



# Lao PDR National Spatial Data Infrastructure (NSDI)

@ K Geo Festa, November 2024,  
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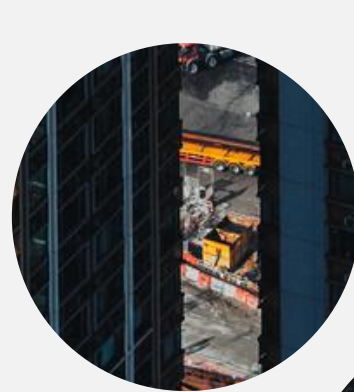
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# I. Introduction

Area: 236800 sq.Km

Population: 7,443,000

Geography: Mountainous, Landlock Country,

Administrative Divisions: 18 Provinces, 148 Districts

Neighboring Countries: Vietnam, Thailand,

Cambodia, China, Myanmar.

Main income sources: Agriculture, Hydropower,  
services, etc.

# I. Introduction



- National Geographic Department (NGD) under Ministry of the Home Affairs (MoHA) is considered the highest survey and mapping authority in Lao PDR.
- National Geographic Department (NGD) is one of the departments of the government administration engine, under the organizational system of the Ministry of Home Affairs, **plays a role as in the management and inspection of activities of surveying, mapping and spatial data nationwide.**

# I. Introduction



\*GIS Committee established in 2003 with the aim of bringing together public sector organizations that create and use spatial data to discussion, exchange of lessons and geospatial information of each sector, by holding meetings twice a year.

\*The topics discussed are the creation of national geospatial information, starting from the creation of data standards, metadata and data exchange policy,

\*In 2011, there was an improvement in the organizational structure, the members of the committee were replaced as well as the lack of budget in the activity pulled back the operation of the committee therefore, the outcome not much progress as it should.





# I. Introduction

- 2011, NGD personnel attended the first High level forum on UN-GGIM in Seoul, Korea
- In 2013 by the support program from Finnish Government, GIS committee was re-established,
- Continued to perform the roles and responsibilities as previously defined and established a sub-technical committee for data standards, metadata and data exchange policy,



# I. Introduction

- \* In 2015 NSDI has been introduced by the support program from Finnish Government,
- \* In 2021, the Law on Surveying and Mapping was officially promulgated, which in Part VI (3 Chapters, 14 Articles) stated about National Spatial Data,
- \* 2022, NDG personnel participated in the seminar organized by ADB and LX,

# I. Introduction



- Jan to March 2023 NGD personnel participated in a training organized by KHIHS,
- Jan to March 2023, finished rough outline of NSDI Master Plan,
- Although Lao PDR does not have NSDI established, there have been several mainly technically oriented attempts to establish co-operative geoportals offering different organizations the platform to display our data and information about it.

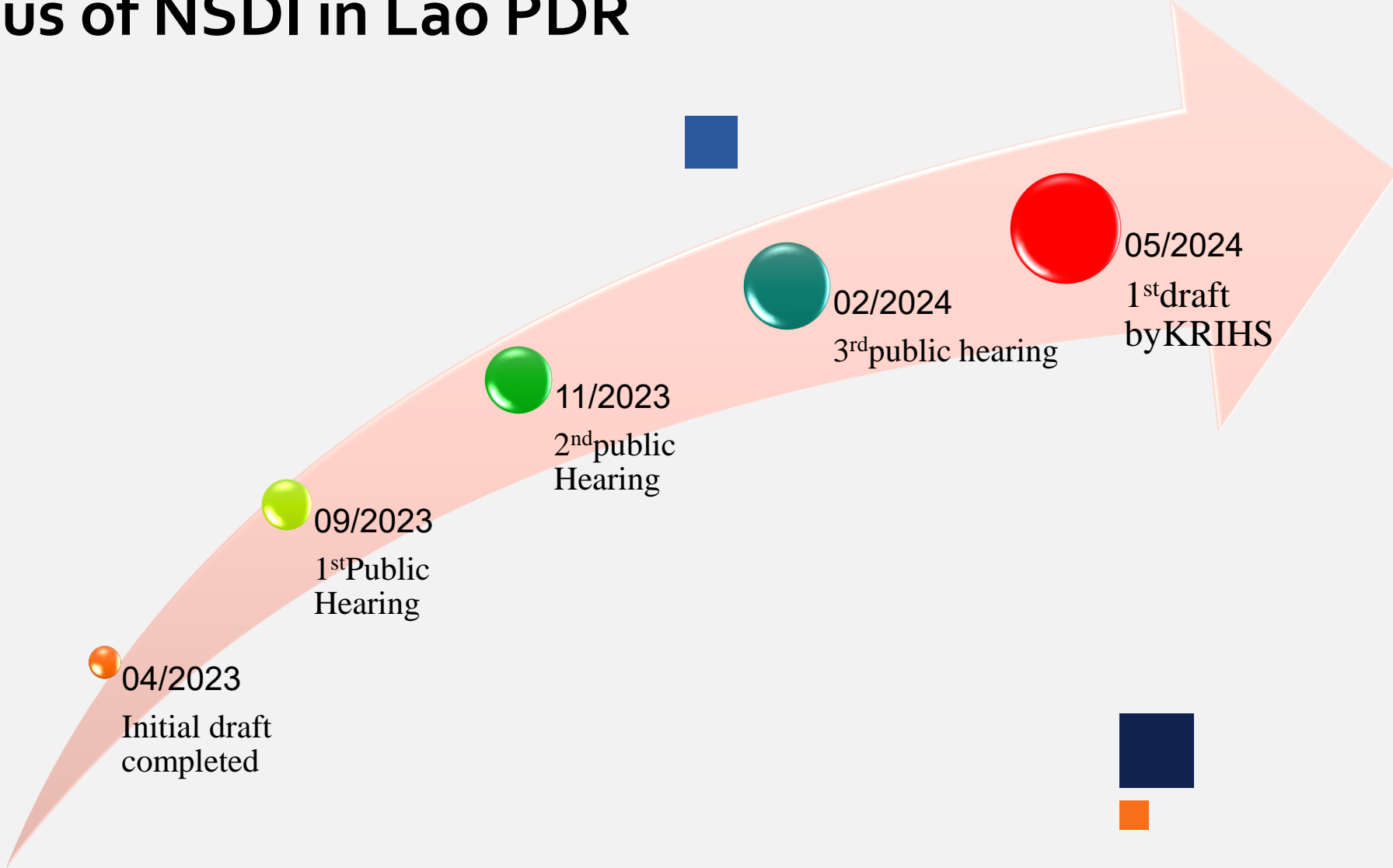


The background features a blurred image of a road stretching into the distance under a sunset sky. A large white circular graphic is overlaid on the center, containing text and three colored dots (orange, light blue, and dark blue) on its perimeter.

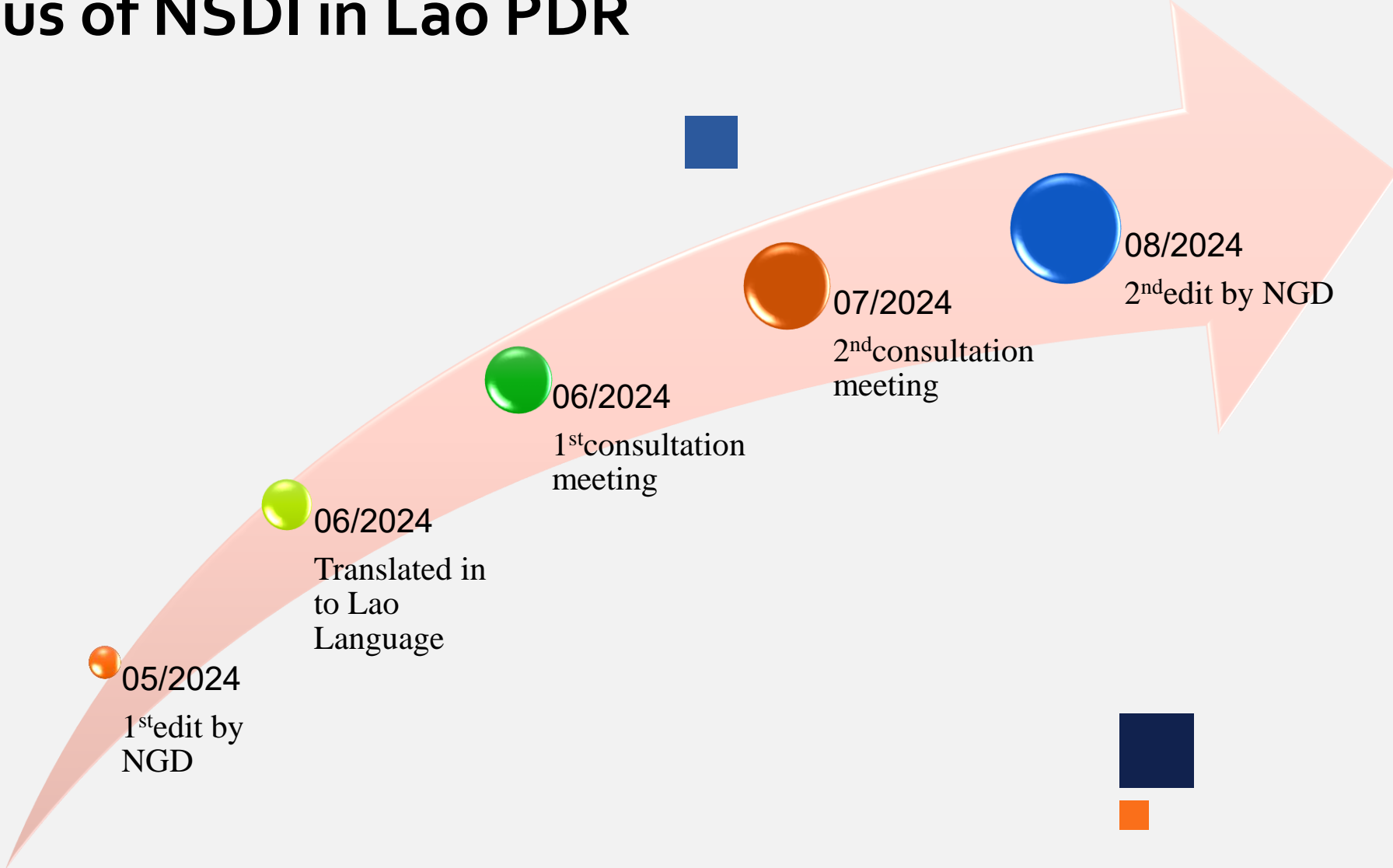
## II. Status of NSDI in Lao PDR

# NSDI Strategic Plan 2025-2035 And Vision 2045

# II. Status of NSDI in Lao PDR



# II. Status of NSDI in Lao PDR





## Vision and Goals

Vision : To promote the use of the National Geospatial Data as a tool to monitor and manage natural resources, support in decisions making and for national social economic development planning and implementation in each period.

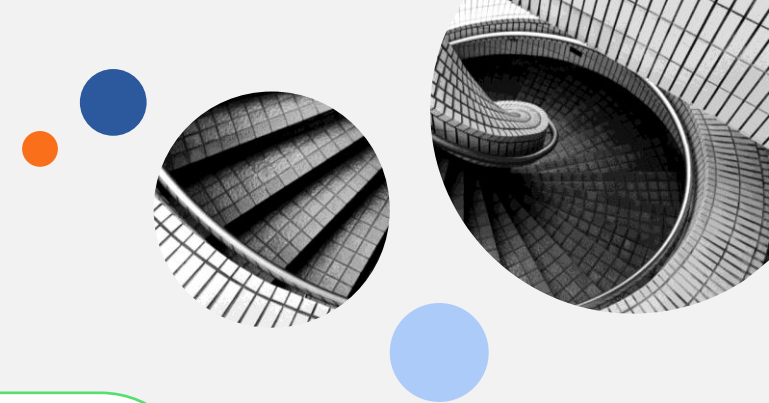
Goal: To construct NSDI in Lao PDR;

# Goals

- Promote the utilization of geospatial resources to improve insight and decision making
- Ensure that geospatial data are current, accurate, open, standard based, findable, accessible, interoperable and reusable.

**Construction  
of National  
Spatial Data**

# Goals



## Partnerships

- To leverage resources, expertise and investment through partnerships
- Foster an open, inclusive, and a collaborative culture across sectors



# Goals

## Establish- ment of Spatial Application System

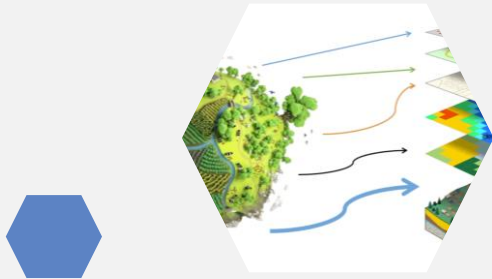
- Build trust by safeguarding privacy, confidentiality, and intellectual property and by ensuring ethical practices.

# Goals

- Encourage innovation and environment of learning

Human  
Resources  
Development

# Goals and tasks



## Creation of NSDI

- ✓ Framework data
- ✓ Standard
- ✓ Metadata



## Partnership

- ✓ Reshuffling GIS Committee.
- ✓ Seminar/Forum
- ✓ Enactment of law



## Application System

- ✓ Data sharing platform
- ✓ LMIS
- ✓ UPIS



## Human Resources Development

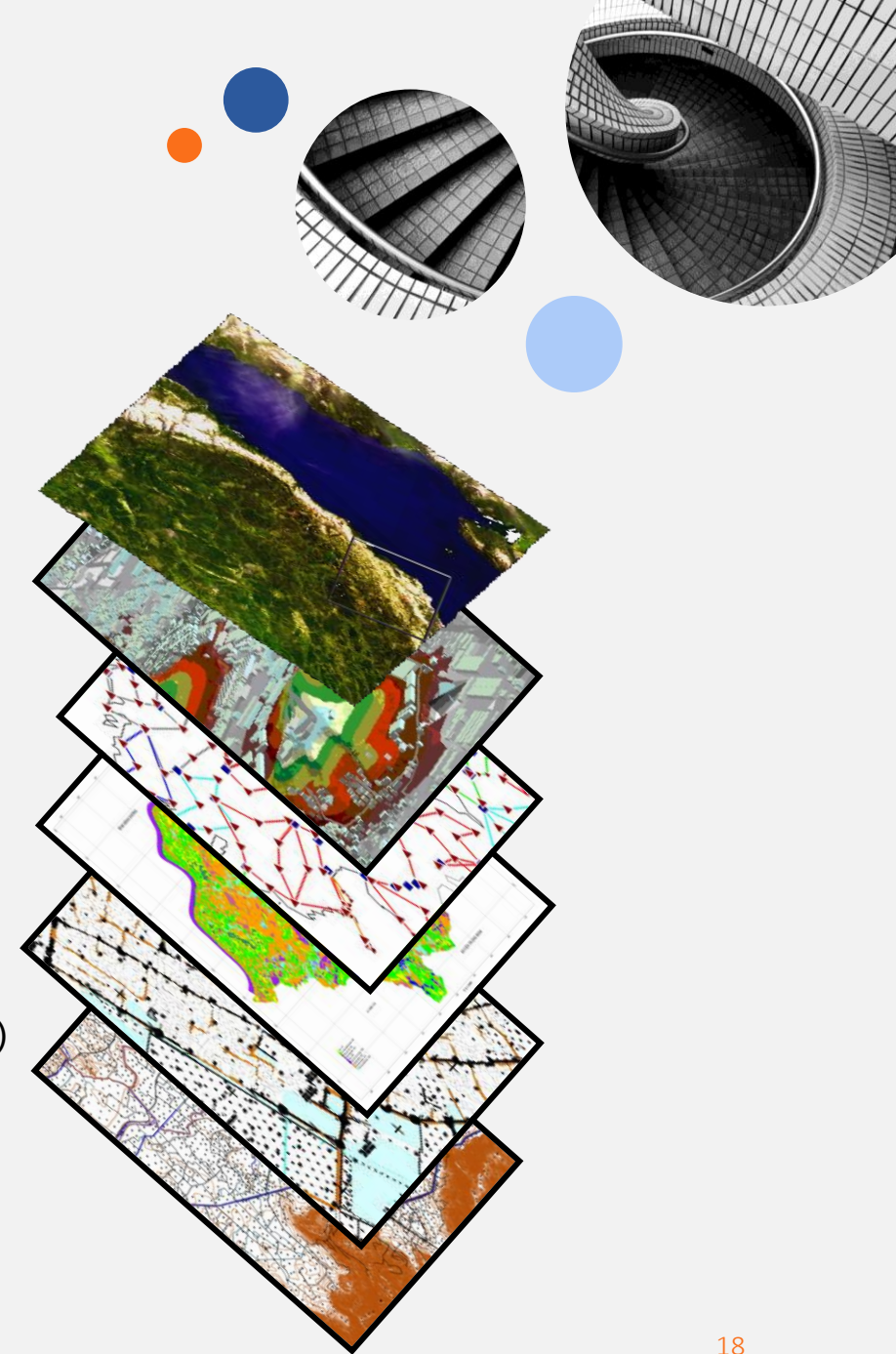
- ✓ Capacity building
- ✓ Educational



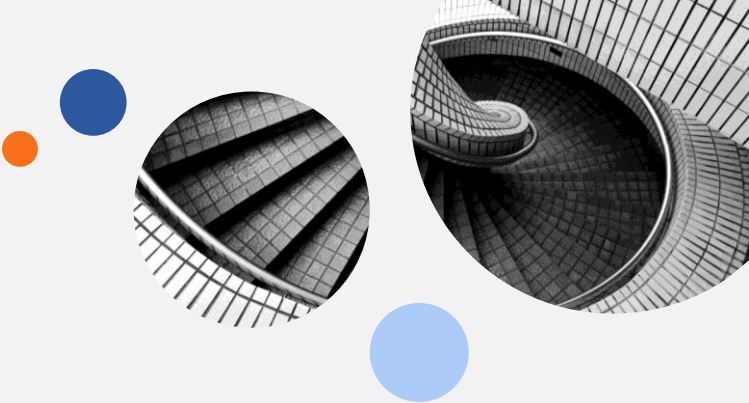
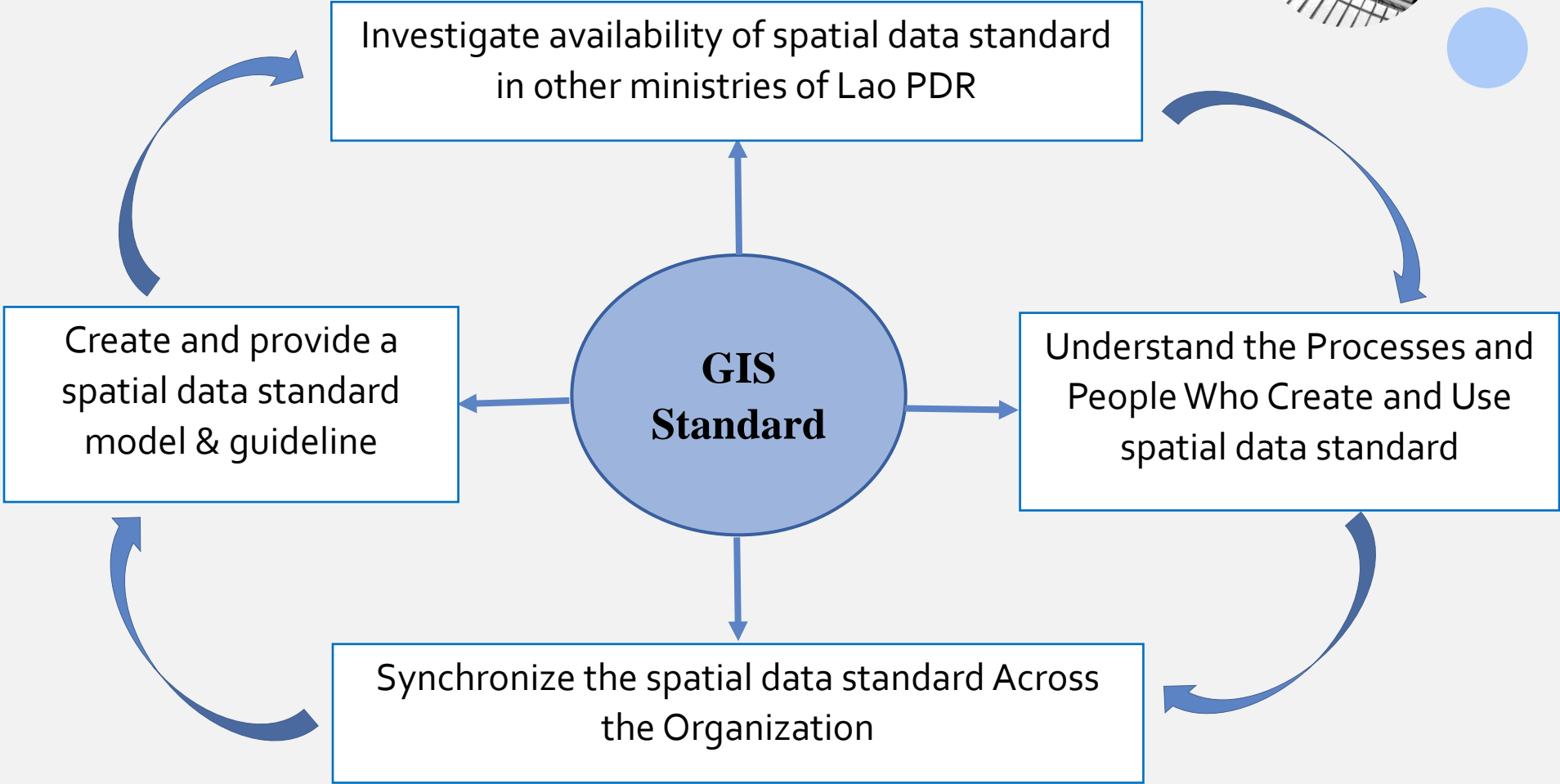
# 1. Construction of National Spatial Data

## 1.1 Framework Data

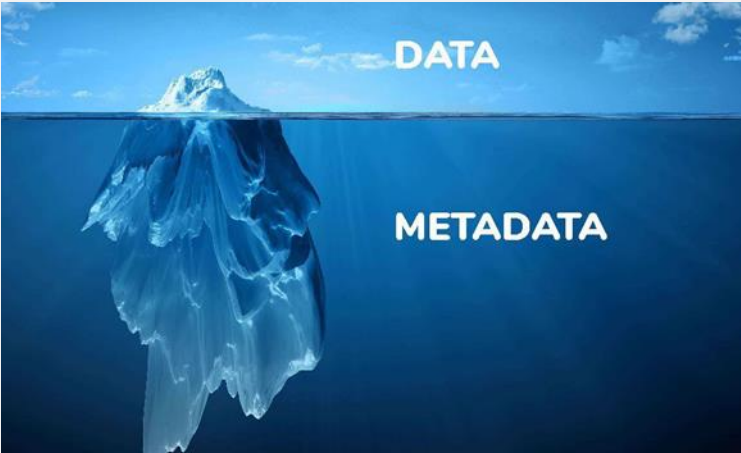
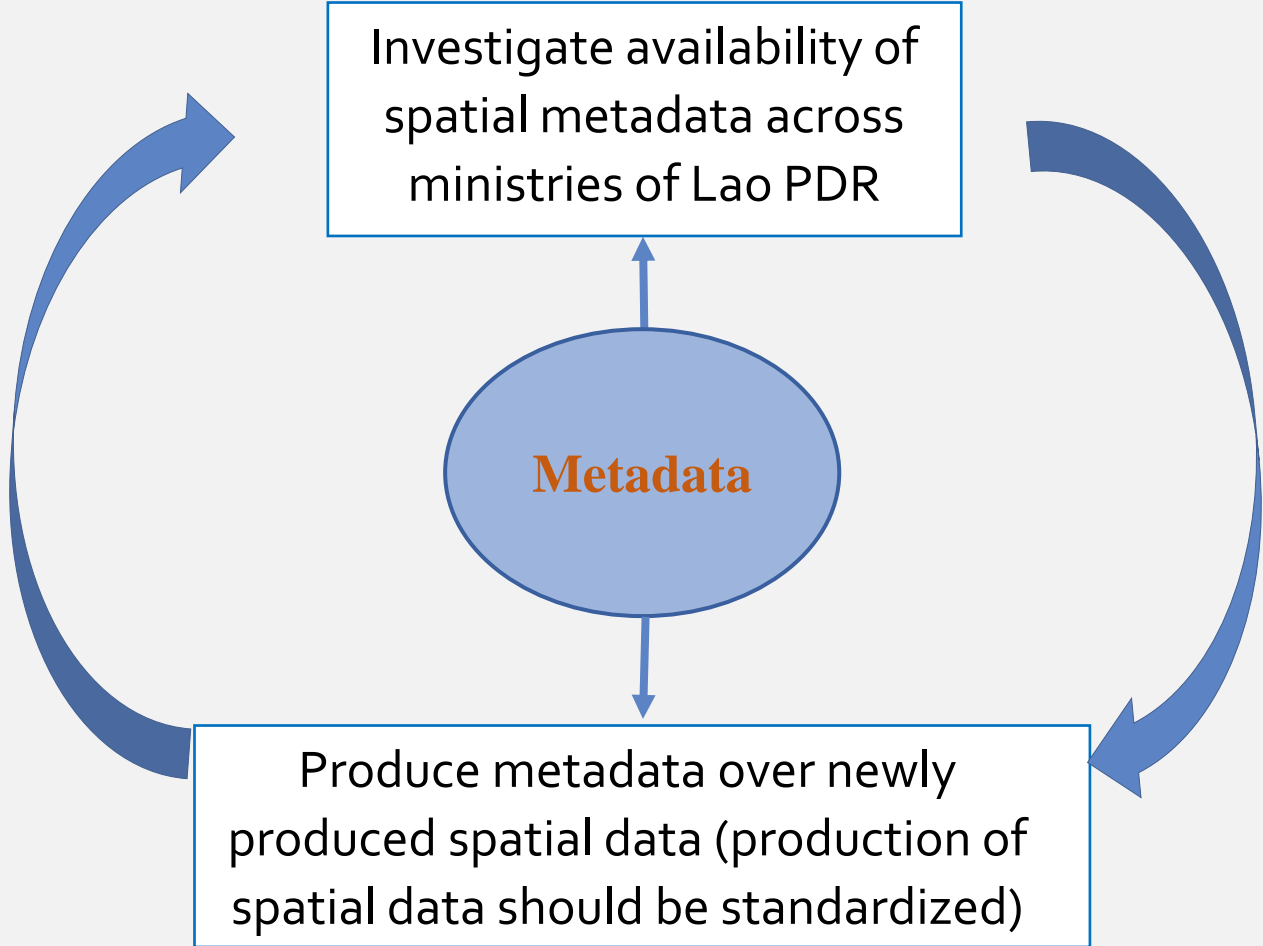
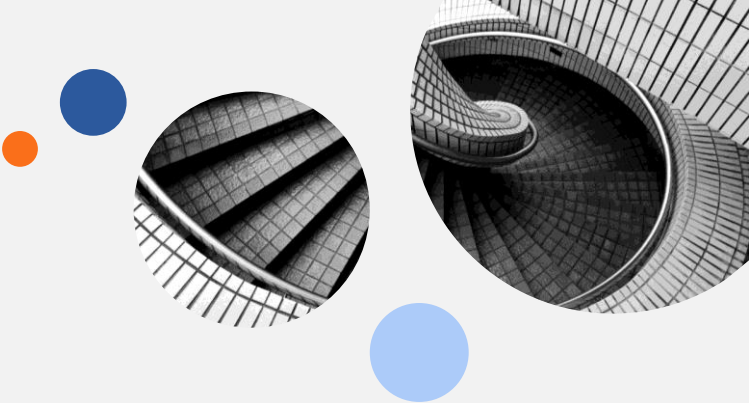
1. Geodetic Control Point
2. Elevation
3. Aerial Orthophoto/Satellite Imagery
4. Cadastral data
5. Road Centerline
6. Road Boundary
7. Rail Road Centerline
8. River Centerline
9. River Boundary
10. Lake, Reservoir Boundary
11. Canal Centerline
12. Boundaries (Administrative, Statistic, Protection Area, Military Zone)
13. Point Of Interest
14. Building
15. Address



# 1.2 Standard



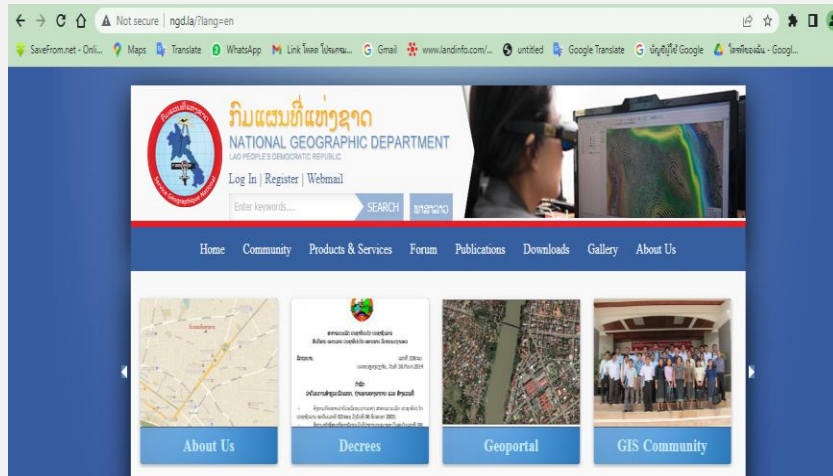
# 1.3 Metadata



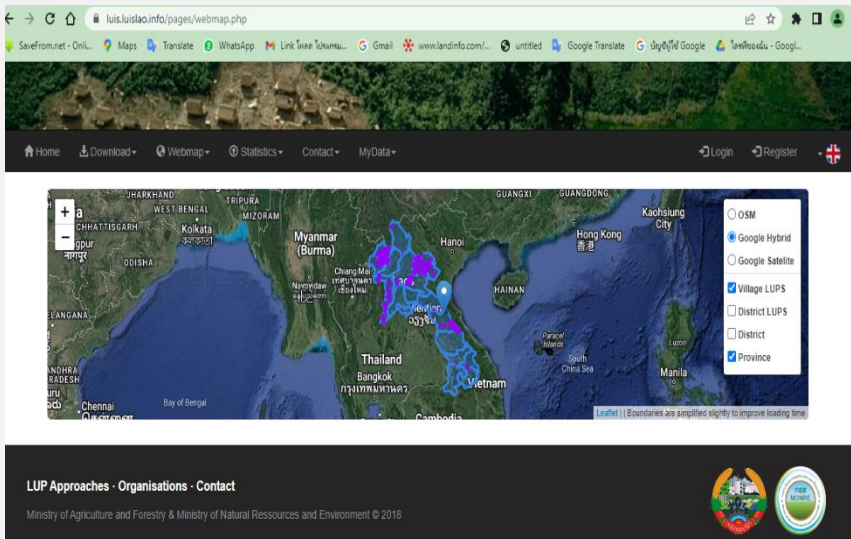


# 2. Establishment of Spatial Application System

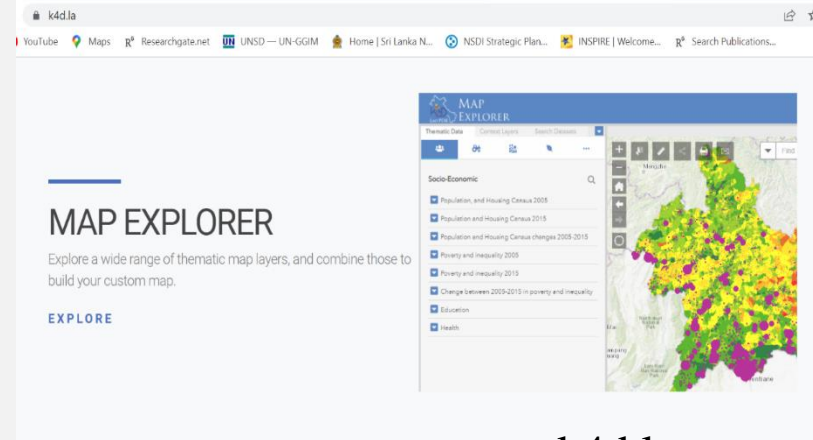
## 2.1 Data Sharing (Portal/Platform)



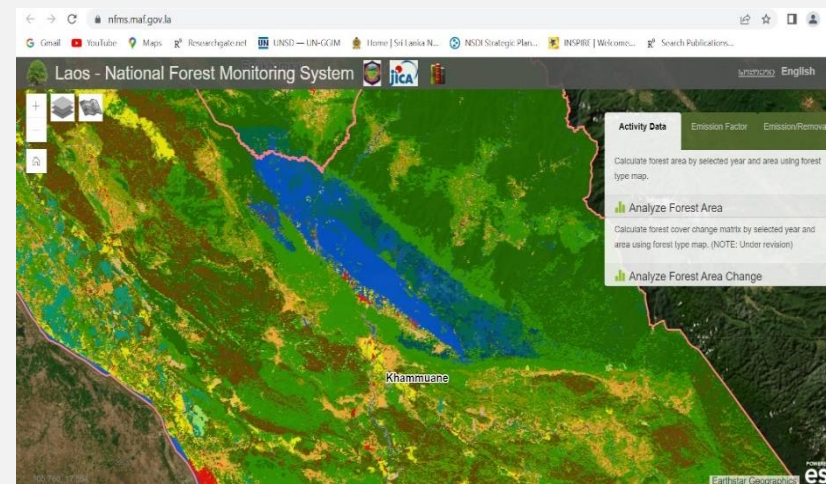
[www.ngd.la](http://www.ngd.la)



<https://luis.luislao.info>



[www.k4d.la](http://www.k4d.la)

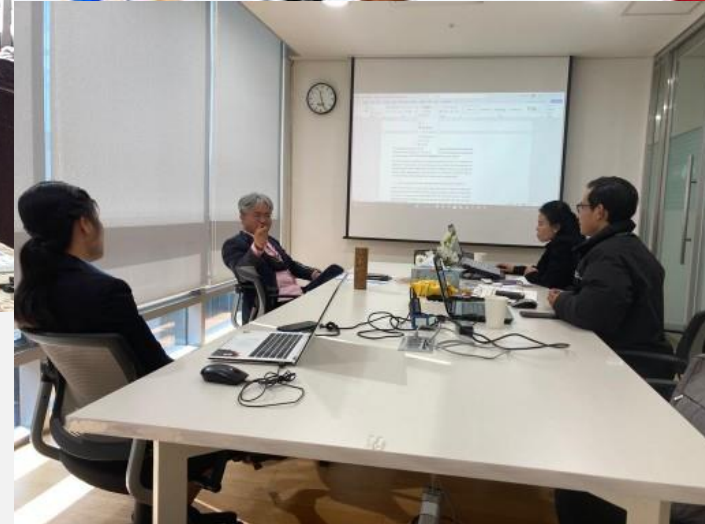
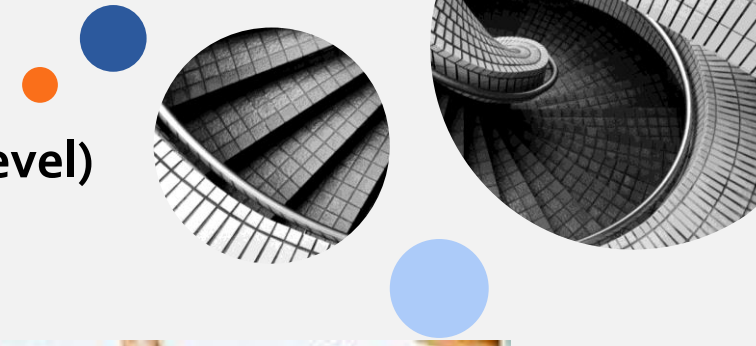


<https://nfms.maf.gov.la/>



# 3. Human Resources Development

## 3.1 Capacity Building for government official (Central and Local level)





### 3.2 Education Program (GIS) in higher education (Polytechnic/University)

- Improve the quality for geospatial courses at colleges and universities via creation of specific courses for the use of GIS
- Short & mid-term academic exchange programs
- Internship program

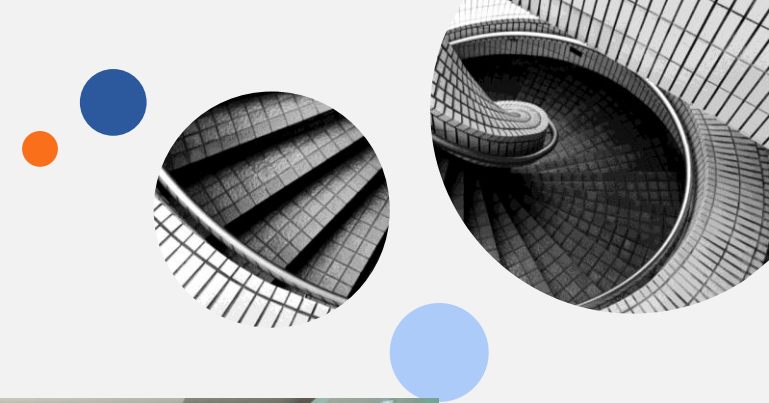


## 4. Partnership

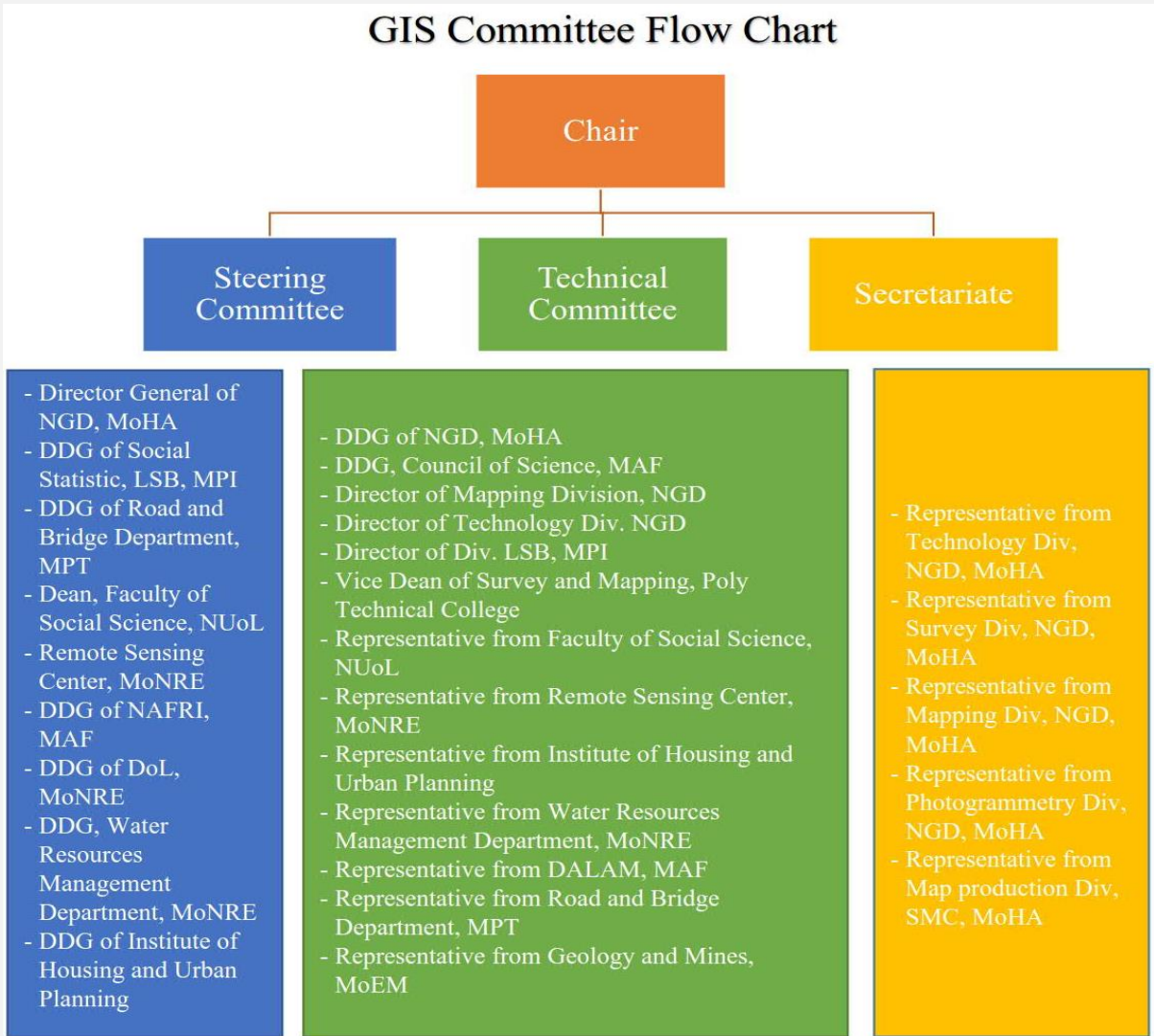




# 4.1 NSDI Committee (may 2024)

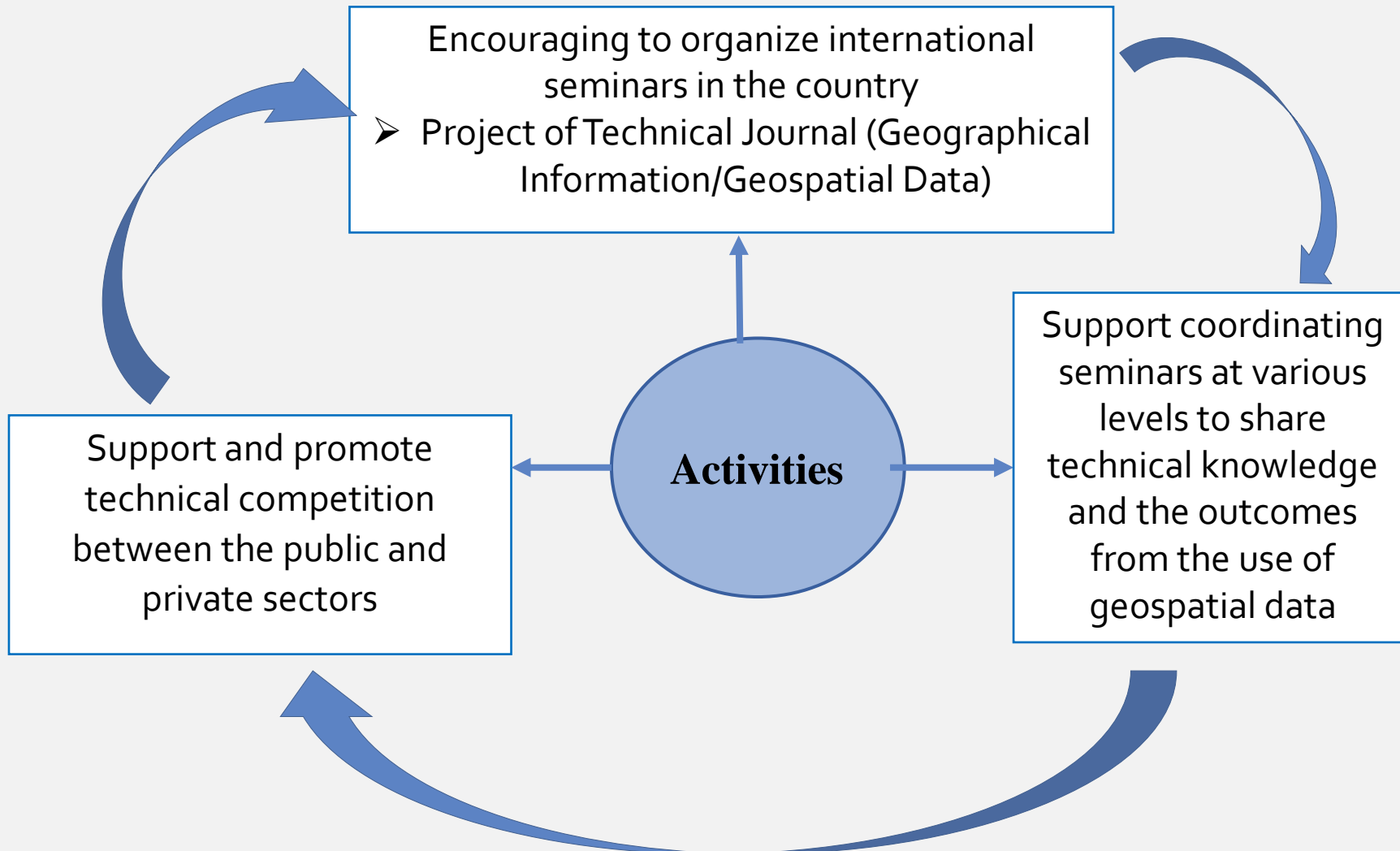


GIS Committee Flow Chart



Je ADB with appropriate permission.

## 4.2 Seminar/Forum for NSDI



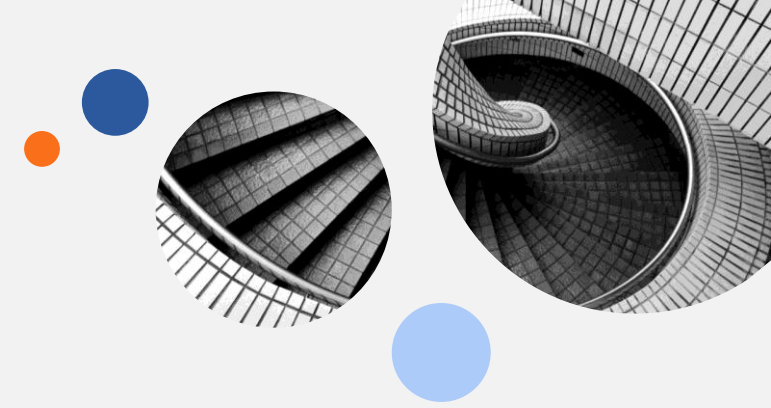
## 4.3 Enactment of NSDI Law

- Setting up a committee to draft the law on NSDI
- Start drafting Law on NSDI in Lao PDR
- First Draft of the law on NSDI in Lao PDR





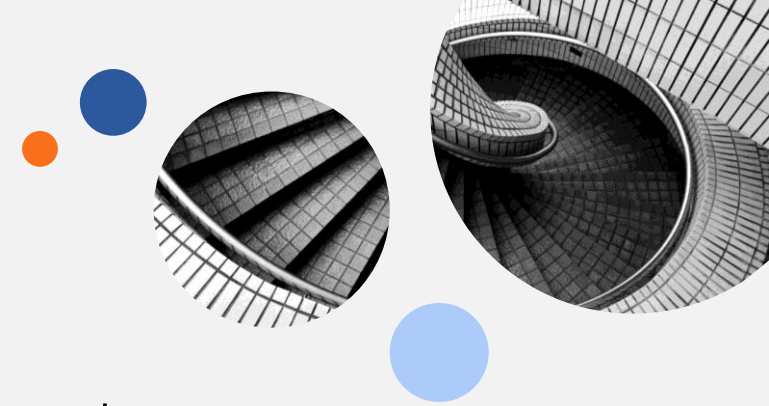
# III. Challenges



- 1) Spatial Data: limitation of up-to-date data, Scattered data;
- 2) ICT: Limited ICT Infrastructure, Geoportal Functionality;
- 3) Institution: Lack of continuous cooperation, overlapping roles;
- 4) Resources: Dependency on external support, insufficient human resources.



# IV. Future Plan



- In order for the draft NSDI strategy to be officially approved and promulgated, the responsible committee must present the draft to the relevant parties within the ministry before presenting it to the Minister and proposing the draft for consideration at the government meeting in November 2024.
- After officially approved and promulgated, the dissemination of NSDI strategy will be conducted to inform relevant parties both central and local for information and as a basis for planning and implementing NSDI work in the future.
- NSDI committee will be fully functioned.

# Conclusion

NSDI in Lao PDR is still in initial stage, assistances and support still needed for the country to make NSDI realistic and fully use in the country.



# Thank you 감사합니다.

