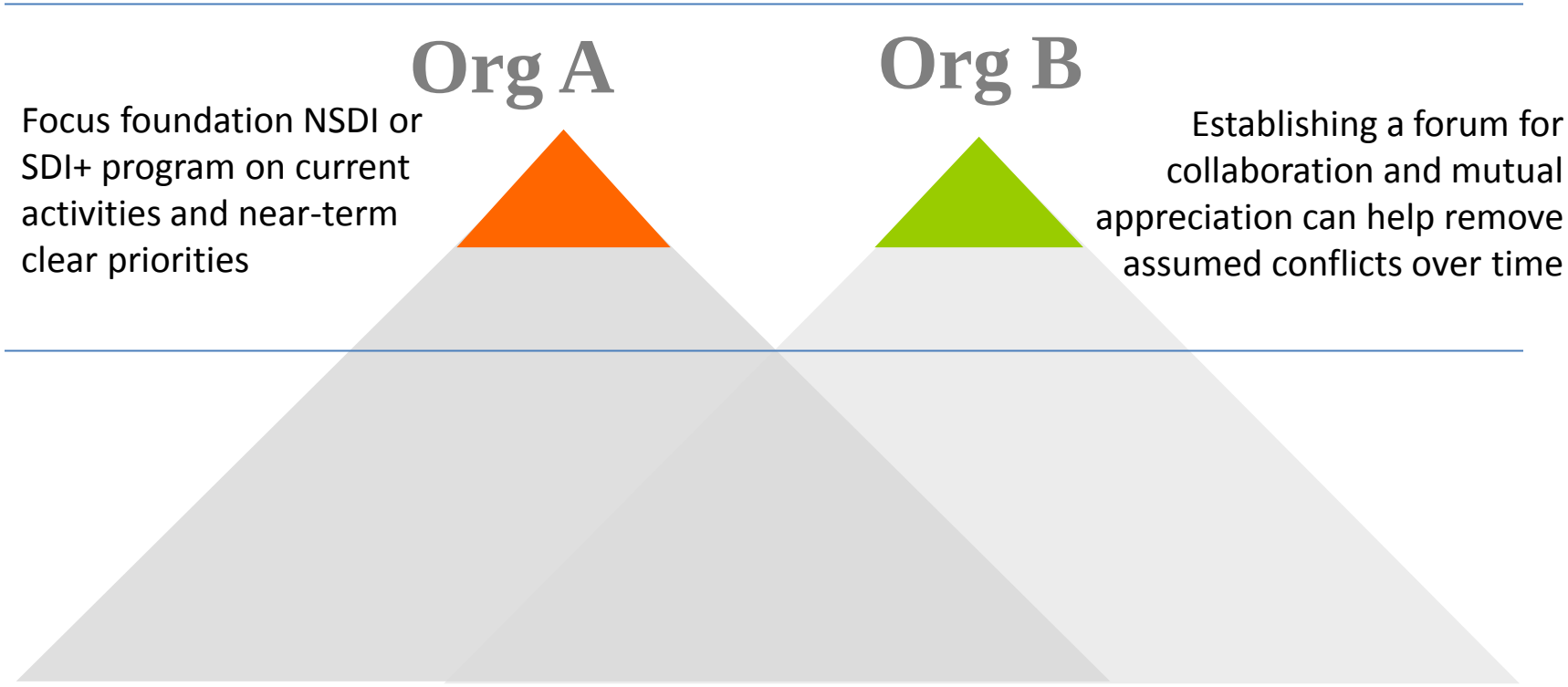
Governance Structural Issues

Institutional mandates leave opening for overlaps, gaps and lack of complete integration and alignment of roles and responsibilities



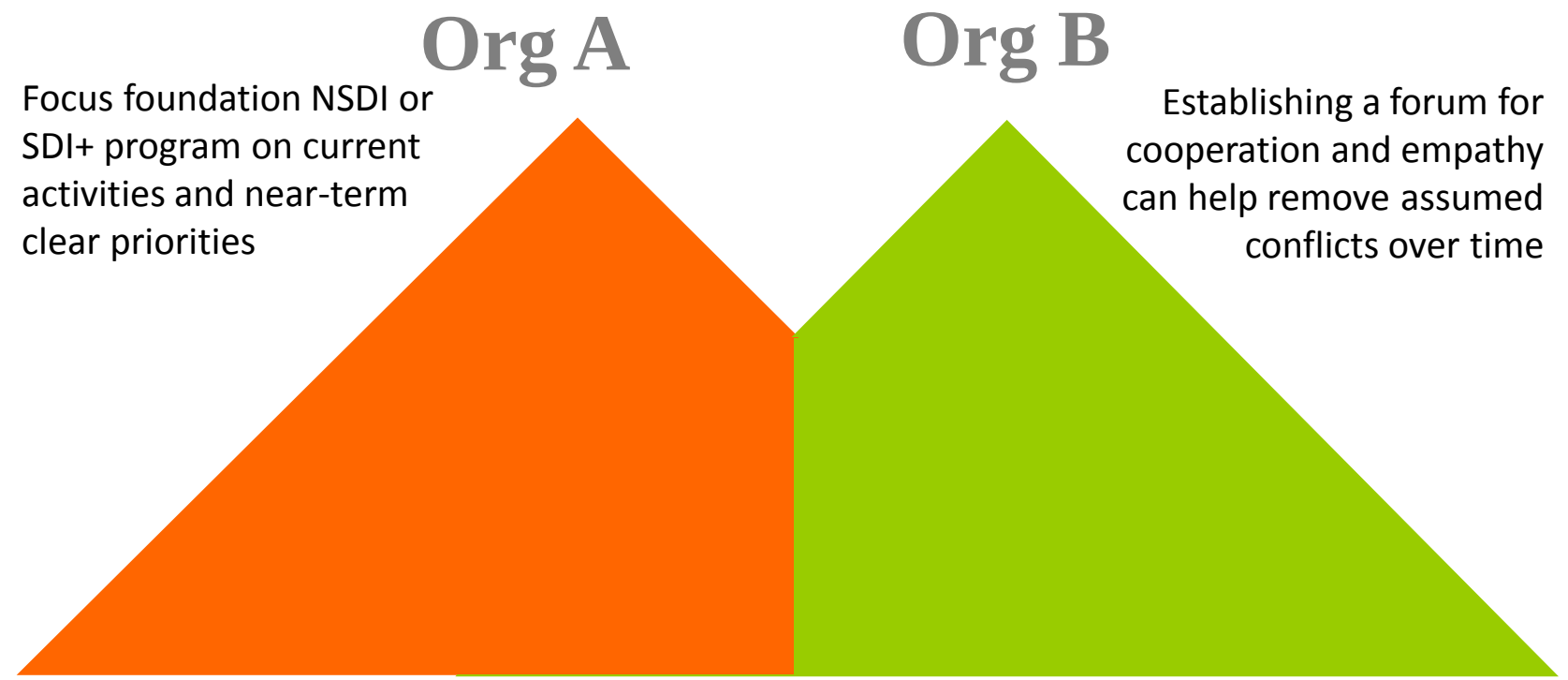
Institutional units in "transitional" situations often struggling to keep up with near term, urgent needs

Governance Structural Issues



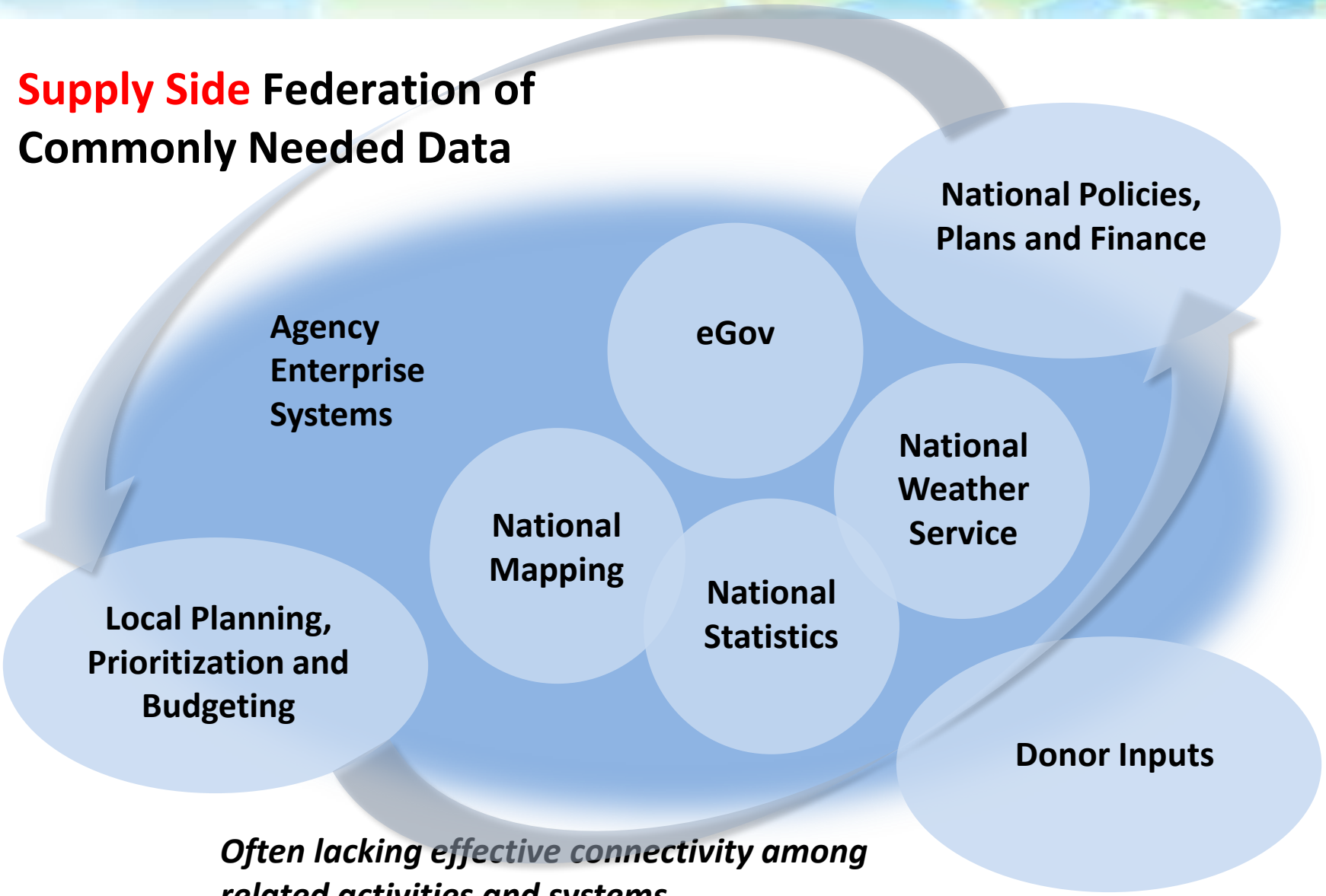
Focusing on the actual near to medium term work to be accomplished and achieving real results is key to effective NSDI establishment and sustainability

Governance Structural Issues



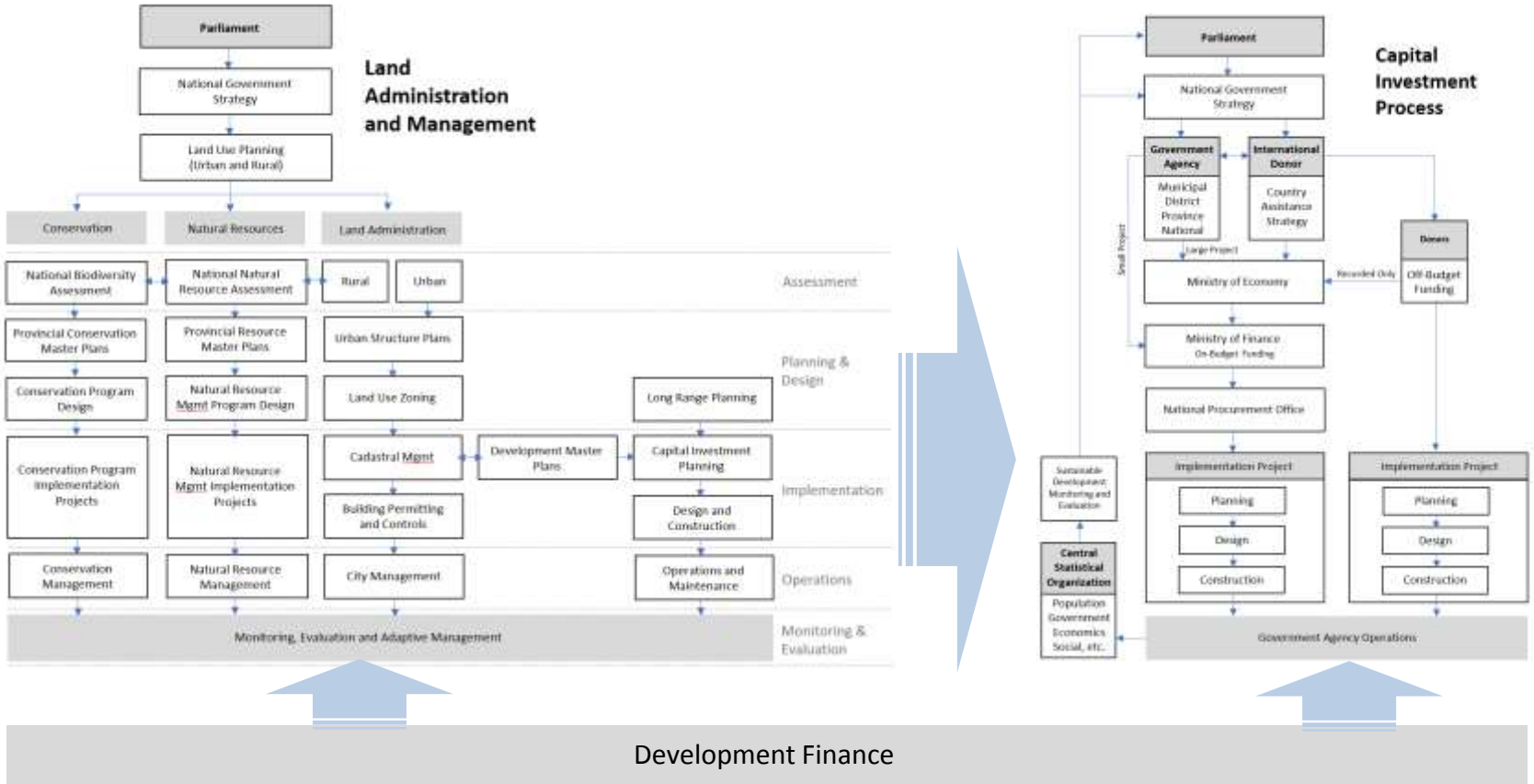
Clarity in respective roles and responsibilities can evolve more systematically over time as organizations mature

Supply Side Federation of Commonly Needed Data

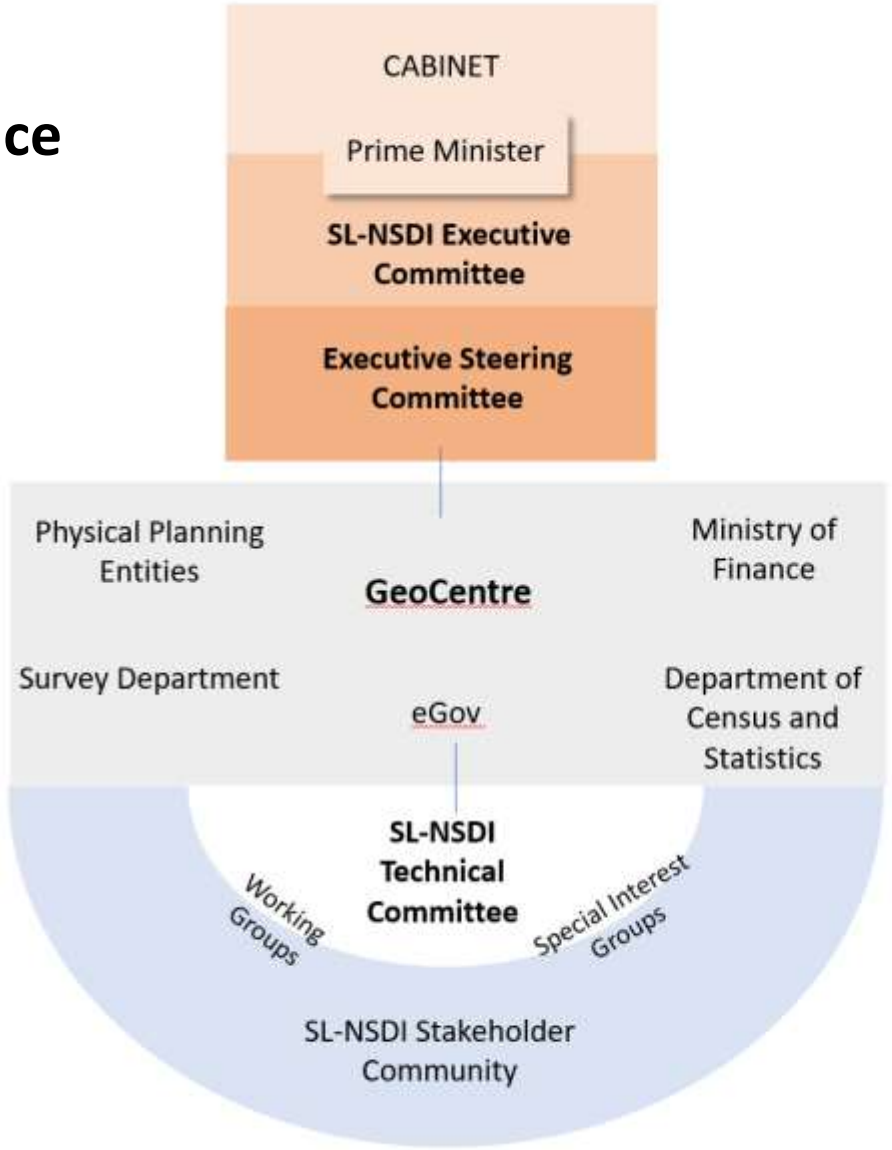


Often lacking effective connectivity among related activities and systems

Demand Side Application of Data to Key Government Processes and Investments



SL-NSDI+ Governance Model



Executive Authority

- Cabinet has ultimate authority and decision making powers
- Prime Minister Chair of Executive Committee
- Executive Committee comprising Ministers
- Executive Steering Committee comprising Directors of member agencies

Central Coordination

- Coordination Office acts as secretariat to the Executive Committee
- Direct coordination and alignment among key government offices governing planning, information, investment and government digital transformation

Community Representation

- Technical Committee comprising representation from all key stakeholders
- Ideally includes representation from non-government sectors (institutions, private sector, civil society)

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Sustainable Development and Investment