Integration in Spatial Planning

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Opportunities for Integrated Spatial Planning

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What is Spatial Planning?

- Spatial plans are plans for land management, showing areas allocated for all sector uses, including industry, agriculture, forestry, conservation and residential uses etc

- Spatial plans allocate land considering
  - Existing land uses
  - Land suitability and feasibility (bio-physical and socio-demographic environment)
  - The need for conservation and preservation of ecosystem services
  - The present and future needs of the area's population and administration
  - National, provincial, district strategies and plans
  - Sector strategies and plans

Spatial planning and sector integration

- Spatial plans are land use plans and more
  - Spatial plans incorporate sector plans forecasting demand and land required to develop corresponding sector assets
  - Each sector agency is required participate and provide spatial data and sector plans, which take into account land use feasibility, suitability and risk mapping analyses
  - Spatial data → sector suitability mapping → sector plan
  - Spatial plans therefore bring together a variety of points of view and integrate competing land use needs into one vision, which is then used to guide land allocations and the location of new developments

Best land for proposed use

Agriculture

Biophysical factors affecting suitability for agriculture	*Socio-demographic factors affecting suitability and feasibility for agriculture*	*Areas not suitable for agriculture*
•Elevation •Slope •Soil •Rainfall •Hydrology •Temperature •Humidity •Land cover •Seasons	•Population centers (avoid negative social impact) •Population centers (close to labour and market) •Employment rate •Poverty rate •Transport (accessibility) •Processing facilities •Storage facilities	•Restricted areas •Conservation areas •Erosion prone areas •Drought prone areas •Soil degradation prone areas •Rivers and water bodies •Water supply/extraction sites •Natural areas and wildlife habitats •Densely populated areas

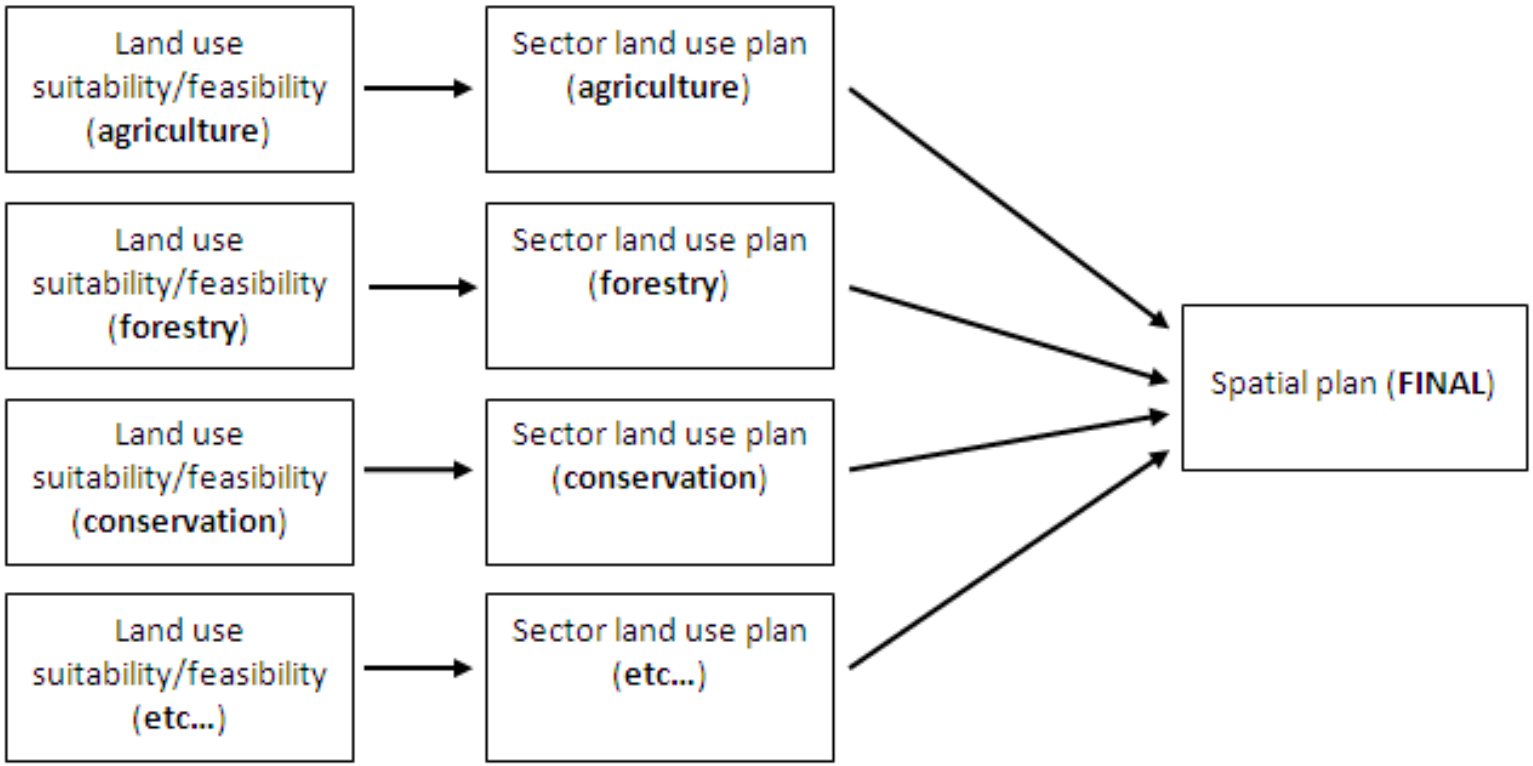
Sustainable development

Conservation

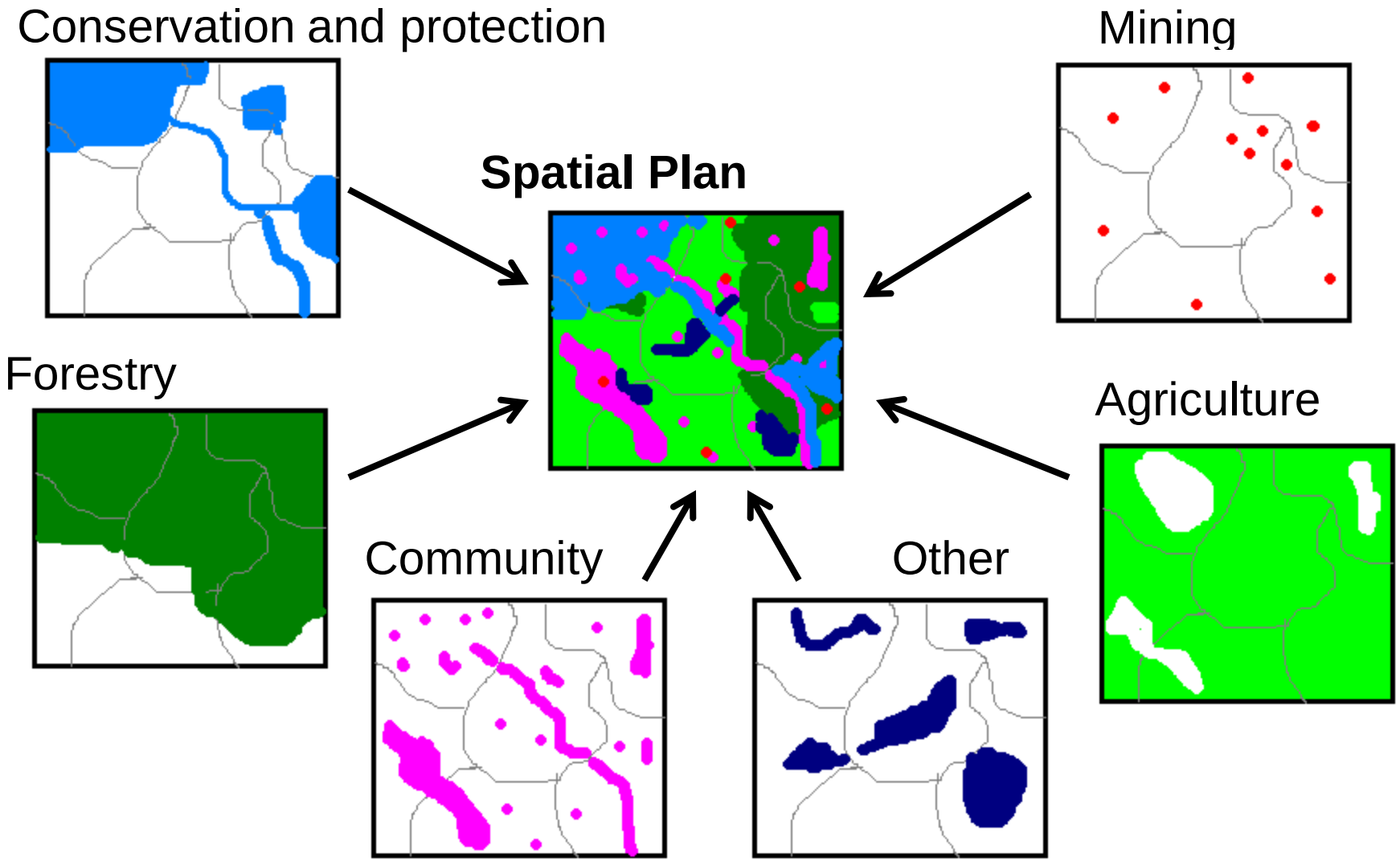
Biophysical factors affecting suitability for conservation		*Socio-demographic factors affecting suitability and feasibility for conservation*
•Protected areas •Nature reserves, national parks and wild life sanctuaries •Areas with high biodiversity, endangered or vulnerable species •Watershed / catchment areas & wetlands	•Erosion high risk areas •Landslide and avalanche high risk areas •Land subsidence high risk areas •Flood high risk areas •Earthquake high risk areas •Volcanic activity high risk area •Soil degradation at risk areas •Vulnerable coastal zones •Ecosystem services	•Cultural or heritage areas •Anthropological reserves •Community forests •Spirit forests
		Areas not suitable for conservation
		•Already owned land?

Creating sector plans

- Sector suitability maps → sector plans
- Sector plans considering land use patterns, community input and sectoral strategies and goals



Creating a spatial plan

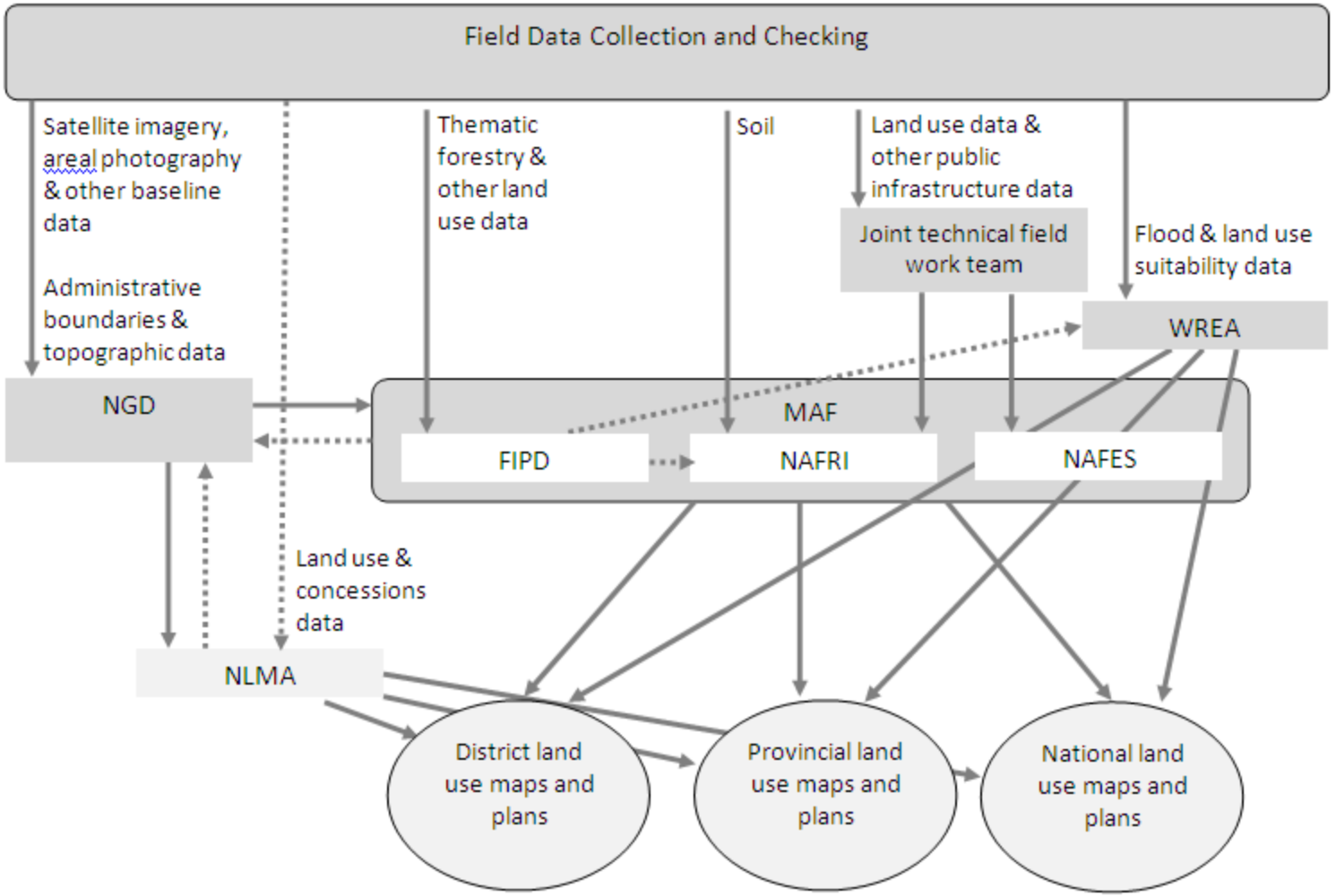


Organizational integration

- Clearly defined roles and responsibilities for each agency involved in spatial planning
  - Including sector agencies and line agencies
- Ongoing communication
- Data and knowledge sharing
- Skills transfer

- A lead land planning agency to oversee the spatial planning process, including organisational integration
- Supported by a land planning committee comprised of representatives from all key sectors

Organizational integration in Lao PDR



Facilitating organisational integration

- A **National Steering Committee on Spatial Planning** to assist NLMA in managing spatial planning and by supporting coordination between the key by:
  - Meeting regularly and thereby facilitating **ongoing communication** and cooperation between all sectors.
  - Overseeing processes of data collection, management and exchange of spatial planning resources between all sectors and line agencies, thereby helping to ensure that duplication of work does not occur.
  - **Developing and circulating procedural guidelines and standards** regarding all aspects of the spatial planning process
  - Developing and circulating policy on the use of spatial planning resources.
  - Ensuring that final spatial plans are in accordance with sector strategies before final review by NLMA

A strategy for spatial planning

- Build upon the work previously done by NAFES, DoF, NAFRI and NLMA in the Participatory Land Use Planning and Land-Forest Allocation Manual
- Clarify the roles and responsibilities of all agencies involved in spatial planning (not only NLMA and MAF), draw on ISP from WREA and SEM II project
- Outline a plan for organizational, procedural and data integration

Other Agencies

- Department of Statistics (DOS)
- **Ministry of Planning and Investment (MPI)**
- **Ministry of Transportation and Public Works** – communication and transport land
- **Ministry of Industry and Handicraft – industrial land**
- Ministry if Energy and Mines (MEM)
- Ministry of Education
- Ministry of Health
- Lao National Tourism Authority
- **Ministry of Defense and Ministry of Public Security**
- **Ministry of Information and Culture – cultural land**

Procedural Integration

- Common set of procedures and understandings
- Common understanding of spatial planning terminology, concepts, goals and strategies.
- Procedural integration also comprises integration through management procedures for the entire spatial planning process,
- Defined roles and responsibilities for all parties in the spatial planning process
- All stakeholders to use the same procedures for each stage of the spatial planning process, for example data collection, management, classification, analysis, land use mapping and zoning, participatory planning and land allocation.

Procedural Integration in Lao PDR

Year and Agency	Project / program
1989 MAF	Shifting Cultivation Stabilisation Program
1993 MAF	Village Land Use Planning and Land Allocation Program
1995-1996 MAF	Rural Development Program
1996-2001 MAF	Lao Swedish Forestry Programme Phase 4
2001-2007 MAF – NAFES	Laos Extension for Agriculture Project (LEAP)
2001-2010 WREA	**Strengthening Environment Management (SEM) project**
2002-2005 MAF-NAFRI	Lao-Swedish Upland Agriculture and Forestry Research Program
2003-200X MAF	Integrated Sustainable Forestry and Rural Development Project
2004-2009 MAF – NAFES	**Forest Management and Community Support Project**
2004-2011 MAF	**Lao-German Programme on Integrated Rural development in mountainous areas of northern Lao PDR (RDMA)**
2008 NLMA	Addressing Environmental and Social Impacts of Agricultural Development Project
2009-2016 MAF	Sustainable Natural Resource Management and Productivity Enhancement Project

Procedural Guidelines

- Participatory Land Use Planning and Land-Forest Allocation
  - Data collection, including data checking and ground truthing
  - Data digitization (hard copy map to GIS)
  - Cross-sectoral involvement in spatial planning
  - Community involvement in spatial planning
- Map design standards
  - Cartography and symbolization, including classification
- Data release and access (including licensing and pricing)
  - Spatial data exchange, especially between government agencies
  - Sale to the non-government agencies, the community and private sector
  - Tracking data flows and modifications
- Data storage and archiving
- Data disaster recovery and backup, security and protection

Data integration in Lao PDR

- Little formal data exchanges
- Different GIS Software (ArcGIS, MapInfo, SuperMap, OpenSource and in house applications)
  - Different skills and training required, staff transfer
- Different file formats
  - Time spent converting, loss of metadata
- Different projections, despite NGD Lao National Datum of 1997
  - Maps displayed inaccurately, analysis problems, data corruption
- No metadata
  - Information on the content, quality, condition, origin, and other characteristics of data, including ownership
  - Confusion regarding which is the most recent or legitimate dataset
- Little coordination of land use zoning and classification systems
  - Problems with interpretation , comparisons and decision making

Spatial Data Infrastructure Standards

- Develop and circulate national spatial data infrastructure and management standards on:
  - GIS software and Database Management Systems
  - File Formats
  - Data storage and file Organization
  - File Naming
  - Projections and Datum
  - Metadata
  - Attribute Data
  - Quality (scale and resolution, accuracy, completeness etc)

- Use a central geodatabase (NGD)
  - Easier to control data updates, ownership, data exchanges

Spatial planning related policy

- Develop and circulate policy or mandates on:
  - **Strategy on Spatial Planning**
  - National spatial data standards
  - National land use planning standards
  - ISP resource coordination and data exchange between government sectors and line agencies
  - Privacy and spatial data
  - Spatial data as a public good and data access/release
  - **The use of spatial plans in the investments management process**
  - **The use of spatial plans in Social and Environmental Impact Assessments**

- Develop and circulate manuals for interpreting spatial plans, particularly for use in the investments management process

Thank you

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