

## Global Framework: Implementation

July 30, 2018

# Strategic Partnership: World Bank GSURR – UNSD Agreement “Bridging the Geospatial Digital Divide”: Two Key Activities



17 PARTNERSHIPS  
FOR THE GOALS



1. **Develop an overarching Geospatial Framework** for countries to reference when developing their national and sub-national spatial data infrastructures (SDIs).
2. Assist countries to **prepare and implement Country-level Action Plans** to operationalize the Geospatial Framework



## Second Objective: Implementing Action Plans

**Objective:** To operationalize the Geospatial Framework taking into consideration national circumstances and priorities. The country level Action Plans include *identification of investment needs, priorities, analysis of socio-economic benefits and potential funding sources.*

*Aim: Complete of 2-3 pilots by UNGGIM Plenary in August 2018*

### How?

1. Analytical Tools
2. Technical Assistance
3. Financing Options



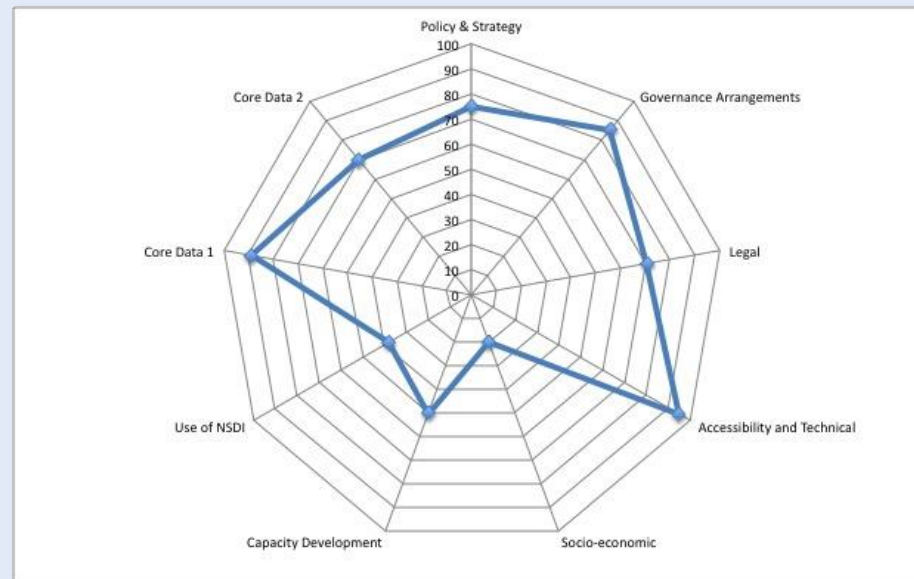
# Step 1: Analytical Tools

## Diagnostic Tool for Assessing SDI Readiness

Albania  
Colombia  
Croatia  
Honduras  
Indonesia  
Kosovo  
Malaysia  
Moldova  
Palestine  
Scotland  
Serbia  
Sierra Leone  
Zambia  
Guyana- upcoming  
Seychelles- upcoming

Key Parameters: Standardized, Quick and Efficient  
Completed in a one week mission

Conducted in 12+ countries to date



NSDI Diagnostic Tool Template: Guide to Scoring Indicators

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2. Governance arrangements				
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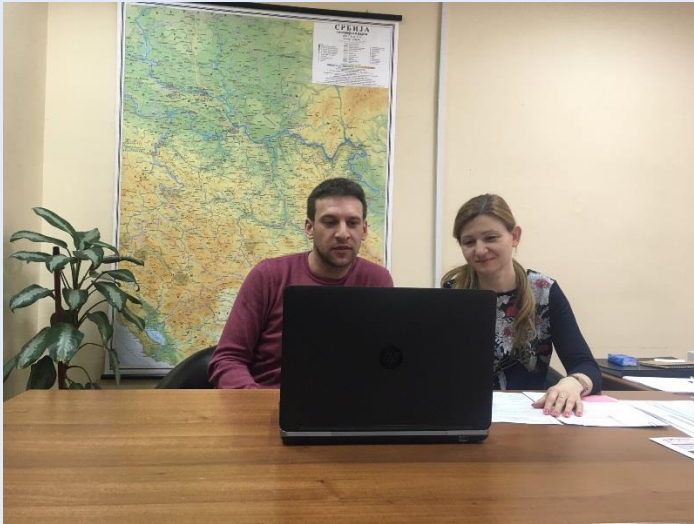
Food and Agriculture Organization of the United Nations



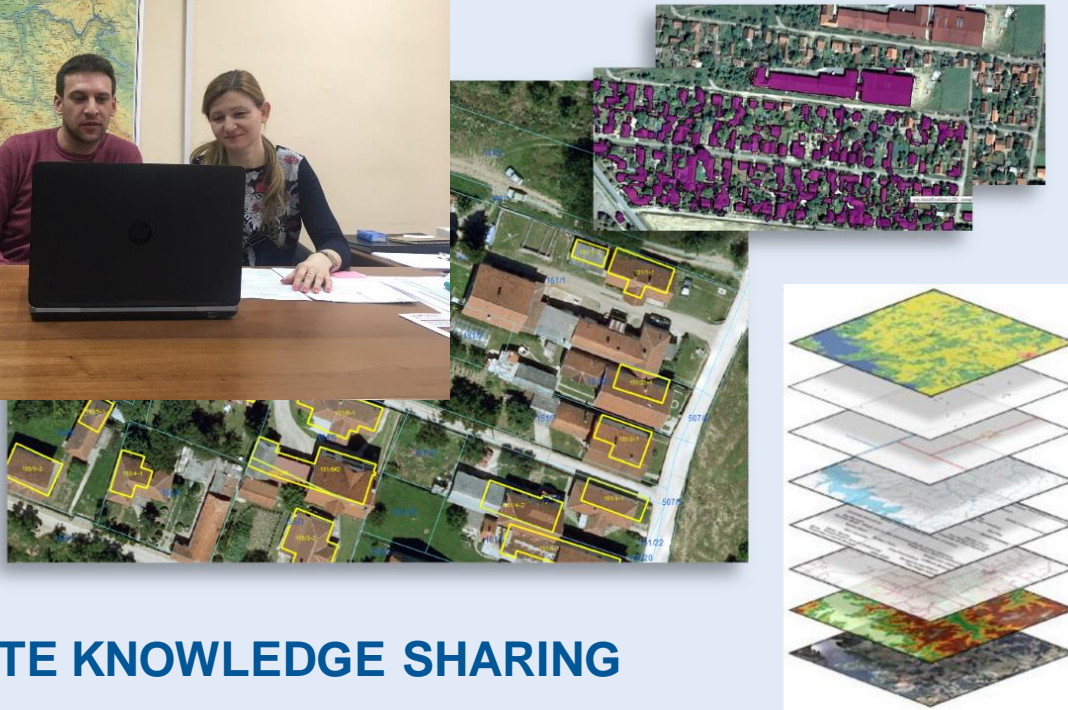
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# Self-Assessment and Remote Diagnostic Completion: Sierra Leone

## Cross Regional Knowledge Sharing: with Serbia



### SERBIA



### SIERRA LEONE



- REMOTE KNOWLEDGE SHARING
- REMOTE SDI DIAGNOSTICS COMPLETION
- REMOTE DEVELOPMENT OF ACTION PLAN

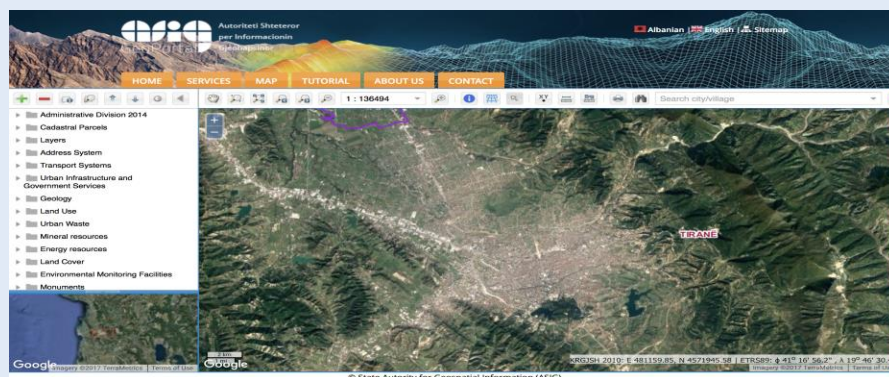
# Step 2: Technical Assistance

## Country Level Action and Investment Plans

Country priorities (tourism, roads, FDI)  
Key Registers (datasets)

↓

\$\$ Investment \$\$



Integrated Land Management Program for Albania:  
**Detailed and Costed Roadmap for  
Land Market & Tourism**

June, 2017

World Bank Technical Assistance to the Government of Albania



Food and Agriculture Organization  
of the United Nations

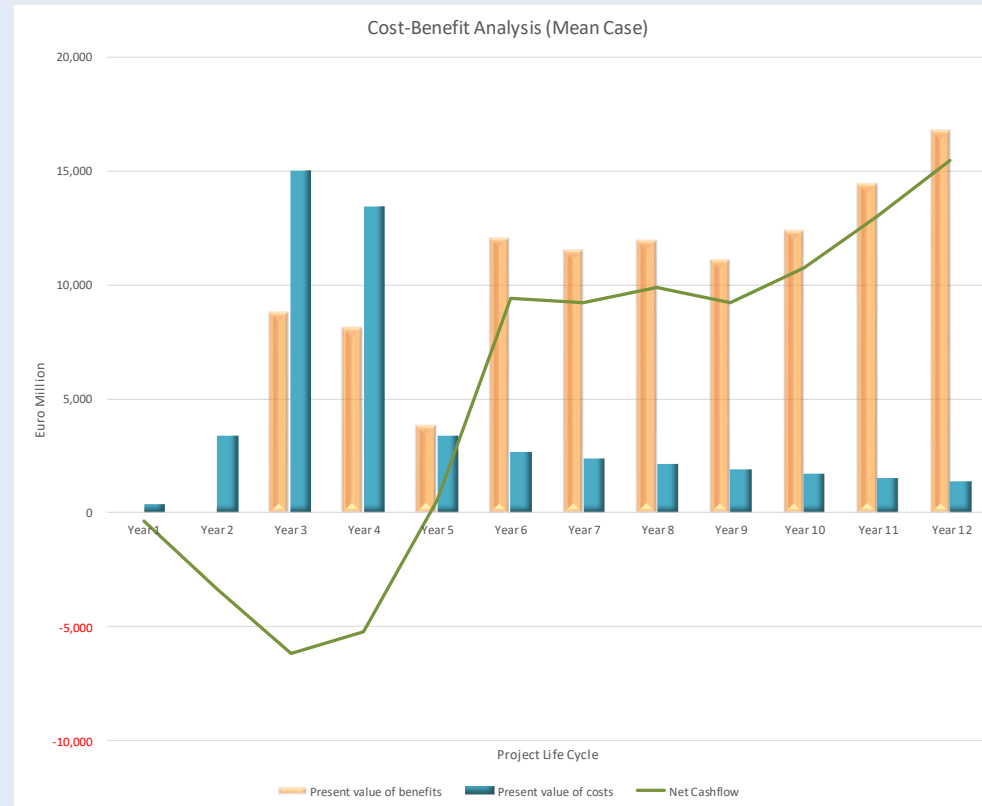


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# Step 3: Financing

## Valuing Geospatial Information

Albania:  
 First Geospatial Investment  
 Calculation  
 with  
 Return of Investment (RoI)  
 in low/middle income  
 country



Base Case:  
 Project Life: 12 years  
 Investment: US\$50m  
 Discount Rate: 12%

**RoI: 2.5 : 1 (conservative)**

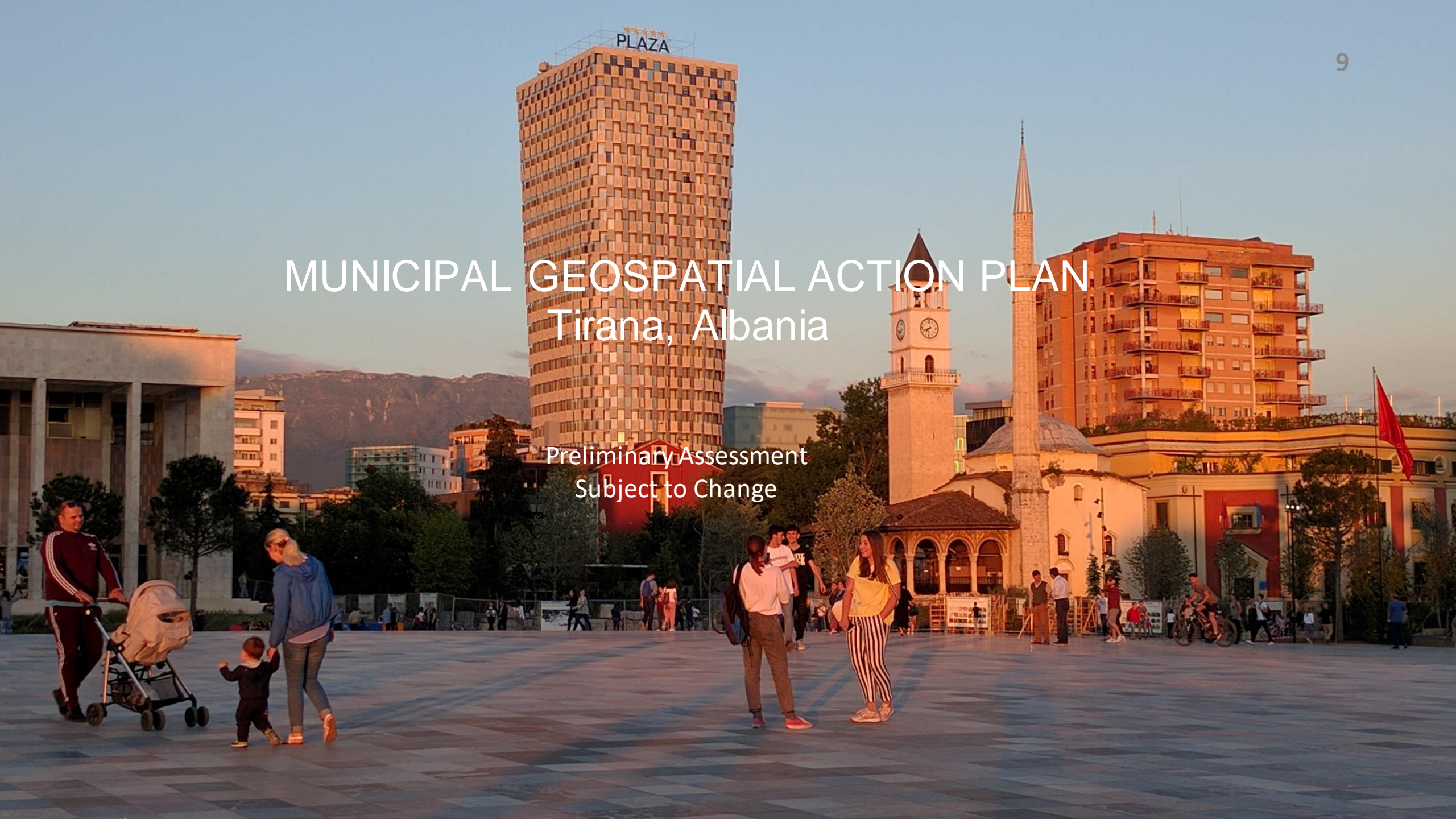
# FROM NATIONAL .....TO SUB-NATIONAL





# MUNICIPAL GEOSPATIAL ACTION PLAN Tirana, Albania

Preliminary Assessment  
Subject to Change



# Municipality of Tirana, Albania

- Largest City in Albania and seat of Government
- Recently enlarged to incorporate surrounding rural areas
- Tirana 2030 Plan envisages more the doubling of size by that time:

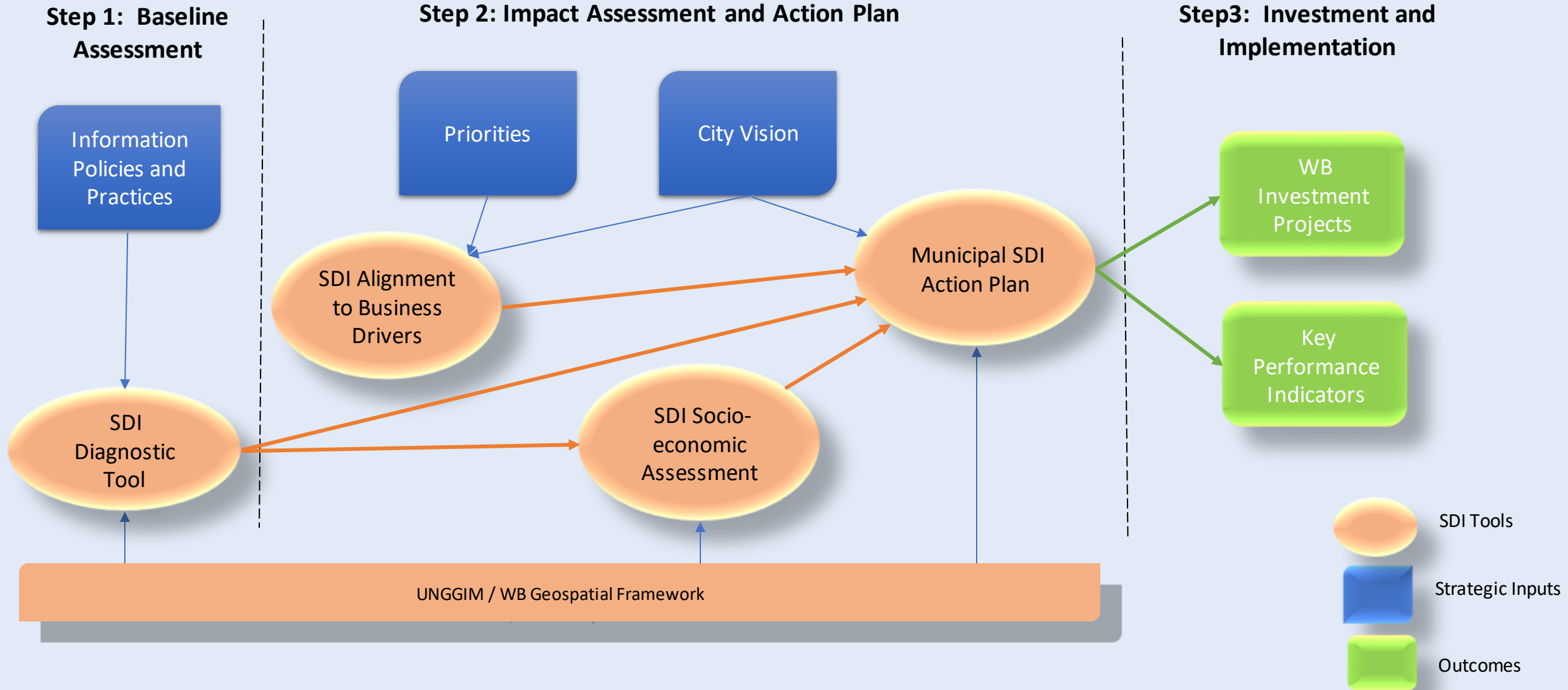
✦ Current Population (est)      650,000

✦ Projected in 2030              1,600,000

- Request for assistance from the City Mayor :

*“ In its daily activity, Tirana Municipality encounters endless problems—land registration is still incomplete, and service provisions, territorial planning, decentralization initiatives and tourism development **are limited by the lack of current and accurate spatial and land ownership information.**”*

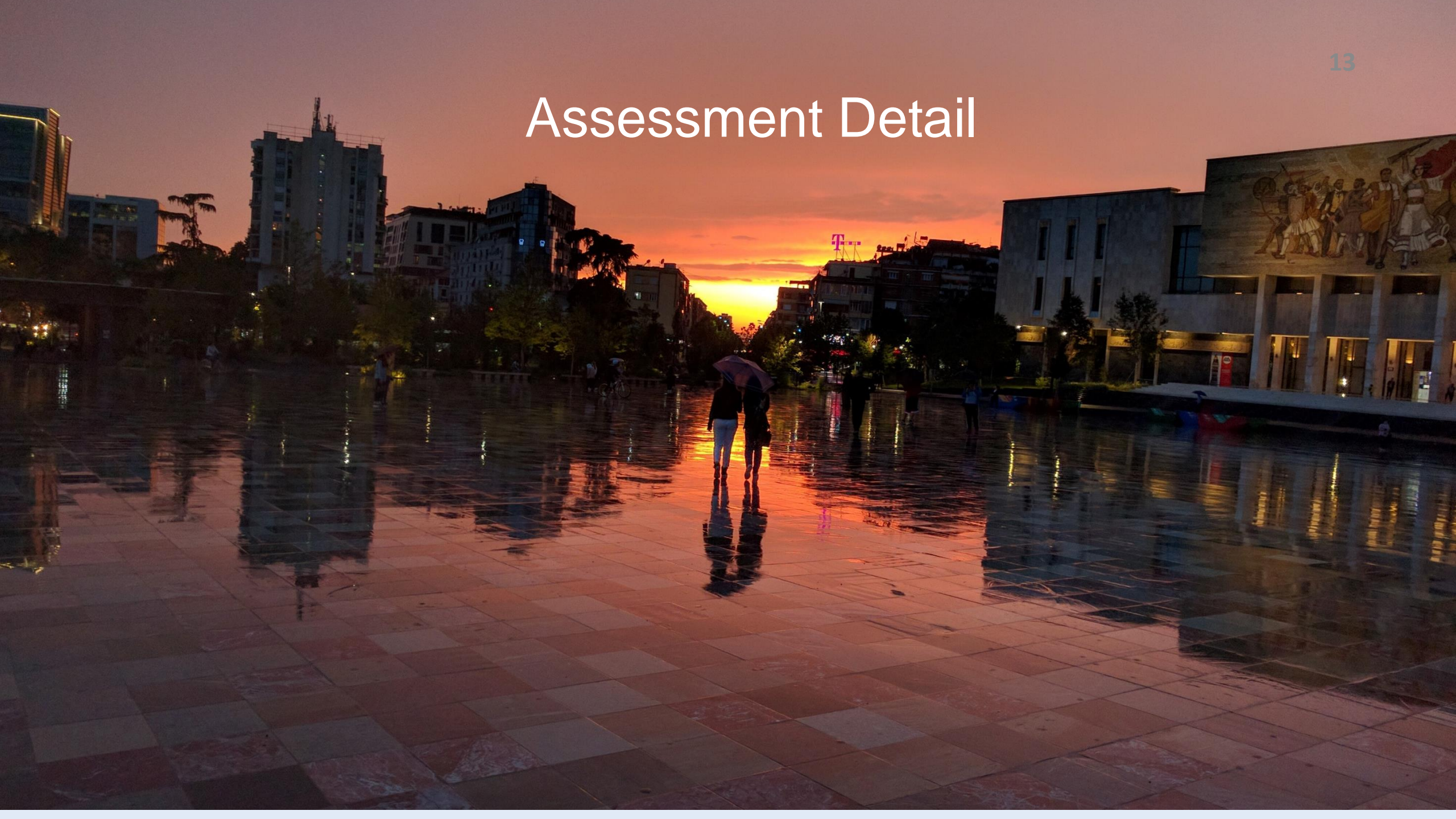
# APPROACH



# IDENTIFY EACH CITY'S PRIORITY INVESTMENTS

Functional Area	Urban Planning	Disaster Risk Management	Infrastructure Asset Management	Land Market Development	Citizen Services
Example Use Cases	<ul style="list-style-type: none"> <li>Remote Sensing Analytics</li> <li>Urban Scenario Planning</li> <li>Infrastructure Systems Modeling</li> </ul>	<ul style="list-style-type: none"> <li>Flood Modeling</li> <li>Emergency Management Information Contingency Planning</li> </ul>	<ul style="list-style-type: none"> <li>Transport Infrastructure O&amp;M</li> <li>Water Infrastructure O&amp;M</li> <li>Taxation</li> </ul>	<ul style="list-style-type: none"> <li>Public Real Estate Asset Management</li> <li>Cadastral Upgrading</li> <li>Construction Permitting</li> </ul>	<ul style="list-style-type: none"> <li>E-governance</li> <li>Geospatial Data Sharing Platform</li> <li>Citizen Engagement</li> </ul>
Spatial Data Infrastructure	Robust Data				
	Supporting Policy and Institutional Capacity				

# Assessment Detail

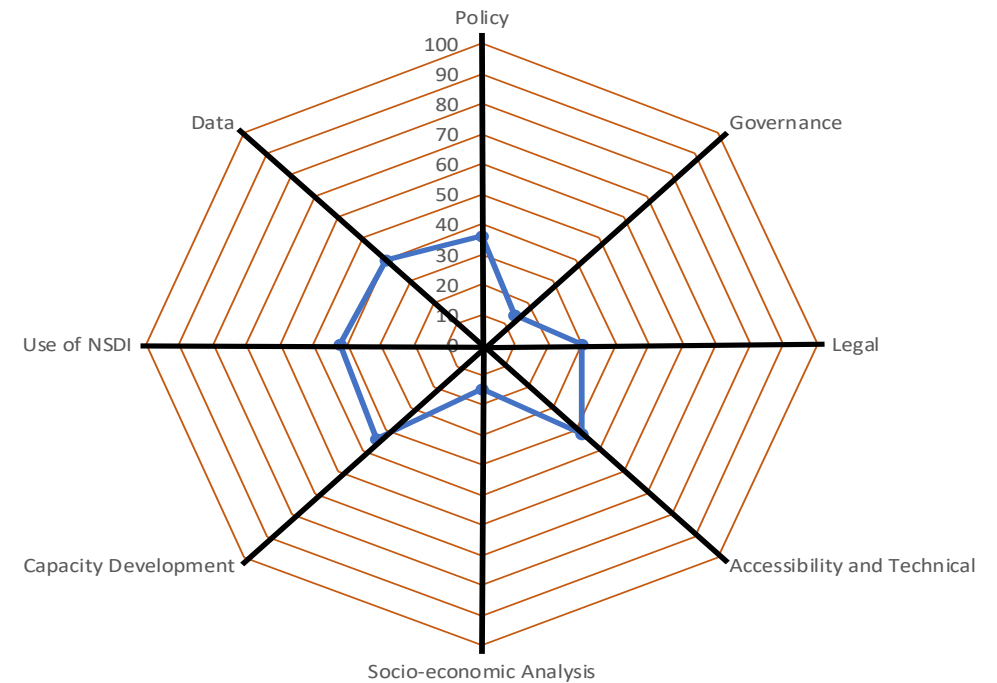


# Results of SDI Diagnostic – Current Status

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# Alignment of Interventions to Business Drivers: Tirana 2030 plan

Objective	Facilitated by:
<b>Digital Government</b>	Cadastral Upgrade to register state land and agricultural land on City fringe, 3D City models for valuation and taxation, participation in development of key registers, particularly completion of the National address database
<b>Urban Regeneration</b>	Upgrade of fundamental spatial datasets for master planning, formalised data sharing, spatial-enabled permitting, better real estate asset management
<b>Accessible City</b>	Spatially-enabled transport modelling, open geo-information for public mobile apps to increase public transport efficiency and minimise congestion
<b>Flood Management</b>	Overlays of critical infrastructure and population on Digital Elevation Models for smart zoning, evacuation planning and disaster recovery
<b>Reduced Environmental Pollution</b>	Using 3D models to predict air and noise pollution levels, reduction in congestion through better transport planning and building permit control
<b>Quality Human Resources</b>	Applied GIS education in local University. Improved internal communication of socio-economic benefits of a Municipal Spatial Data Infrastructure
<b>Economic Competitiveness</b>	Geovation program – stimulating innovation in the use of open geospatial information to generate new jobs in ICT and other sectors
<b>Tourism Growth</b>	Spatial-enabling market analysis and online promotion of Tirana as a destination

## Business Benefits

New products and services

Additional Jobs

Growth of the land market

Stimulates Tourism

Agricultural Productivity

## Consumer Benefits

Fuel efficiency

Travel time savings

## Environmental/Social Benefits

Improved Social Cohesion

Reduced Air and Noise Pollution

## Public Sector

- Meet European Union Accession req.
- Reduced costs from Geospatial Data Sharing
- Enhance National Key Registers
- Reduced Land-related Court Cases
- Increased Income from Taxation
- Additional Land Value Capture
- More Responsive Master Planning
- Faster Emergency Response



## Governance (€325k)

- Management Group; Program management; Data sharing regulation

## Integrated Land Management Plan Interventions (€10.5m)

- Implementing and enhancing Key Registers (€2.2m)
- Cadastral Upgrade (€7.8m)
- Taxation System (€375k)
- Enhanced Land Value Capture (€75k)

**Total Investment: € 15.5**

## Geospatial interventions (€4.4m)

- Improved City Spatial Data Management (€1.0m)
- 3D City Model (€1.15m)
- Mobile GIS for Operations (€465k)
- Satellite Imagery-based Systems for Agri-business (€835k)
- City Open Data (€300k)
- Sponsorship of Applied GIS Professorship (€500k)
- City Geospatial Advisor (€115k)

# Action Plan: Priority Interventions and Investments

## Implementing and enhancing Key Registers (€2.2m)

Title	GGIM Strategy Pathway Type	Intervention	Total Investment (€k)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Section 2: ILMP Related Interventions</b>									
Key Registers									
	Governance and Institutions	Agree business processes with custodians and associated stakeholders, e.g. Municipalities, for maintenance of Key Registers	20						
	Technical	Upgrade ICT solutions custodians and associated stakeholders to support key registers and their interoperability.	1,667						
	Data	Implement data quality assessment and improvement programs for all Key Registers. This will be incrementally implemented by geographical priorities.	533						

## Return on Investment (RoI)

**Provisional benefit to cost ratio: 3:1**

Significant costs of Inaction

Assumes conservative values for all impacts

Not all impacts quantified

Financial Model: project life cycle of 12 years

- 5 year implementation + 7 year use
- Based on 12% discount rate

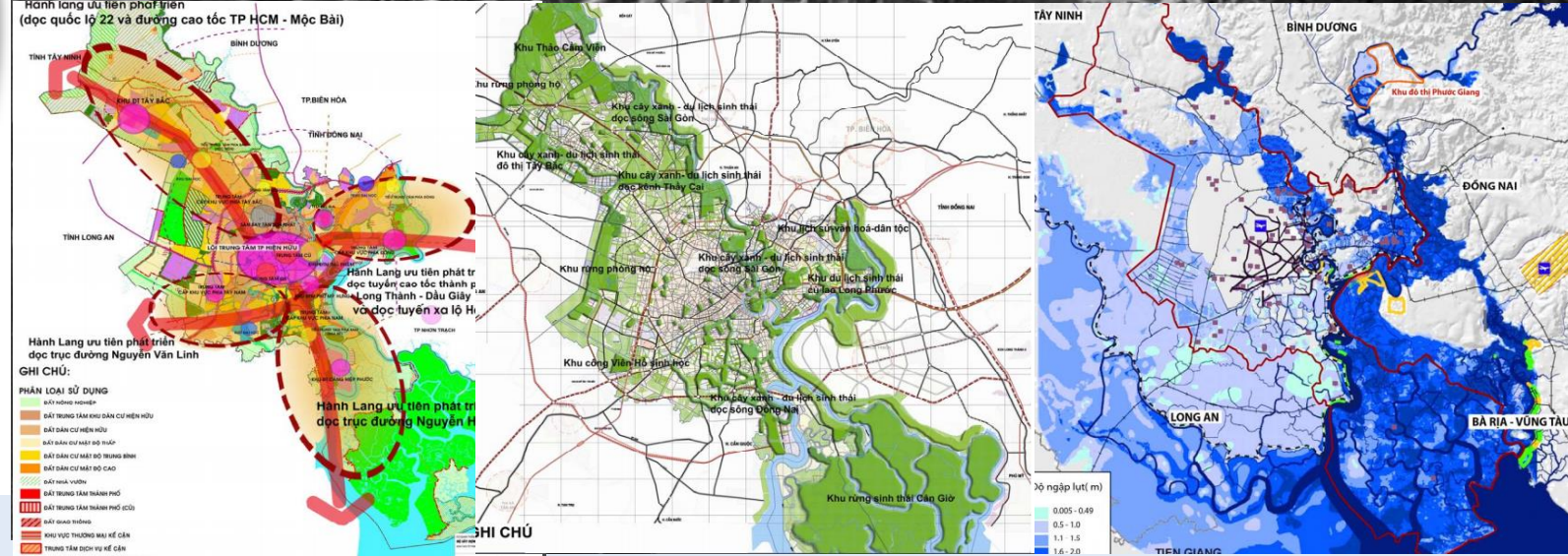


# HO CHIMINH CITY, VIETNAM

## Smart City Program



**HO CHI MINH CITY  
7 BREAK-THROUGH PROGRAMS  
2016-2020**

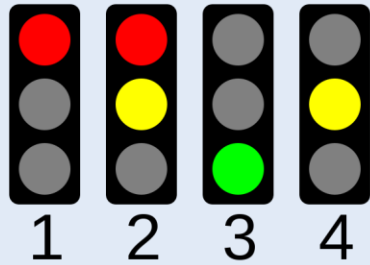


**PRIORITY CORRIDORS    GREEN SPACE PLAN    FLOODING SCENARIO 2050**

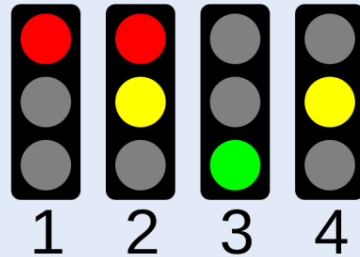
# HO CHI MINH CITY: ASSESSMENT FRAMEWORK

## LINKING DIGITAL GOVERNMENT + OPEN DATA + MUNICIPAL SDI INFRASTRUCTURE

### DIGITAL GOVERNMENT



### OPEN DATA

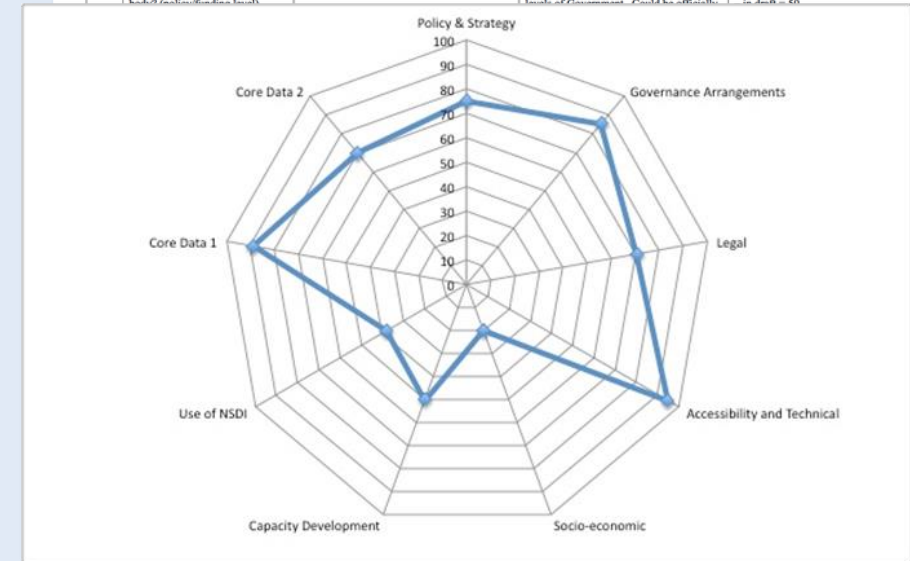


### MUNICIPAL SDI DIAGNOSTIC

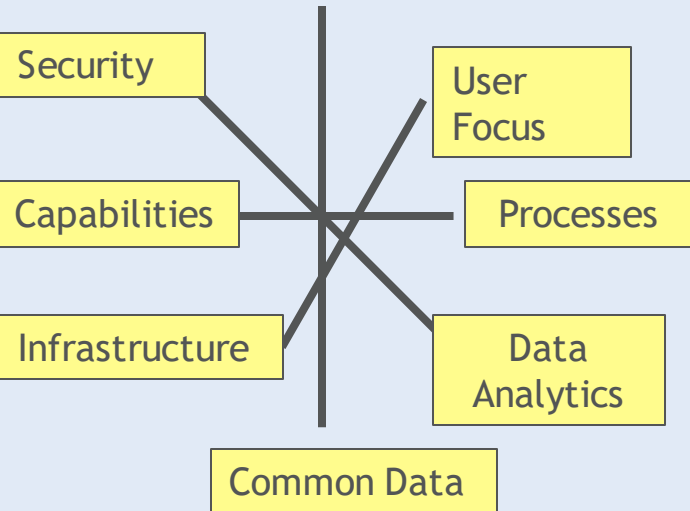
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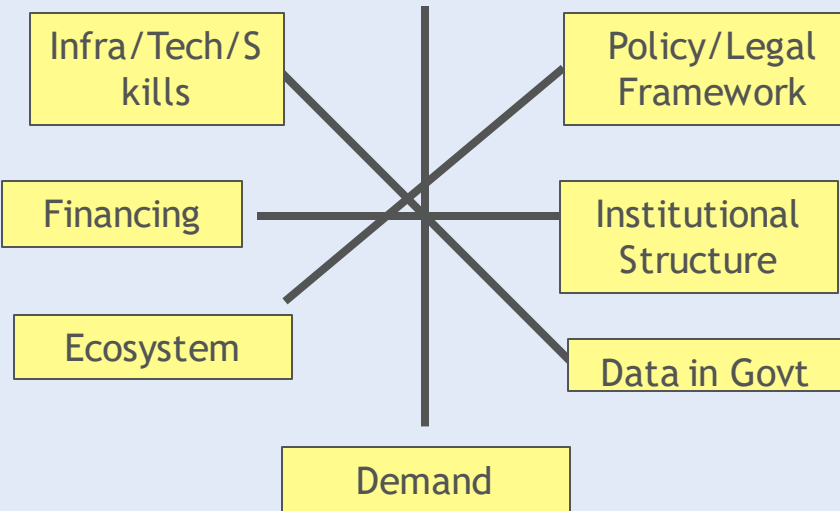
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#### Leadership



#### Leadership



# Next Steps

- Validate Tirana Action Plan; complete HCMC, Vietnam
- Complete MSDI templates and toolkit
- Develop Partnerships for Implementation:
  - World Bank City Resilience Program
  - Global Platform for Sustainable Cities
  - UN and others?

## Contact Information:

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Andrew Coote ([andrew.coote@consultingwhere.com](mailto:andrew.coote@consultingwhere.com))

Thank you