Sustainable Development and Spatially Enabled I.R. Iran

22 Oct 2014
3rd HLF UNGGIM
Beijing, China
**General Information**

<table>
<thead>
<tr>
<th></th>
<th>Islamic Republic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governmental system</td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>1,648,195 sq.km</td>
</tr>
<tr>
<td>Population</td>
<td>75,495,782</td>
</tr>
<tr>
<td>Capital</td>
<td>Tehran</td>
</tr>
<tr>
<td>Official Language</td>
<td>Farsi (Persian)</td>
</tr>
<tr>
<td>Currency</td>
<td>Rial</td>
</tr>
</tbody>
</table>
Key Factors for Development
Technology as main Driver

- Security
- Environment
- Economy
- Culture
- Human Capital
- Technology

Interconnections between factors.
CADASTRE and SUSTAINABLE DEVELOPMENT

The role of cadastral data is quite significant so that, Iran’s Deeds and Properties Registration Organization by it's project for cadastre performance, prepared a powerful integrated data base in country for more than 96 percent of Urban area and for legal attributes of more than 25 million registered parcels of public and private owners, which are maintaining in digital database.

The 3rd High Level Forum on Global Geospatial Information Management:
2014-10-22/24: China: Beijing
CADASTRAL LAYERS

- PARCELS
- PROPERTIES
- BUILDINGS
- ROADS
- WATER RESOURCE BOUNDRIES
- LAND TENURE INFORMATION
- LAND VALUES
- .....
CADASTRAL OUTPUTS
CADASTRAL ATTRIBUTES

Query Output

<table>
<thead>
<tr>
<th>Reference Number</th>
<th>Property Type</th>
<th>Address</th>
<th>Size</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Residential</td>
<td>123 Main St</td>
<td>1000 sq ft</td>
<td>$500,000</td>
</tr>
<tr>
<td>R2</td>
<td>Commercial</td>
<td>456 Business Dr</td>
<td>2000 sq ft</td>
<td>$1,000,000</td>
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<tr>
<td>R3</td>
<td>Industrial</td>
<td>789 Industrial Ave</td>
<td>5000 sq ft</td>
<td>$2,000,000</td>
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</tbody>
</table>

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<thead>
<tr>
<th>Reference Number</th>
<th>Property Type</th>
<th>Address</th>
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<th>Value</th>
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</thead>
<tbody>
<tr>
<td>R4</td>
<td>Residential</td>
<td>123 Main St</td>
<td>1000 sq ft</td>
<td>$500,000</td>
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<tr>
<td>R5</td>
<td>Commercial</td>
<td>456 Business Dr</td>
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<tr>
<td>R6</td>
<td>Industrial</td>
<td>789 Industrial Ave</td>
<td>5000 sq ft</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>
National Cartographic Center of Iran (NCC) (Iranian National Mapping Agency)

Surveying, Geodesy and Geodynamics
Aerial Photography
Photogrammetry & Remote Sensing
Geospatial Information System (GIS)
Spatial Data Infrastructure (SDI)
Cartography
Hydrography
Supervision and Technical Control
Research, Development and Standardization
Education and Training
Establishment of Precise Leveling of different order

1st Order Leveling Network
Measured at least Two times for Geodynamics Purposes 33500 km (98 loops)

- Measured by optical N3 and digital DINI12 levels with the Precision of 0.9 & 0.65 mm/km respectively

- 2nd Order: 26000 km
- 3rd Order: 25000 km

- Datum Point:
- Bandar Abbas tide gauge station
150 Permanent GPS stations for Geodesy and Geodynamics
Current Gravity Data

- Zero-order: 28 stations
- 1st order: 700 stations
- 2nd order: 2100 stations
- 3rd order: 22400 stations
Photogrammetry

Aerial Photography

4 Dornier 228
1 Jet Falcon 20

Aircrafts equipped with digital aerial cameras (UltraCam-D and XP) as well as multi GPS Antennae and IMU for attitude determination.
Remote Sensing

Production of:
- DTM and DSM
- Ortho Rectified Arial Photo and Satellite Images
- Land cover classification
Statistical Data collection for National Atlas

Reference Organizations

Statistical Center of Iran

Annual Reports

Collected Data

Atlas of Fishery

Atlas of Geology

Atlas of Population
Hydrography
Different Hydrographic vessels
Equipped with Single and Multi Beam Echo Sounder

Using Data Processing and marine Cartography Software
And Digital Tide Gauge
National Cartographic Center of Iran (NCC)
(Iranian National Mapping Agency)

- Surveying, Geodesy and Geodynamics
- Aerial Photography
- Photogrammetry & Remote Sensing
- Geospatial Information System (GIS)
- National Spatial Data Infrastructure (NSDI)
- Cartography
- Hydrography
- Supervision and Technical Control
- Research, Development and Standardization
- Education and Training
CADASTRE and SUSTAINABLE DEVELOPMENT

Iran’s Deeds and Properties Registration Organization is working on its project for cadastre performance, & has prepared:

- > 96% Urban Cadastre
- > 40% Rural Cadastre, and
- Legal attributes > 30 million parcels of public and private owners.
Telecom Access Indicators

3 Layers Redundant Net.
≈65000 km fiber optic microwave net.
Satellite Net.

Fully Digital Access across the Country
Developing NBN
Fix Tel. Penetration household ≈ 90%
Mobile Penetration > 100%
International Transit Network Opto. Silk Road