The impact of access policies on the development of ‘local’ SDIs
The special role of utilities

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FIG/GSDI TS 50.1
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My PhD research

- The impact of access policies of large-scale spatial datasets on the development of SDIs
- Focus on large-scale topography and land parcel data

Why focus on large scale data?

1. Basis for other levels of SDI
2. Success of access policy at these levels has barely been addressed in existing research

Levels of SDI

Less detailed data

- Global planning
- Regional Planning
- National Planning
- State Planning
- Local Planning

GSDI
RSDI
NSDI
SSDI
LSDI

More detailed data

Source: Rajabifard, et al, 1999

Different levels of detail required for different SDI levels

Research assessing success of access policies

- Focus:
  - on open access – cost recovery
  - on national/ regional level

- Lacks:
  - datasets with high(est) level of detail
  - role of partnerships
Levels of SDI

Different levels of funding required for different SDI levels

Cost of data collection and maintenance

Global planning
Regional Planning
National Planning
State Planning
Local Planning

Cost of data collection and maintenance

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Topographic data

- The configuration of a surface and the relations among its man-made and natural features
- For example: Roads, buildings, trees, forests, manholes, benches, etc etc.

Topographic data

The configuration of a surface and the relations among its man-made and natural features

For example: Roads, buildings, trees, forests, manholes, benches, etc etc.

Five large-scale topography (LST) cases

<table>
<thead>
<tr>
<th>Dataset(s)</th>
<th>Case</th>
<th>NL</th>
<th>NPH</th>
<th>D.E.</th>
<th>MN</th>
<th>MA</th>
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</thead>
<tbody>
<tr>
<td>Public sector</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>O</td>
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<tr>
<td>Public sector &amp; utilities</td>
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Five large-scale topography (LST) cases

<table>
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</thead>
<tbody>
<tr>
<td>Public sector</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>O</td>
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<tr>
<td>Cadastre (wet)</td>
<td>local government</td>
<td>local government</td>
<td>utilities</td>
<td>utilities</td>
<td>utilities</td>
<td>utilities</td>
</tr>
<tr>
<td>Cadastre (dry)</td>
<td>local government</td>
<td>local government</td>
<td>utilities</td>
<td>utilities</td>
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<td>utilities</td>
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Technical characteristics of LST

<table>
<thead>
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<th>Datasets (Case)</th>
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<th>NRW</th>
<th>DK</th>
<th>MN</th>
<th>MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage</td>
<td>500-2,000</td>
<td>1,000-16,000</td>
<td>2,400-12,000</td>
<td>1,200-5,000</td>
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</tr>
<tr>
<td>for datasets for 100% data coverage</td>
<td>60</td>
<td>&gt;40</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Completeness</td>
<td>&lt;50%</td>
<td>&lt;50%</td>
<td>&lt;50%</td>
<td>&lt;50%</td>
<td>&lt;50%</td>
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<tr>
<td>Accuracy</td>
<td>5-40cm</td>
<td>50-300cm</td>
<td>50-300cm</td>
<td>5-150cm</td>
<td>5-150 cm</td>
</tr>
<tr>
<td>Currentness</td>
<td>&gt;2Y</td>
<td>&gt;2Y</td>
<td>&gt;2Y</td>
<td>&gt;2Y</td>
<td>&gt;2Y</td>
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<tr>
<td>Guaranteed qualities</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
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</table>

LST Access Policy

<table>
<thead>
<tr>
<th>Case</th>
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<th>MN</th>
<th>MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject to FRAP</td>
<td>n</td>
<td>n(y)</td>
<td>n</td>
<td>n/y</td>
<td>y/h</td>
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<tr>
<td>Copyright</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>n/y</td>
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<tr>
<td>Use restrictions</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>n/y</td>
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<tr>
<td>Price (€)</td>
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<td>1</td>
<td>11/0.65</td>
<td>1.00/0.06</td>
<td>0.50</td>
</tr>
<tr>
<td>Points to contact</td>
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<td>54/1</td>
<td>&gt;40</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Online access</td>
<td>y</td>
<td>n</td>
<td>n</td>
<td>y/y</td>
<td>y/h</td>
</tr>
</tbody>
</table>

Users of large-scale topographic data

<table>
<thead>
<tr>
<th>Case</th>
<th>NL</th>
<th>NRW</th>
<th>DK</th>
<th>MN</th>
<th>MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary users</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>Secondary users</td>
<td>y/h</td>
<td>y/h</td>
<td>y/h</td>
<td>y/h</td>
<td>y/h</td>
</tr>
<tr>
<td>Tertiary users (VAR)</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
</tbody>
</table>

Benefits of utility involvement

- Needed dataset (previously unavailable) is collected and available (for a price)
- Burden on local public purse lessened
- “I do not have to lobby every year for funding”
- Income generated to be invested in dataset

Negatives of utility involvement

- A cost recovery price and use restrictions imposed
- Limited use
- Overtime, needs utility and government may not be in line
- Government relies on private sector for framework dataset
Conclusions from case studies

- Restrictive policies found for large-scale topographic data
- Utilities have a (major) role in collecting and using large-scale topography
- Utility involvement may positively contribute to the development of an SDI
- Price and use restrictions are considered explanation for the limited use of the datasets

Questions

- Should local government partner with utilities for topographic data?
  - From a principal SDI perspective: no
  - From a local perspective: yes in many instances

Future direction?

- Allow the public sector to withhold datasets produced together with private companies for a limited period (five years) from the public domain

Database with SDI literature

http://www.otb.tudelft.nl/NGII/

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