



# Technical and Administrative Challenges in Collecting Geoinformation to Function as a Flexible Regional Geoinformation Base.

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# Data, Information and Geoinformation

- Lot of data is being collected by government and non government organisations day by day. Majority of these data to be transformed to information by processing, organising, indexing and structuring data spending considerable amount of money and resources.
- Only small percentage of information will get reflected as geo information by associating with a location relative to the Earth implicitly or explicitly.



# Associated Problems ? - Missing trail of Information

- Though lots of information are floating around us one of the major issue is that the existence of those information is hidden.
- Most of those information are only restricted to the institution collected information. It is common that even information is restricted to some section of the institution so that top level management of the institution is not aware.
- So first step is to **unearth the existence of geoinformation.**



# Associated Problems ? – Reluctance to Share

- A natural tendency to reluctance on sharing information.
  - Security issues.
  - Intellectual Property Right (IPR) Issues.
  - Value and consideration information as an asset.
  - Conservative mindset.
  - Monopoly.



# Home experience



- Having identified the volume of information floating without any trace a collaborative programme was launched to unearth information in a sustainable manner.
- A new program was emerged due to lack of a centralized platform for sharing spatial information.
- National Spatial Data Infrastructure (NSDI) was commenced after identifying importance of a centralized Spatial Data Infrastructure which makes the decision making process efficient with real time evidence.

# Sri Lanka National Spatial Data Infrastructure (NSDI)

- Work plan was to setup & develop NSDI system. This work Plan is conducted by Information and Communication Technology Agency (ICTA) with the collaboration of Survey Department of Sri Lanka. The Information and Communication Technology Agency of Sri Lanka (Private) Limited (ICTA) is a company owned by the Government of Sri Lanka. ICTA was established to develop the economy of Sri Lanka through information and communication technologies (ICT).
- ICTA in Sri Lanka is govern by committee represented by ministries of Telecommunication and Digital Infrastructure, Finance, Education, Justice, Public Law and Order, Investment Promotion, Policy Planning, Defence, Public Administration.

# Sri Lanka National Spatial Data Infrastructure (NSDI)

- Ministry of Lands & Parliamentary Reforms as main Stake holder for the National Spatial Data Infrastructure with following Key Stake Holders.
- - Survey Department.
  - Land Commissioner General 's Dept.
  - Register General 's Dept.
  - Ministry of Environment.
  - Ministry of Wildlife.
  - Ministry of Agriculture.
  - Ministry of Disaster Management.



# Activities under NSDI

	Item	Time Line
1	Survey Department of Sri Lanka has received a Cabinet approval to build the National Spatial Data Infrastructure (NSDI).	2013
2	Initialisation, formulating work groups, preparation of road map assisted by UNDP	2014
3	Discussions with participatory agencies to understand their needs and restrictions.	2014-2016
4	Conduct a baseline survey on NSDI	2016-2017
5	Requirement study of the NSDI	2016-2017
6	Development of National Spatial Data policy	2016-2017
7	Preparation & Migration	In progress
8	Legal background study	In progress
9	Phase 1 of Geoportal	In progress



# Associated Problems ?



- Non availability of indexing and catalogues. Indexing and cataloguing is very important to search and retrieve information efficiently. Hence comprehensive methodology and technology to be adopted.
- Standardization. As information are provided by various institutions with different standards, suitable methodology to be in place. A minimum set of standards to be defined and relationship and conversions to be well documented.



# Associated Problems ?



- As information collected by different institutions are associated with different qualitative aspect. Policy on Quality to be defined and each set of information should be defined by its quality.
- Non availability of Meta data. Background of each information set is to be documented and published. This is also to be indexed for easy searching.



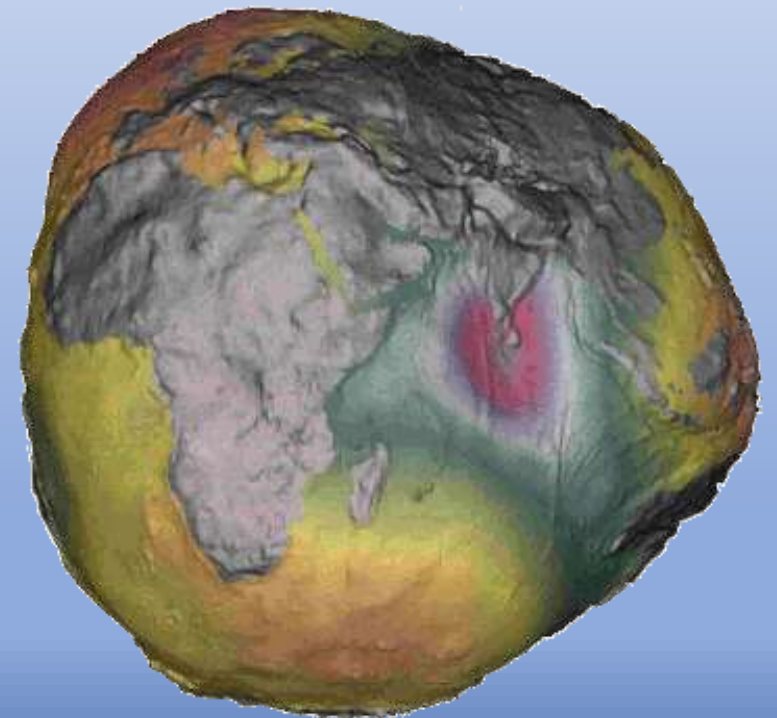
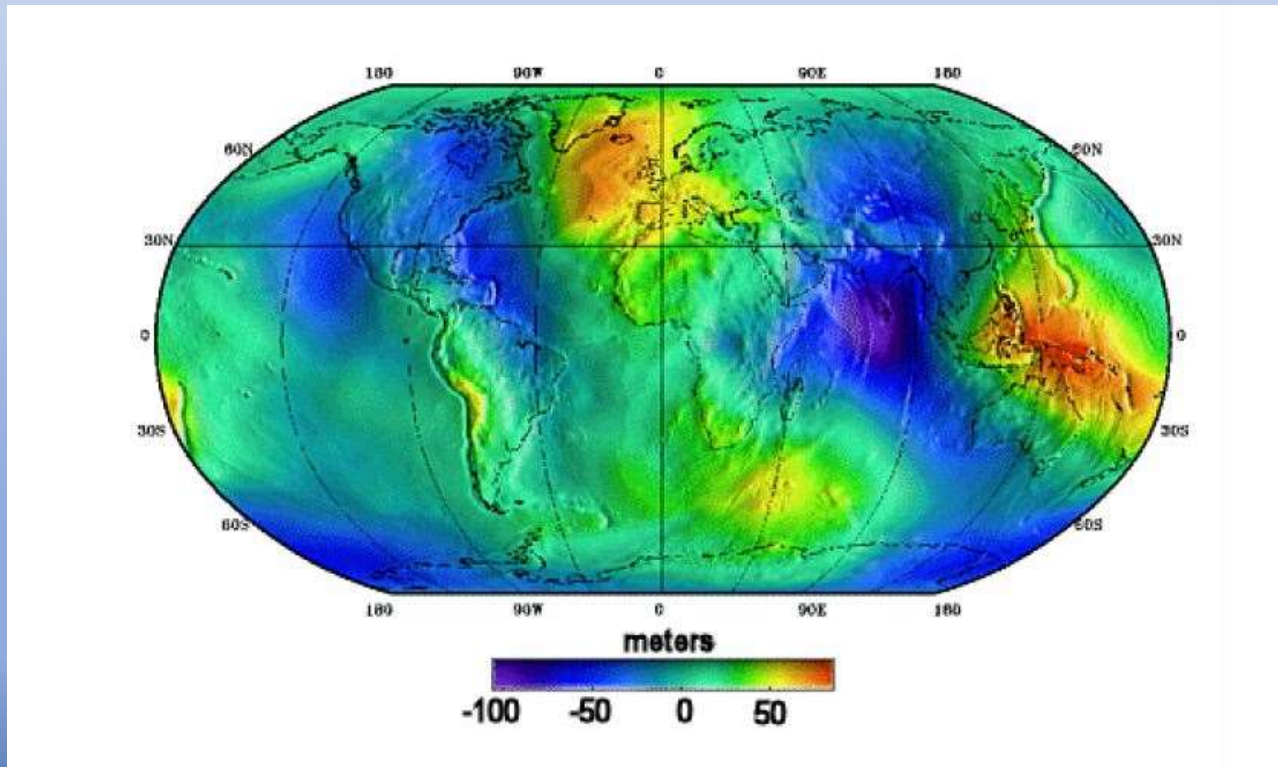
# Associated Problems ?



- Undefined mathematical system for geoinformation. As geoinformations are necessarily tied to their correct location on the surface on the Earth, the mathematical model to represent earth or the datum and the type of location parameters known as map projection to be defined technically.
- The transformation parameters to convert local parameters to widely used global systems to be defined. If not it is impossible to compare different sets of information as their locations are not matching.

# Geodetic Undulation- A regional Problem?

- Color Coded to Show Deflection from WGS84  
(Negative value indicates Geoid is below WGS84)



# Conclusion

- In order to establish a flexible regional geoinformation base, it is important to establish all local or country specific geoinformation to standards.
- This is an essential requirement for the smooth error free and efficient functioning of a regional geoinformation base.



Challenges in Collecting Geoinformation to Function as a Flexible Regional Geoinformation Base is not difficult task as this.







# Recommended Procedure



- **Conduct a baseline Survey**

Comprehensive baseline study to assess the present situation of collection, storing and usage of National Spatial data , across the organizations and overall readiness of the staff and organizations to adopt and effective use of the system.

# Recommended Procedure



- **Requirement Study**

- a) Study the requirements such as Meta data Portal, National Map Portal, data exchanging format etc.
- b) Prepare a detail system requirement specification.
- c) Prepare an information & service classification.
- d) Develop a system prototype.

# Recommended Procedure



- **Development of National Spatial Data policy, Processes, Governance Model & Roles and Responsibilities to develop**

- a) National Spatial Data policy & Guidelines.
- b) Standards to be followed.
- c) Functionality & Processes.
- d) Governance Model.
- e) Roles & Responsibilities of the Governance Model.

# Recommended Procedure



- **Preparation & Migration of existing data**

Digitization of paper based information & integration of textual records.

- **Legal background study**

Legal background study for assessing legal amendments and new regulatory requirements.

# Recommended Procedure



- **Establishment of Geo Portal**

Establishment of the spatial data content management system which handles import data, upload data, export data, search and query, view, analyse, publish and printing data.