

## Towards a National Geographic Information Infrastructure: Overcoming Impediments to the Development of SDI in Nepal

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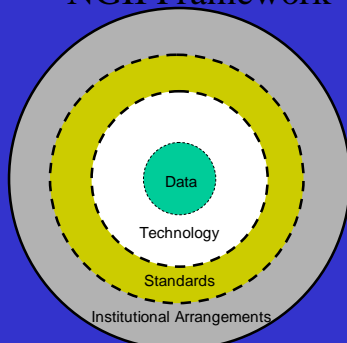


## Agenda

- Status of GI related activities and Capacity for SDI building
- What are the “some” impediments
- SDI Development strategy
- Conclusions



## NGII Framework



## Status of GI activities

- Survey Department has always remained in the forefront of GI development in Nepal
- Land Resources Mapping 1980s
- New topographic base mapping 1992- 2002
- Sporadic development of IT, GIS and communication systems 1990s
- Creation of digital topographic database later 1996-2002
- Creation of digital orthophoto 2000-2002
- Initiation of National Geographic Information Infrastructure Programme 2002

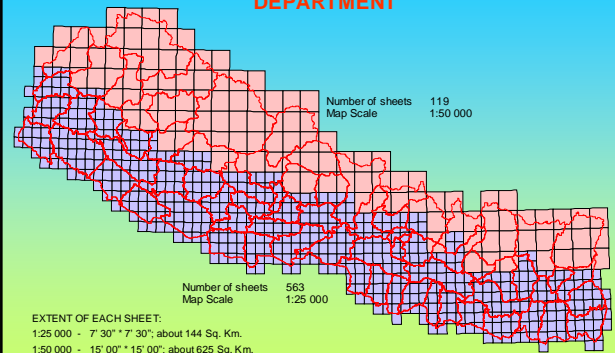


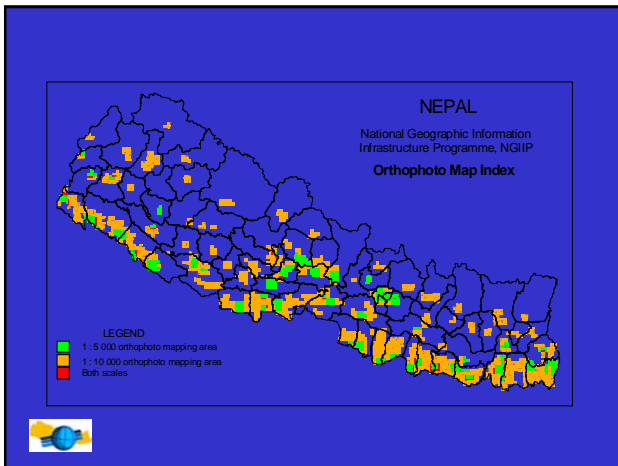
## SDI from the national policy perspective

- Eighth Plan (1992 – 1997)
  - Initiation for use of GIS technology
  - Initiation for GIS Steering Committee
- Ninth Plan (1997 – 2002)
  - Increasing focus for use of GIS technology for information analysis for environmental and poverty reduction
  - Regulation passed for the Mapping Committee
- Tenth Plan (2002 – 2007)
  - Development of a national geographic information system for easy access and dissemination of geographic information
  - Initiation NGII programme




## AVAILABILITY OF DIGITAL MAPS IN SURVEY DEPARTMENT






### Availability and usage of data

- Basic topographic data are available for all the users private or public
- Many many users
- Revenue of data sales last 6 months was 3.4 Million Rupees  
(Per capita income 20,000 Rupees)



But.....

- There are many many other geographic or spatially related information in other agencies which “I” do not exactly know



### Drivers to NGII development


- **Governments and the community demand integrated solutions to complex problems**
- **Individual agencies can no longer provide all the answers: need of inter-agency and inter-jurisdictional collaboration**



### Challenges are barriers to data access and use.

**User perspective:**

- how can I find out if the data already exists?
- who is the custodian of the data ?
- is the data appropriate for my purpose?
- will it integrate with my other data?
- can I readily access and use it without unreasonable restrictions?



### So where is the problem?

- Immature institutional arrangements
- Immature user/provider relationships
- Poor knowledge of data availability
- Difficulties in assessing data quality
- Inconsistent policies on data access and use
- Lack of best practice in the use of technologies



### We need to focus on

- Governance and partnership building
- Access to data
- Data standards
- Interoperability

#### Key issues in our NGII Implementation Plan



### We need System for:

- DISCOVERY tell me what data/services are available
- ACCESS give me access with minimum effort
- INTEGRATION let me combine data with other data
- USE give me the results in a form I can use



### What are the impediments?

- Know how = Technology
- Capacity = human and financial
- Institutional setup



### NGII implementation strategy

- Building by example: a pilot project with six government ministries/ departments and 33 district level offices
- Development of proper tools
- Developing working-together culture through joint projects and joint WGs
- Creating a institutional framework
- Building a organizational structure for liability and responsibility



### Institutionalization Priorities:

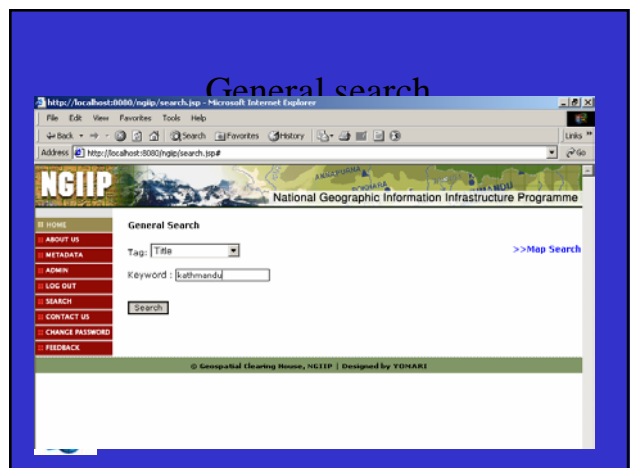
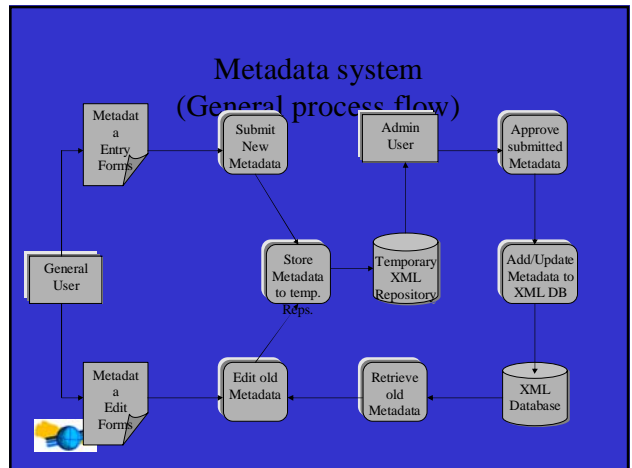
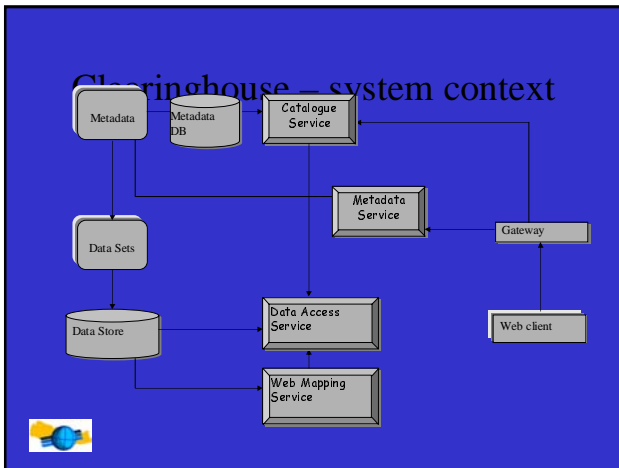
- Inter-agency cooperation
- Standards, especially for interoperability
- Custodianship rights & responsibilities
- Access policies & data licenses
- Metadata for data discovery and use

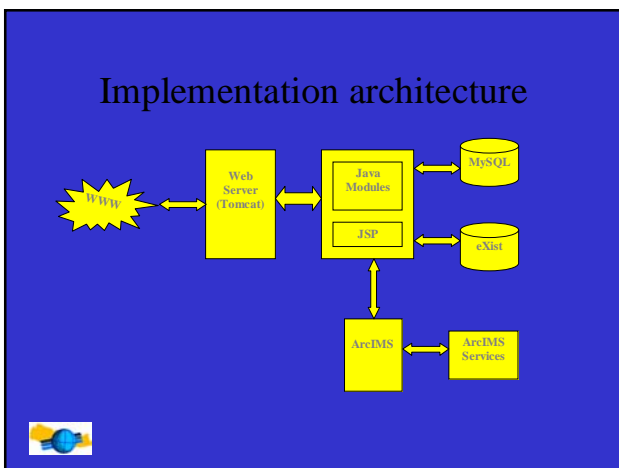
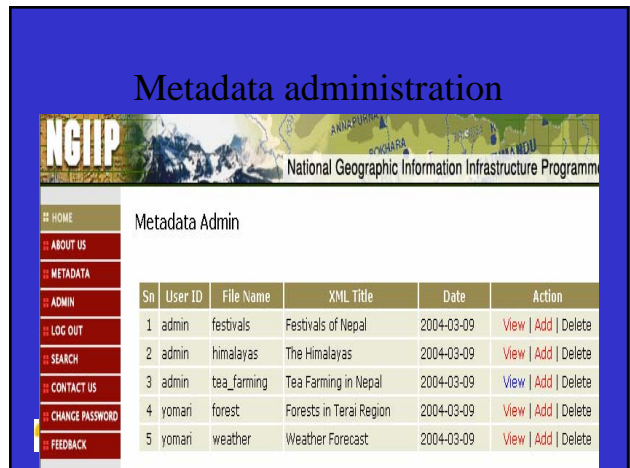
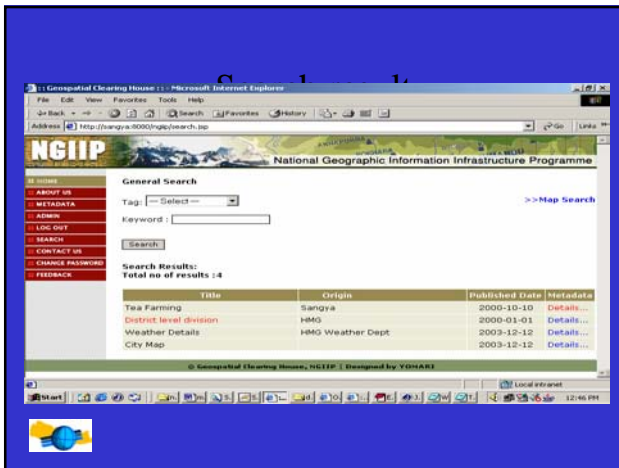


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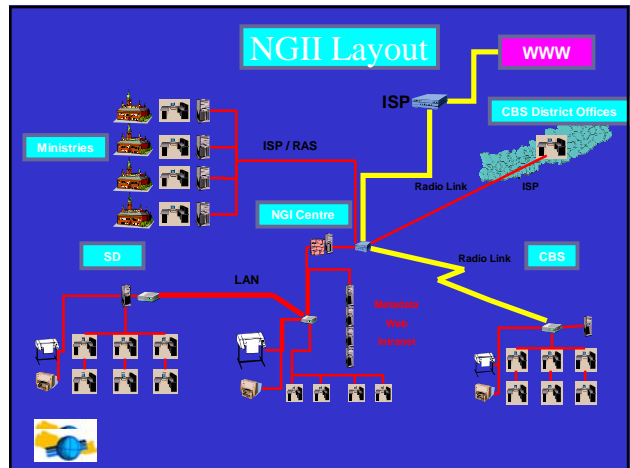




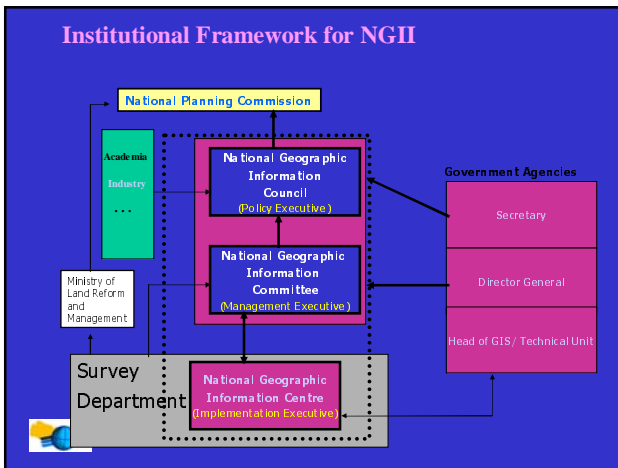
- ### The prototype functionality
- Metadata can be created and edited with a simple WEB client.
  - Metadata Search with both keywords and spatial interface.
  - Metadata administration including a cataloguing into a single repository.
  - Visualization of metadata with three different style sheets:
    - FGDC
    - ESRI
    - XML

## Information Dissemination Roadmap

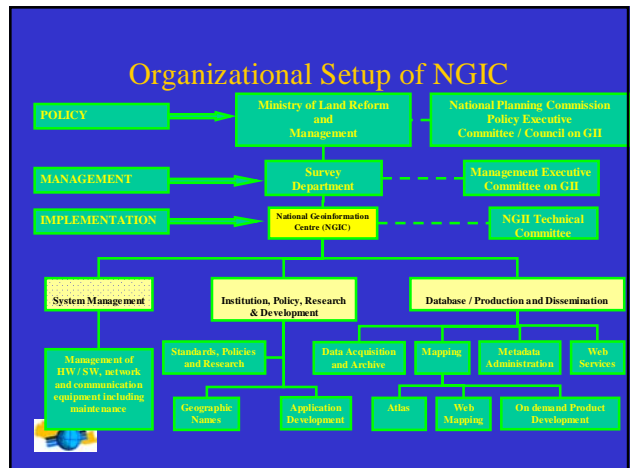
Method	Information Access	
	Off-line	On-line
Off-line	<b>Type I Behavior</b> Data ordering by mail, fax or telephone for use on customer's computer	<b>Type II Behavior</b> Data files accessed online downloaded and used on customer's computer to extract information
On-line		<b>Type III Behavior</b> Transaction based approaches to access, modify and integrate geospatial data to create information products.



## Institutional Framework for NGII



## Organizational Setup of NGIC



## Conclusion

- SDI development in Nepal is in a very infancy stage of development.
- There are many problems and impediments to its realization in Nepal. Sustainability might be a problem.
- However, there can be no single model of SDI, the "Nepalese" model will continue.

Thank you!

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