

# Survey Department, Nepal

## What We are Doing at National Level



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06 August 2019



SURVEY DEPARTMENT, GOVERNMENT OF NEPAL



## Survey Department: Recent Activities

- **System development for service delivery in district survey offices**
- **Mt Everest height measurement**
- **LiDAR survey for HR DEM and Orthophoto generation**
- **Nepal-India boundary survey works**
- **Re-establishment of land records destroyed during conflict**
- **Rural Municipality/Municipality level land use mapping**
- **Preparation of Image Map Service from Satellite Imagery : Strengthening NSDI , CH**
- **Establishment of Continuously Operating Reference Stations (CORS)**
- **Application of UAV**





# The Everest Measurement



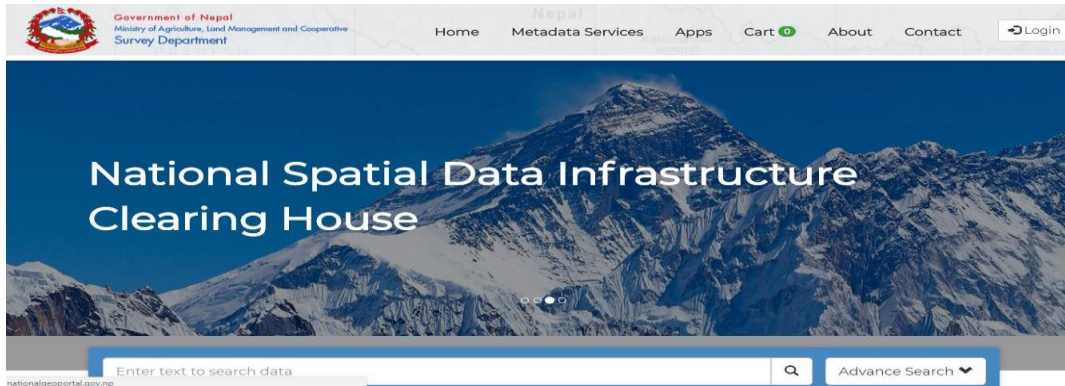
# National Spatial Data Infrastructure: Services





# NSDI Clearing House

- Inform the general user about the data by creating Metadata ( North American Profile of ISO 19115:2003 with modifications )
- Launch the metadata via Clearinghouse Which will pave the way for data accessibility ( nationalgeoportal.gov.np )
- In addition to that there are Application for sharing Geoinformation.





## Data Search function

Enter text to search data



Advance Search ▾

### Available Datasets

- Administrative Boundary
- Topographic Data
- Geodetic Control Point
- Cadastral Data
- Orthophoto

### Data Contributors

- Survey Department

### Metadata

Title:

Abstract:

Keyword:

### Extent

East:

West:

North:





## Metadata function



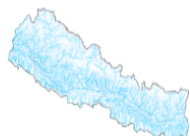
### Available Datasets

- Administrative Boundary
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- Cadastral Data
- Orthophoto

### Data Contributors

- Survey Department
  - Topographical Survey Division
  - Geodetic Survey Division
  - Cadastral Survey Division
  - National Geographic Information

31 Record(s) found

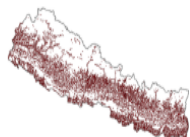


#### Hydrography (1:250000)

Hydrography data contains line layer of river and streams and polygon layer of wide river and lakes. This data is part of topographic data at scale 1:250000 and is the digital data produced on the basis..

*Cost: NRs. 240 Unit: Sheet*

[Add to Cart](#)



#### Building (1:250000)

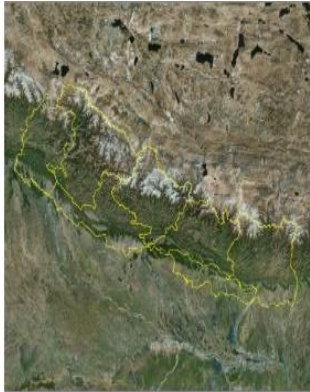
Building data contains a point layer of location of building, polygon layer containing built up area and point layer containing settlement name. This data is part of topographic data at scale 1:250000.





# NSDI Clearing House

## Applications



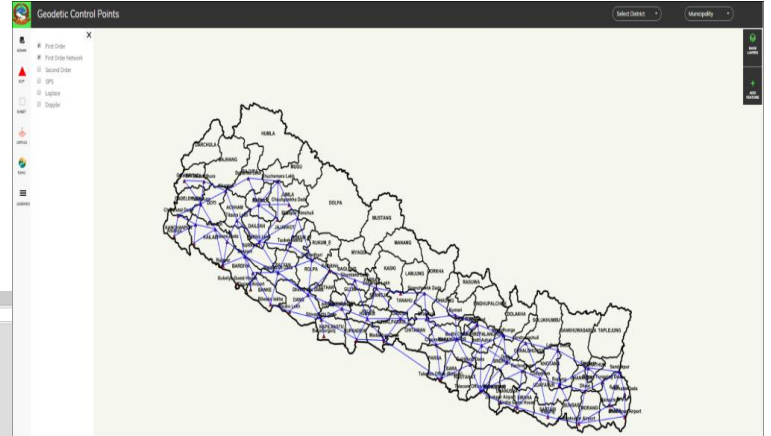
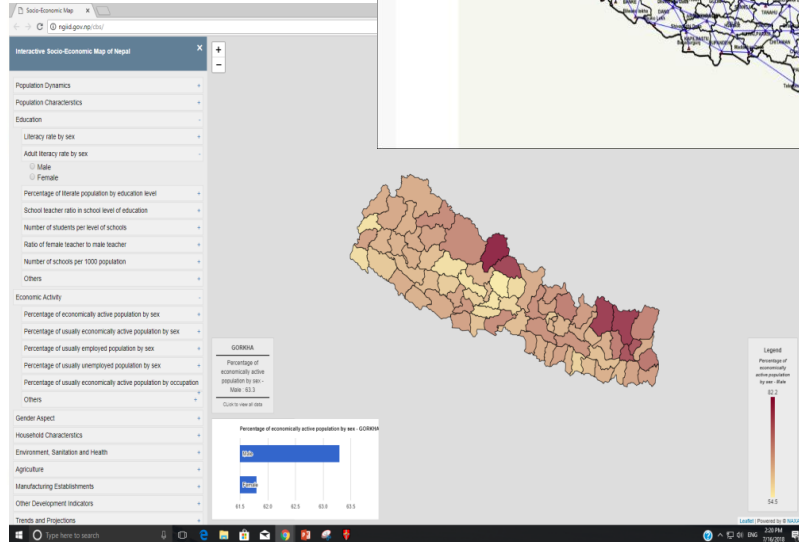
### Administrative Boundary History

This application shows which previous VDCs/Municipalities have been converted into which new local units.



### Geodetic Control Network

This application provides information about Geodetic Control Network of Nepal established by Survey Department.





# Development Account Project : Country Action Plan :

| Component One: Project Execution Plan       |                |          |                 |
|---|----------------|----------|-----------------|
| Activity                                    | Estimated Date | Addendum | Completion Date |
| 1. Project Initiation Meeting               | Nov 2018       | A        | Nov 2018        |
| 2. Pre-needs Assessment Information Sharing | Dec 2018       |          | Dec 2018        |
| 3. Project Scoping and Schedule             | Jan 2019       | B        | Feb 2019        |

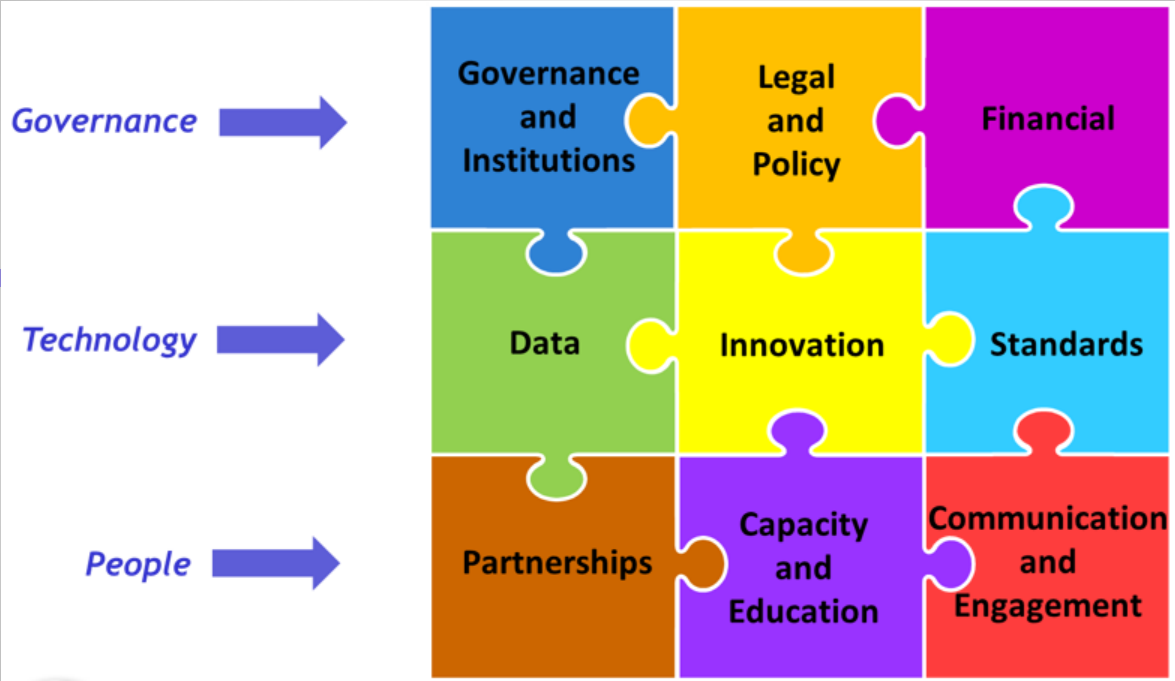
| Component Two: Needs Assessment and Gap Analysis |                |          |                 |
|--|----------------|----------|-----------------|
| Activity   | Estimated Date | Addendum | Completion Date |
| 1. Current and Desired Performance               | April 2019     | C        | May 2019        |
| 2. Baseline Survey                               | May 2019       | D        | May 2019        |
| 3. Environmental Scanning                        | May 2019       | E        | July 2019       |
| 4. Stakeholder Identification and Analysis       | June 2019      | F        | June 2019       |
| 5. Stakeholder Engagement Workshop               | July 2019      | G        | July 2019       |
| 6. Strategic Alignment (and Benefits)            | July 2019      | H        | Ongoing         |
| 7. Vision, Mission and Goals                     | August 2019    | I        | Ongoing         |
| 8. Gap Analysis Matrix                           | August 2019    | J        | Ongoing         |
| 9. Needs Assessment and Gap Analysis Report      | August 2019    | K        | Ongoing         |



## Country Action Plan :

| Component Three: Country Action Plan              |                |          |                 |
|---|----------------|----------|-----------------|
| Activity  | Estimated Date | Addendum | Completion Date |
| 1. Review Country Action Plan (Template)          | August 2019    | L        | Ongoing         |
| 2. Strategic Pathway Activities                   | October 2019   | M        |                 |
| 3. Populate Country Action Plan (with Activities) | November 2019  | L        |                 |
| 4. Implementation Schedule                        | January 2020   | N        |                 |
| 5. Budget Estimations                             | February 2020  | O        |                 |
| 6. Develop Success Indicators                     | March 2020     | P        |                 |
| 7. Finalise Country Action Plan                   | April 2020     | L        |                 |

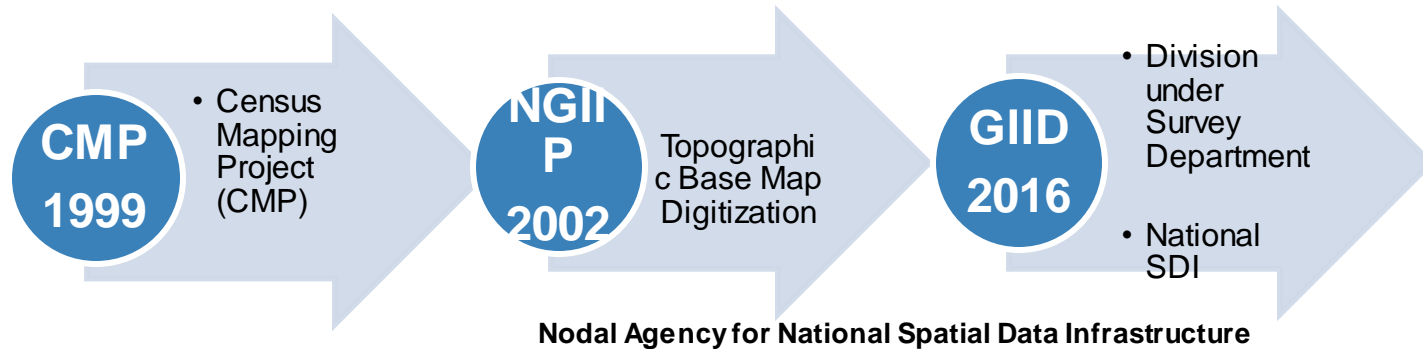




# Strategic Pathway 1

Governance and Institutions

The objective is to attain **political endorsement**, strengthen **institutional mandates** and build a cooperative data sharing environment .



No Geospatial Strategy  
No Active Working  
Group



# Strategic Pathway 2



## Policy and Legal

This strategic pathway establishes a robust legal and policy framework that is essential to instituting appropriate national geospatial information legislation and policy that set out **roles and responsibilities** for the management, availability, accessibility and application of geospatial information.

- Prepared draft NSDI policy.
- Guided by **Land (Survey Measurement) Act** for **cadastral data acquisition and updating**.
- Guided by **Directives for Digital data distribution** for **data distribution**.
- No Licensing and Pricing Model



# Strategic Pathway 3

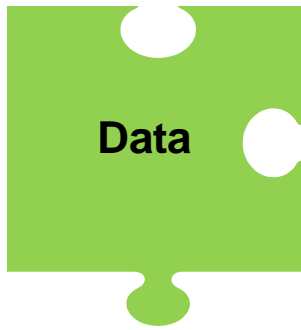


Financial

This strategic pathway establishes the **business model**, develops **financial partnerships**, and identifies the investment points for delivering integrated geospatial information management, as well as recognizing the benefits realization milestones that will achieve and maintain momentum.

- Government Funded
- Difficult to measure social and economic benefit: Unlike other infrastructures like road, electricity because impact of NSDI is realized in longer run.





# Strategic Pathway 4

This strategic pathway establishes a geospatial data framework and custodianship guidelines .

- Survey Department
  - ▷ National Topographic Database
  - ▷ List of Geographic Names
  - ▷ Ortho-photo Aerial Photo images
  - ▷ Geodetic Control Points (Horizontal, Vertical, Gravity)
  - ▷ Cadastral Maps
  - ▷ Land Resource Maps
- Department of Mines and Geology(DMG)
  - ▷ Geological Data



# Strategic Pathway 5



Innovatio  
n

This strategic pathway recognizes that technology and processes are continually **evolving**, creating enhanced opportunities for innovation and creativity that enable governments to quickly bridge the digital divide.

NSDI Clearinghouse

High resolution Digital Elevation Model (DEM) from Light Detection and Ranging (LiDAR) technology.  
CORS







# Strategic Pathway 6

The objective is to enable different information systems to communicate and exchange data, enable knowledge discovery and inferencing between systems.  
Interoperability

- De facto data format
- North American Profile of ISO 19115:2003 is being used as metadata format.
- Datum Issues



# Strategic Pathway 7

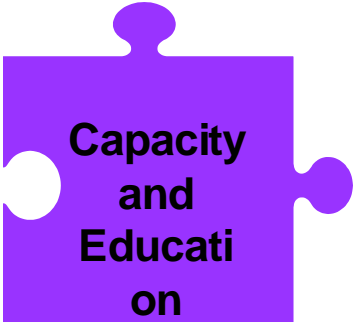
## Partnerships

This strategic pathway establishes effective cross-sector and **interdisciplinary** cooperation, industry **partnerships**, community **participation** and international **cooperation** as an important premise to developing a sustainable Integrated Geospatial Information Framework.

NSDI can't be developed in isolation.



# Strategic Pathway 8



Capacity  
and  
Education

The objective is to raise awareness and develop and strengthen the skills, instincts, abilities, processes and resources that organizations and communities require to utilize geospatial information for decision-making.

NSDI is in syllabus of undergraduate program (BE in Geomatics Engg. or equivalent) offered by Tribhuvan University, Kathmandu University and Purbanchal University.



# Strategic Pathway 9



## Communication and Engagement

The objective is to deliver effective and efficient **communication and engagement processes** to encourage greater input from **stakeholders** in order to achieve transparent decision-making processes when implementing a Geospatial Information Management Framework.

Survey Department is in continuous efforts to cooperate with all government institutions that produce and/or use spatial information.

Updates metadata information on relevant spatial information produced/managed/distributed by government institutions.

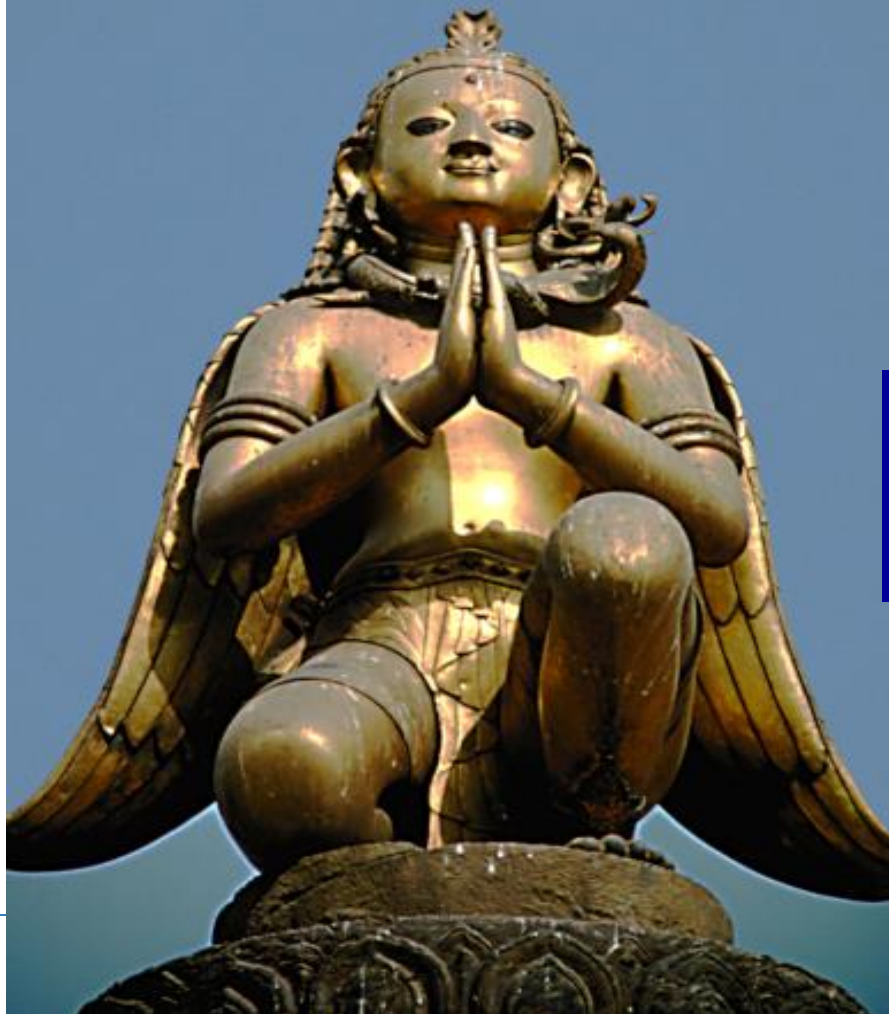
Socio-Economic Atlas, 2005 and 2015 were prepared in collaboration with Central Bureau of Statistics.



# Development Account Project

- The Development Account Project “Strengthening geospatial information management towards implementing the 2030 Agenda”
- Focusses on improving and strengthening national geospatial information management.





Thanks for listening

