“Challenges and Potentials of Place Based Information Management in Nepal"

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Presentation Outline

- The Country Context
- Geospatial Information Management: Changing roles
- Place based information.. Why it matters?
- Survey Department and its role
- Prevailing Geospatial Information Management Policy
- Challenges
- Opportunities
- Conclusion
Nepal, the Federal Democratic Republic Country nestled between India & China rests at the foot of the mighty Himalayas.
Nepal... Home of Mount Everest

Nepal is home to some of the world’s highest mountain peaks, including Mt. Everest (8848 meters).
Nepal... Home of Buddha

Lumbini - Birthplace of Buddha
Kathmandu is the home to living goddess “Kumari”, city of the temples, city of the festivals, city of the traditional architecture and famous for the world’s heritage sites including Swambhunath and Bhaktapur Durbar Square.
Nepal......Heavenly country side
Nepal....Economic Growth rate

Chart 1 (a): Sectorwise GDP & Growth Rate

Source: Central bureau of statistics
Nepal Poverty Index

Chart 7 (a): Poverty Measure Index

Source: Central Bureau of Statistics
Nepal.. Investment scenario (2009-2013)

Source: Ministry of Finance
Changing roles:
National Mapping and Cadastral Agency
National Geospatial Authority
National SDI

Creating
- Challenges for NMAs
- Growing capabilities of private sectors in geospatial information development and location based services
- Opportunity for Geospatial business

• Rapid advancement in Geospatial technology
• Business model is changing:
  • The value of geospatial information is more widely recognizing
  • Customers are demanding more diversified products
  • Customers are demanding greater access to the geospatial data.

• Collaboration and sharing
  • For effective use and management of geospatial information and place based information to solve geographic problems in a smart way.
Place based information.. Why it matters?

Such place based information are more useful to understand where problems are and how to provide a quick response?
Survey Department .. National Mapping Agency

- **National Mapping Agency**
  - Regulating, Monitoring and Coordinating Mapping and Geospatial information activities in the country

- **About 2,480 permanent staff nationwide**

- **Topographical Surveying Activities**

- **Geodetic Surveying Activities**

- **Cadastral Surveying Activities**
  - First Registration / Cadastral Resurveying

- **International Boundary Surveys and Maintenance**
Survey Department available datasets

NATIONAL TOPOGRAPHICAL DATABASE /MAPS
- Terai and Middle hills (scale 1:25000)
- High hills and Himalayas (scale 1:50000)

ORTHOPHOTO MAPS /AERIAL PHOTOS
Survey Department.. available datasets

NATIONWIDE COVERAGE OF CADAstral MAP
Survey Department.. available datasets

SETTLEMENT DATABASE

ROAD NETWORK DATABASE
Survey Department.. available datasets

- DIGITAL ELEVATION MODEL
- SOCIO ECONOMIC ATLAS
- NATIONWIDE COVERAGE OF GEODETCIC CONTROL NETWORKS
  - HORIZONTAL,
  - VERTICAL,
  - AIRBORNE GRAVITY
- LAND RESOURCE MAPS
- ADMINISTRATIVE MAPS
- GEOLOGICAL MAPS
- SOIL MAPS
- PHYSIOLOGICAL MAPS
- GEOGRAPHICAL NAMES
Survey Department.. Nodal Agency for NSDI

- National Geographic Information Infrastructure (NGII) has been established under NMO in 2000 and making its continued effort is establishing functional NSDI.
- Working in the direction of establishing data sharing mechanism.
NGII portal.. access to Geospatial information

- Select
  - By Geography
  - Indicator selection

- Log in & Register

- Search
  - By location
  - By themes

- Downloads
Survey Department.. as a regulatory body

- The Department is gradually changing its role of providing surveying and mapping services in the country to assuming a lead role in regulating the national surveying and mapping, and geospatial activities.
  - Any geospatial information produced with public fund should be based on the standard and specifications set by the Survey Department.
  - Any geospatial information produced by any public or private organization should be approved by National Mapping Committee/ technical sub committee constituted under the National Mapping Committee.
Prevailing Geospatial Information Management Policy

- No integrated Policy for geospatial information management,

- Pricing policy
  - Every data is charged but the price is determined case by case and agency by agency
  - Free of charge only with the government’s cabinet decision even for a public organization

- No data restriction except that of international boundary.

- Human Resource Development policy
  - Land Management Training Center (a public organization)
  - Kathmandu University for undergraduate (BE Geomatics) course
  - Tribhuwan University has recently started undergraduate (BE Geomatics)
Emerging Trend—third sector production of place-based information

- Citizens’ excitement in the production and use of place-based information
- OpenStreetMap is more detailed than any other source available in Nepal
- Also creates issues such as privacy, data quality, standardization
- Closely observing this new trend and this new trend has policy implication.
Challenges

- Updating of Framework and geospatial datasets to fulfill the customers need.
- Creating Policy/ Political awareness to the change process and the deeper utilization of Geo-ICTs policy in decision making.
- Capacity and capability development
  - Institutional  (physical and technological infrastructure )
  - Human capacity and professional development
Opportunities

- Nepal is in political transition, use of place-based information for restructuring and demarcation of federal states in terms of economic and geographic sustainability.
- Agriculture sector plays a critical role in the economy as this sector contributes about one third to GDP, and two-third of its population depend on it for their employment and livelihood, the place-based information will greatly help.
- Nepal is rich in cultural heritage, natural beauty, thus effective use of place based information will greatly help to promote tourism.
- Huge potentiality of hydropower and thus place based information will be useful to national development economic growth of the country.
- Land slides and Flooding is very common, thus place based information will greatly help in disaster management.
Conclusion

- Nepal is still at an early stage of place based information management.
- Changing role of the Government and advancement in ICT and spatial technologies is leading towards public-private partnership for better geospatial information management.
- Government’s emphasis on e-government development, Growing awareness to use of geospatial information in planning and decision making process and will greatly help in the promotion of tourism, hydro power etc for the future economic and sustainable development of the nation.
- Technology transfer with Capacity and professional development in terms of individual and institutional are the key phenomena for optimizing the place based information management.
Thank You For Your Attention