Integrated Spatial Planning for Sustainable Development

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Integrated Spatial Planning
Module 1

- Introduction to Integrated Spatial Planning
- Integrated Spatial Planning in Denmark: Planning process, application and results
- Planning steps and techniques
- Conclusion
Introducing Integrated Spatial Planning
Objectives

- Protection of natural and cultural assets
- Urban Zoning
- Zoning for industries
- Designating areas for agriculture
- Planning of infrastructure
- Proper utilization of public funds
Principles

- A Regulatory and Transparent Tool
- Sets the framework for the desired development
- Prevents undesired development
Why do we need integrated spatial planning?

- Because we only have one area
- Because we have limited resources
- We need to find room for many different activities and
- We need to find the best long term solutions that utilize the potentials, protect the environment and prevents conflicts
Spatial Planning in Denmark
Objectives of Integrated Spatial Planning in Denmark

- Ensure sustainable development at National, Provincial and Local level
- Create and conserve valuable urban environments, nature and landscape
- Ensure that the coastal areas continue to be an important nature and landscape resource
- Prevent pollution of air, water and soil
- Prevent noise pollution
- Ensure high level of public involvement in the planning process
## Content of a Danish Integrated Spatial Plan

- Urban development zones
- Industrial zones
- Large technical facilities and public institutions
- Infrastructure projects requiring EIA
- Urban network and hierarchy
- Valuable agricultural land
- Reforestation areas
- Protected areas and cultural heritage

- Wetlands
- Areas for extraction of raw materials and minerals
- Drinking water resources
- Classification of surface water bodies with designation of usage and quality targets
- Areas and facilities for recreation and sport
- Wastewater collection and treatment plans
The Planning Issues

- For each of the planning issues the Plan lays out the current situation and assesses the trends.
- The Plan lays out targets and a strategy to reach the targets.
- In doing so the Plan balances and integrates the interests and potentials of all concerned issues.
- The Plan spells out regulations and/or incentives to ensure that the objectives and targets are reached; and that "unwanted" impacts are prevented.
What is the Plan Used For?

- The Plan is an important instrument for public and private investments.
- The Plan is also an important basis for cross-sector prioritization of investments.
- The Plan is a regulatory instrument used in the day to day administration at National, Provincial and Local level.
The Danish Planning Act

- The whole country and the individual provinces and municipalities develop appropriately, based on overall planning and economic considerations
- Valuable buildings, settlements, urban environments and landscapes are created and conserved
- Valuable areas are protected against pollution
- The resources are developed respecting sustainable environment
The Danish planning system is based on:

- The principle of **framework control**
- Each plan on lower level must not contradict planning decisions on higher level

The system has 4 levels:
1. National Plan
2. Regional Plan
3. Municipal Plan
4. Local Plan
Growth
Copenhagen Capital Region
1840-1981
The Finger Plan
Copenhagen
Capital Region
2005
Distribution of Industries Copenhagen Capital Region 2005
The Planning Process

- Preparation of initial planning document (4 m)
- Public participation phase I (3 months)
- Preparation of plan proposal - approved by County Council (5 months)
- Public participation phase II (4 months)
- Evaluation of comments, negotiations, final adoption of plan by county council (6 months)
- Practical finishing and publication of the adopted plan (2 months)
Its All About Maps
Landscape and Cultural Heritage

Landscape Protected Area

Coastal Zone

Cultural Heritage

Special Protected Area
Water Quality Objectives

Salmon Water Quality

High Water Quality

Good Water Quality
Urban Development

Golf Course

Industrial Zone

Existing Urban Zone

Urban Expansion

Camping
Wastewater Treatment Plan

Wastewater Treatment Plant

Wastewater treatment 10 year plan

Wastewater treatment 5 year plan

Wastewater treatment 15 year plan

Wastewater pipeline
RESULT OF INTEGRATED URBAN AND RURAL PLANNING
Overall Municipal Plan

Municipal Planning for the Environment

Vision Targets Initiatives

• Air
• Water
• Soil
• Cross-sector

Sector Plans

Environment Plan

Waste water
Solid waste
Water supply
Inspection of Industries etc
The Planning Process

The main phases in developing an Integrated Provincial Spatial Plan:

1. Baseline Analysis
2. Strategy Formulation
3. Integration and Synthesis
4. Preparation of Implementation
Baseline Analysis

• Nature and Environment
• Business and Production
• People and Living
<table>
<thead>
<tr>
<th>BASELINE ANALYSIS</th>
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<tr>
<td><strong>Technical Methods</strong></td>
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<tr>
<td>• Data Collection and reviewing</td>
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<td>• Analysis of data and checking validity</td>
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<tr>
<td>• GIS, Remote sensing, GPS…</td>
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<tr>
<td>• Analyzing problems, potentials and needs</td>
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<td>• Field surveys and site inspections</td>
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<tr>
<td>• Review and analysis of functions, roles and responsibilities</td>
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<tr>
<td><strong>Participatory Methods</strong></td>
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<td>• Consultative workshops with communities and stakeholders</td>
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<td>• Consultations among Planners, Professionals and People with knowledge about local issues.</td>
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<td>• Focus group discussions</td>
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<td>• Public information</td>
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<tr>
<td><strong>Results</strong></td>
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<tr>
<td>• Baseline data and maps</td>
</tr>
<tr>
<td>▪ State of Environment report: Description, mapping and assessment of problems, potentials and needs</td>
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<tr>
<td>▪ List of Planning Issues</td>
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Strategy Formulation

Study the National Socio Economic Development Plan and note issues that you should take into consideration

Develop VISION and STRATEGY STATEMENTS related to the identified planning issues
<table>
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<tr>
<th>STRATEGY FORMULATION</th>
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<tr>
<td><strong>Technical Methods</strong></td>
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<tr>
<td>• Prioritise problems &amp; potentials</td>
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<td>• Outline strategy including policies and principles</td>
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<tr>
<td><strong>Participatory Methods</strong></td>
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<tr>
<td>• Stakeholder workshops</td>
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<td>• Public hearing</td>
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<td>• Call for recommendations</td>
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<tr>
<td><strong>Results</strong></td>
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<tr>
<td>• Strategy Statements including Provincial Environmental Management Policy</td>
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<tr>
<td>• Guiding principles</td>
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Integration

- List and mark the kinds of areas that should be developed, rehabilitated or protected
- Balance and/or integrate interests
- Add measures, interventions etc. that should be introduced for the different areas or developments
## INTEGRATION AND SYNTHESIS

| Technical Methods | • Define criteria for planning maps  
|                   | • Transform data  
|                   | • Draft planning maps and measures  
|                   | • Balance competing or conflicting interests  
|                   | • Identify implementers/responsible partners  
|                   | • Schedule activities and allocate resources |
| Participatory Methods | • Workshops  
|                     | • Public meetings  
|                     | • Call for recommendations and comments  
|                     | • Smart partnerships |
| Results | • Integrated Spatial Plan with planning maps, measures, interventions  
<p>|         | • Call for investments (tendering process) |</p>
<table>
<thead>
<tr>
<th>PREPARATION OF IMPLEMENTATION</th>
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<tr>
<td><strong>Technical Tasks/Methods</strong></td>
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<td><strong>Participatory Methods</strong></td>
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Nature Protection and Environmental Management

- Mitigation of environmental impact due to developments and related pollution through location in designated areas

- Control at the planning stage is important in the prevention of pollution
Techniques
Environmental Sensitive Areas for Landfill

VIENTIANE CAPITAL CITY

High Sensitive Areas

- 5 Km radius from Airport
- Built-up area
- Main Rivers and Reservoirs
- Rivers
- Existing Forest, Reforestation, Wetland, Agricultural land, Residential Area
- 1 Km radius from Temples
- Villages
- Watershed areas Class 2
Environmental Sensitive Areas for Landfill

VIENITIANE CAPITAL CITY

Medium Sensitive Areas

- 300 m radius from built-up area
- 300 m radius from main rivers and reservoirs
- 300 m from rivers
- 300 m radius from villages
- Flood risk areas
- Upland agricultural land
Your Turn
The Final Cut
Environmental Sensitive Areas for Landfill

VIENETIANE CAPITAL CITY

- Sangthong
- Naxaythong
- Xai thi
- Xaisettha
- Sisattanak
- Hatxayfong
- Chanthabouri
- Sikhottabong
- Pak Ngum
Use ISP for:

1. Direct public investments to designated geographic areas and types of activities/projects;
2. Provide a common framework for administration, permission and planning and location of residential areas, services, infrastructure, industries, plantations, large development projects, extraction of natural resources, protection of nature and environment;
3. Serve as a framework for environmental impact assessment (EIA) of proposed development projects and for strategic environmental assessment (SEA) of proposed programs and plans.
4. Attract private investments through promotion activities and incentives directed towards designated geographic areas and project types;
5. Ensure protection of valuable or sensitive environment, nature; and cultural heritage;
6. Help private investors find suitable locations for their investment projects;
7. Present to the public the preferred development in the province using plain non-technical language and maps that are simple and easy to understand;
8. Enhance coordination between central & Local level
Advantages of Integrated Spatial Planning

Spatial planning has the potential to integrate the three interdependent dimensions of sustainable development: economic, social and environmental.

Spatial planning has special potential as a coordinating instrument to integrate environmental, economic and social considerations into sector policies.
ISP and Sustainable Development

- **Economic Dimension**
  - Industrial Production
  - Agricultural Production
  - Forestry
  - Fishery
  - Mining

- **Social Dimension**
  - Access to: Work, Nature, recreation, Public Services, Cultural heritage
  - Provision of: Public transport infrastructure, Education facilities, Health facilities, Energy, water, Waste disposal

- **Environmental Dimensions:**
  - Biodiversity, habitats
  - Water
  - Air
  - Soil
  - Land, landscape
  - Climate
ISP and Climate Change

- **Adaptation**
  - Urban expansion and flood risk areas
  - Agriculture and flood and drought risk areas
  - Changes in agricultural production (crops, systems)

- **Mitigation**
  - Suitable areas for reforestation
  - Protection against forest degradation for:
    - carbon sequestration,
    - water resources protection,
    - mitigation of erosion,
    - Biodiversity protection
  - Suitable areas for biofuel crops;
  - Energy planning;
Advantages of Integrated Spatial Planning

- **Cross sector coordination:**
  - urban development
  - development in rural districts
  - urban-rural relationships
  - the development of infrastructure and
  - environmentally sound use of land and natural resources

- **Planning procedures based on involvement of the public**
To Sum up
SPATIAL PLANNING

• THE PHYSICAL LAYOUT AND MAIN STRUCTURE

• PLAN FOR THE USE AND PROTECTION OF LAND, NATURE, FORESTS, WATER, AND MINERALS

• Agricultural Land Interests.
• Wetlands, Nature Preservation Areas.
• Preservation of Cultural Heritage etc.
• Recreational Areas.
• Areas for protection of water resources.
• Areas for exploitation of mineral resources.

• Urban Zones.
• Major Transport Facilities.
• Large Technical Facilities.
• Large Public Institutions.
• Location of Industries.
• Structure of Retail Trade.
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