

SOCIO-ECONOMIC IMPACT ASSESSMENT WITHIN THE INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK: THE WORLD BANK METHODOLOGY



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The World Bank Group

IGIF Framework, World Bank Methodology and Country Level Implementation

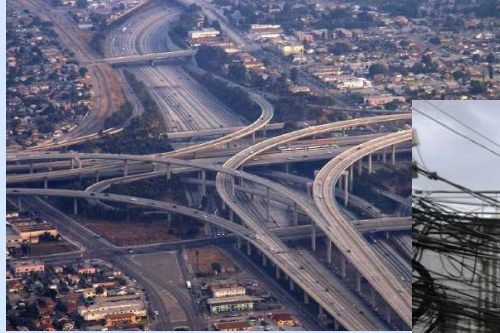
Relevance of Geospatial Technology and Information

From Global....
Sustainable Development Goals rely on geospatial technology to achieve the targets and use location as an information integrator



To Local...
*Digital Transformation
Smart and Resilient Cities
E-Government
Precision Agriculture...
Require accurate and current geospatial data*

Spatial Data Infrastructure: Investment Challenges



Transport



Energy

Well established business lines exist for traditional infrastructure



Data require a new infrastructure:
National Information Infrastructure
and Spatial Data Infrastructure (SDI)

Significant financing is needed for SDIs globally

Clients note that convincing decision makers to invest in SDI and geospatial information management is a challenge

More evidence is needed to justify financing

Strategic Partnership: World Bank- United Nations Statistics Department

Committee of Experts on Global Geospatial Information Management (UN-GGIM)

“Bridging the Geospatial Digital Divide”
Signed August 2017

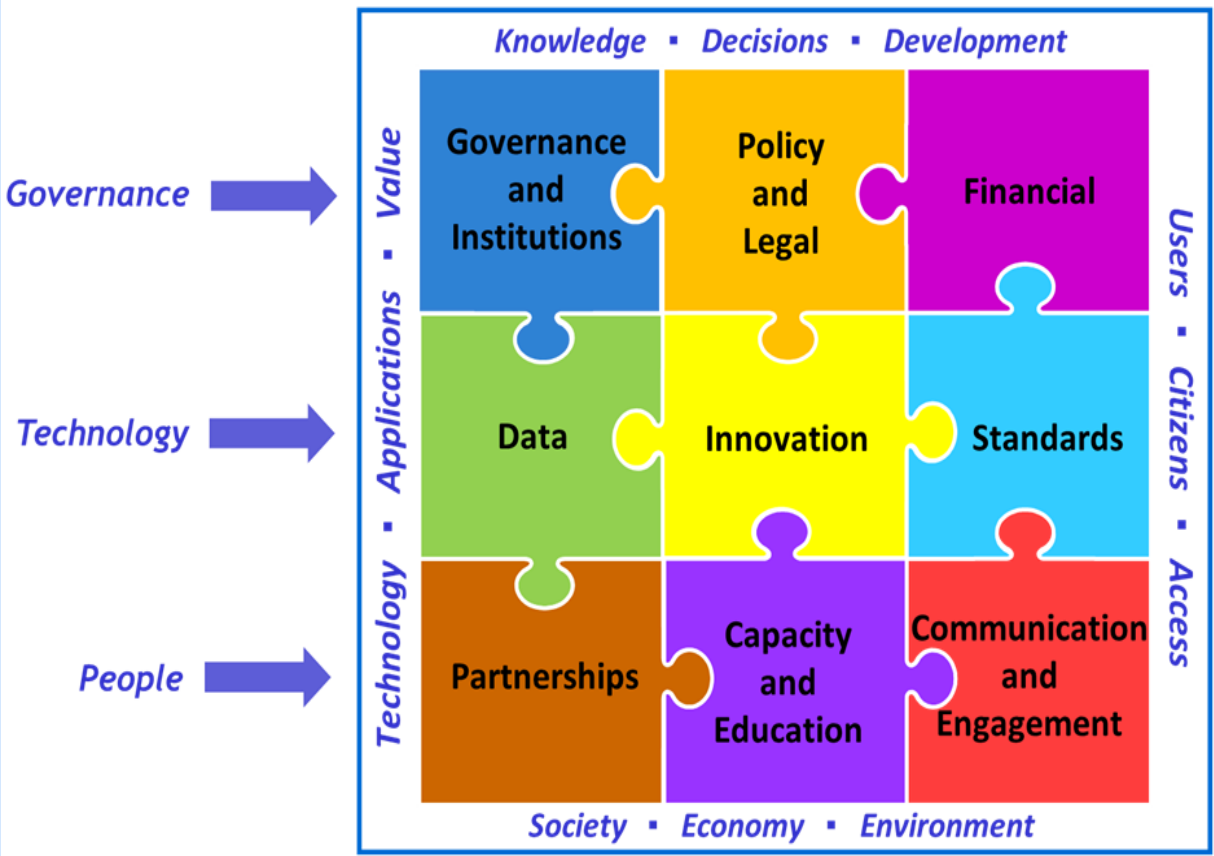
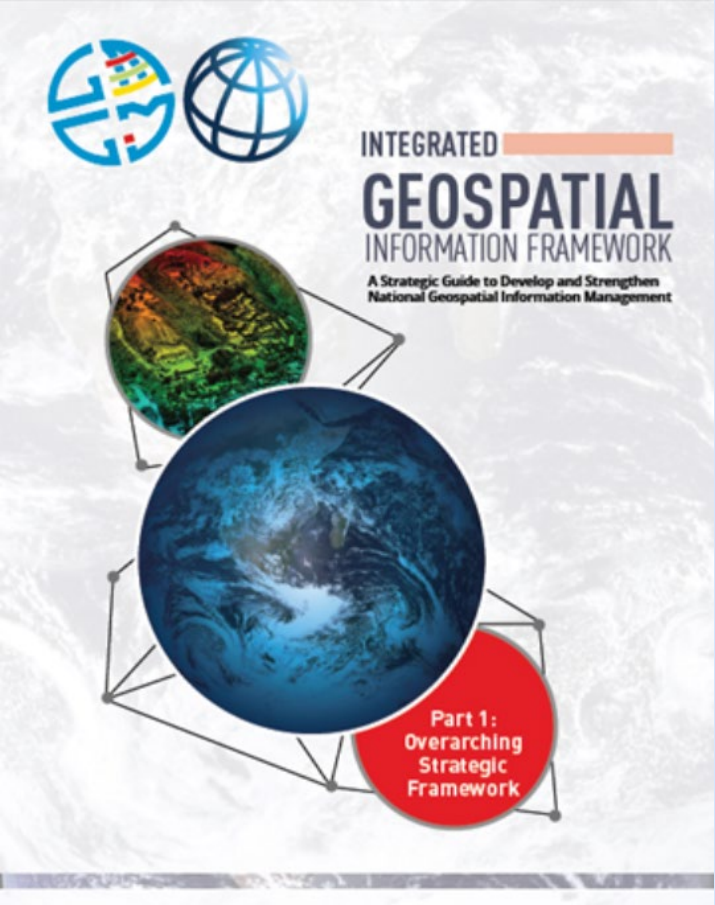


The aim is to:

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, **with a particular focus on *low and middle income countries***

Integrated Geospatial Information Framework (IGIF)

The IGIF was adopted by member states in **August 2018**. It provides a holistic view of geospatial information management through 9 Strategic Pathways.



Country Level Implementation- World Bank IGIF Templates

•Diagnostic/Baseline Assessment

Business case
-Alignment to Policy/ Business Drivers
-Socio-Economic Impact Assessment

Action/Investment Plan



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The templates are available [here](#)



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Baseline Diagnostic Tool

IGIF Baseline Diagnostic Tool (DT) and Assessment Template provide an assessment of the “as is” position of geospatial information management, structured around the nine IGIF pathways

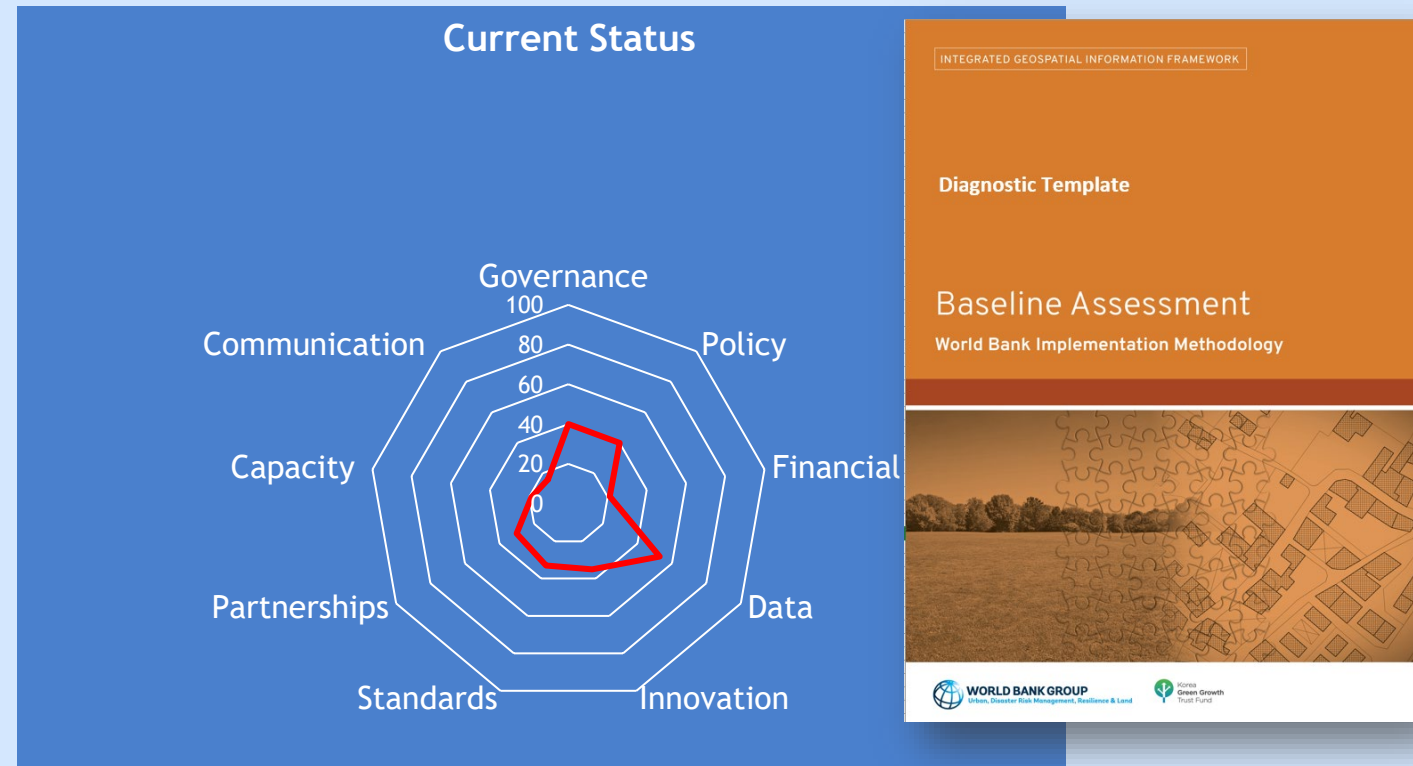
The DT is applicable to any geographical entity including city, region and country levels.

Used to engage stakeholders through a consultation and verification workshop.

The Baseline Assessment Diagnostic Tool Template is available for download [here](#):



The Baseline Assessment Report Template is available for download [here](#).

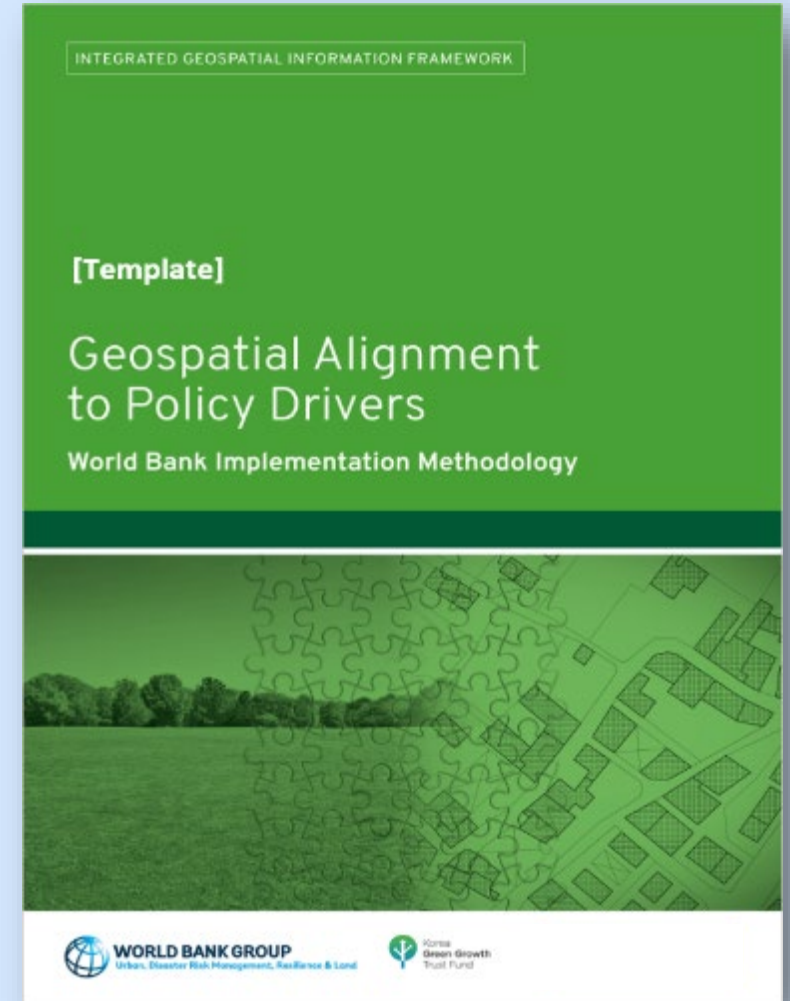


Geospatial Alignment to Policy Drivers

Geospatial Alignment to Policy Drivers Template is used to align the Government's strategic objectives and international commitments to specific spatial use cases (applications) and then prioritizes them based on how well they support and accelerate achieving these strategic objectives.

This work is key for communications and awareness raising with decision makers.

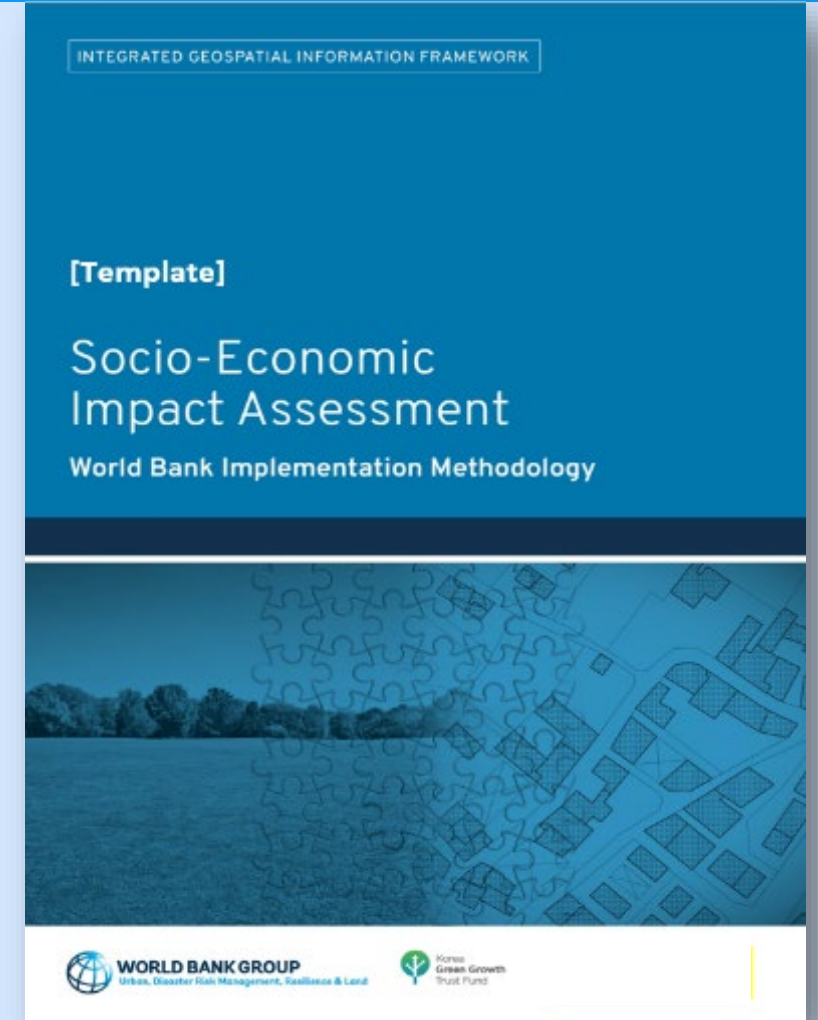
The **Geospatial Alignment to Policy Drivers Template** is available for download [here](#).



Socio-Economic Impact Assessment

Socio-economic Impact Assessment Template delivers an assessment of the socio-economic business case for investment in an SDI from both qualitative and quantitative perspectives. It is informed by the outputs from the two tools outlined above.

The Socio-economic Impact Assessment Template is available for download [here](#).



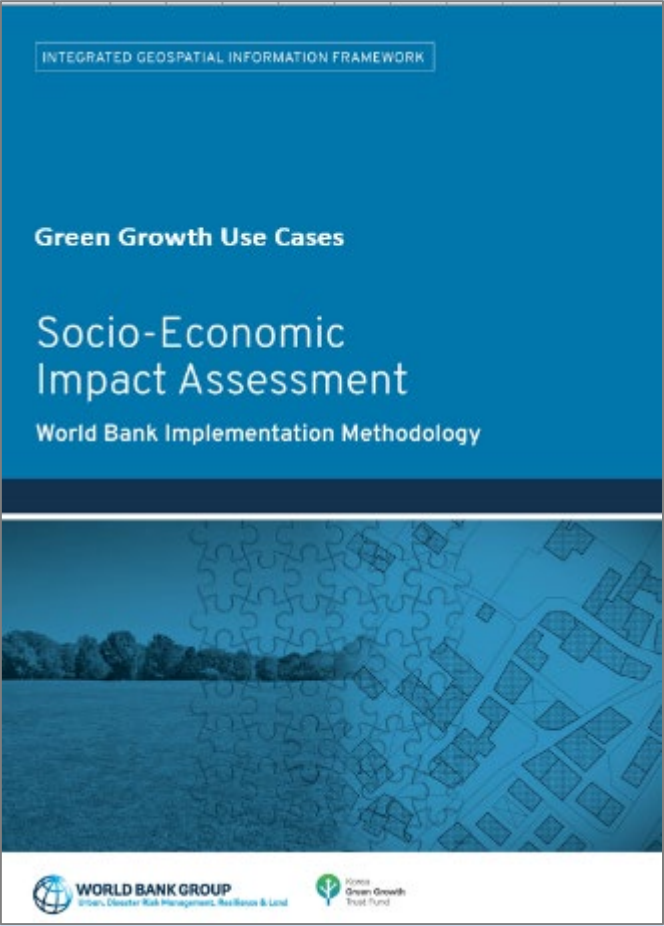
BENEFITS: SECTORS, USE CASES, ACTIONS

SECTORS	Urban Planning Land Community Services	Environment Mining	Water Tourism	Health Security	Disaster Management Government Administration	Energy Agriculture	Transport Marine Law
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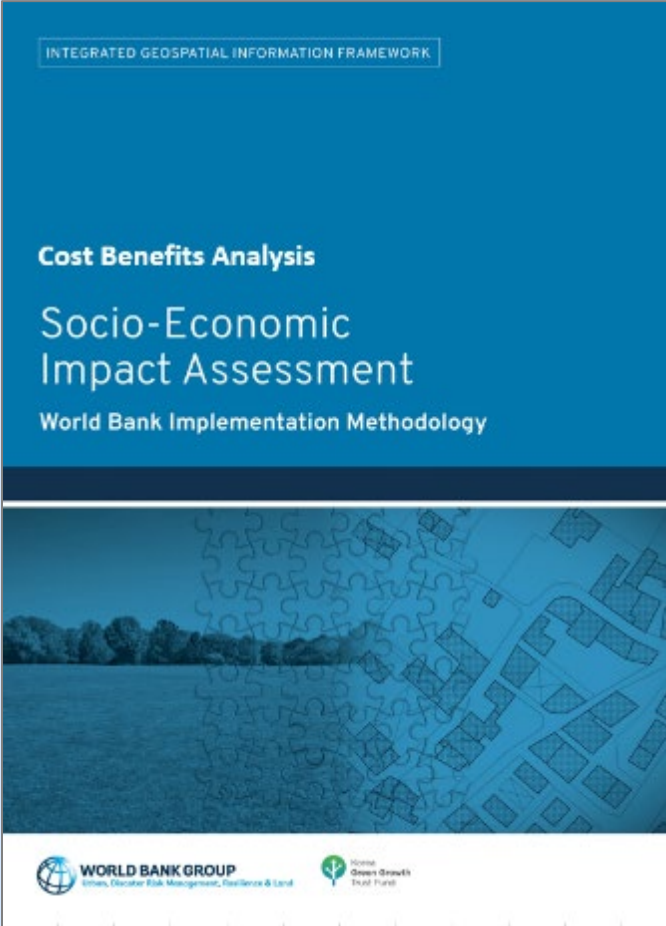
USE CASES	Event Management Intelligent Transport Network Traffic Operations Road Safety Street Works Ride-sharing Apps	Mining Cadastre Waste Management State Land Cadastre Valuation Earthquake Monitoring	Environmental Permitting Waste Management Business Registration SmartCities Retail Apps	Eco-tourism Energy Sourcing eGovernment Community Services	Emergency Response Crime Mapping Location-based Services Livestock Management Disease Monitoring	Crop Production Farm to Table Freehold Land Cadastre National Development Plan	Rangeland Monitoring
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ACTIONS/INVESTMENTS	Positioning e.g. GNSS Network	Imagery Acquisition e.g. Satellite and Drone Imagery	Data Capture e.g. Land and Building cadastre	Data Integration e.g. Street Address	Data Sharing Geoportal/Policy	Business Intelligence e.g. AI and Machine-learning Applications
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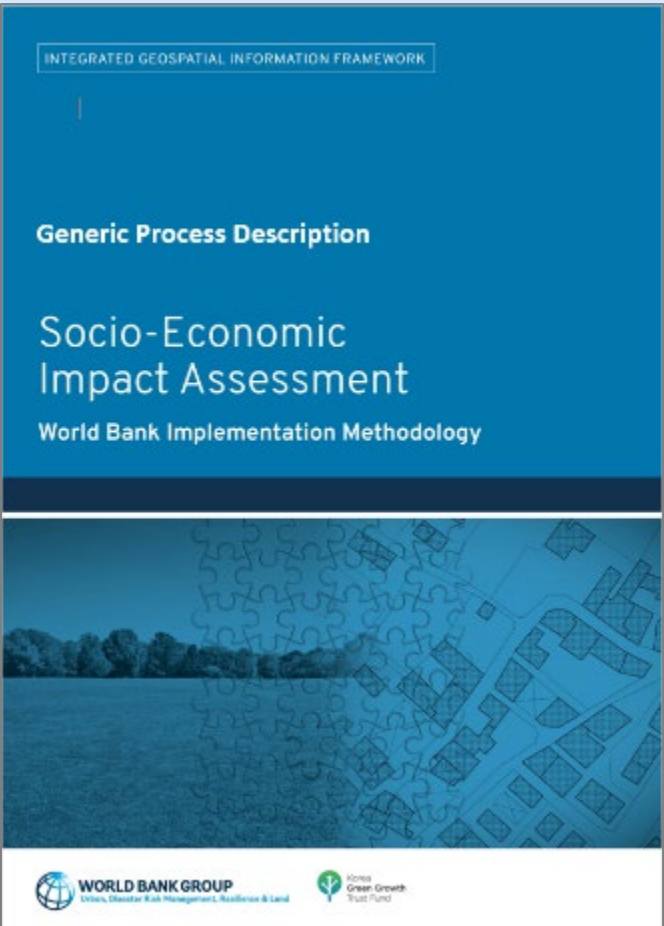
Additional Tools for the Socio-economic Impact Assessment



Green Growth Use Cases 



Cost Benefit Analysis 



Generic Process Description 

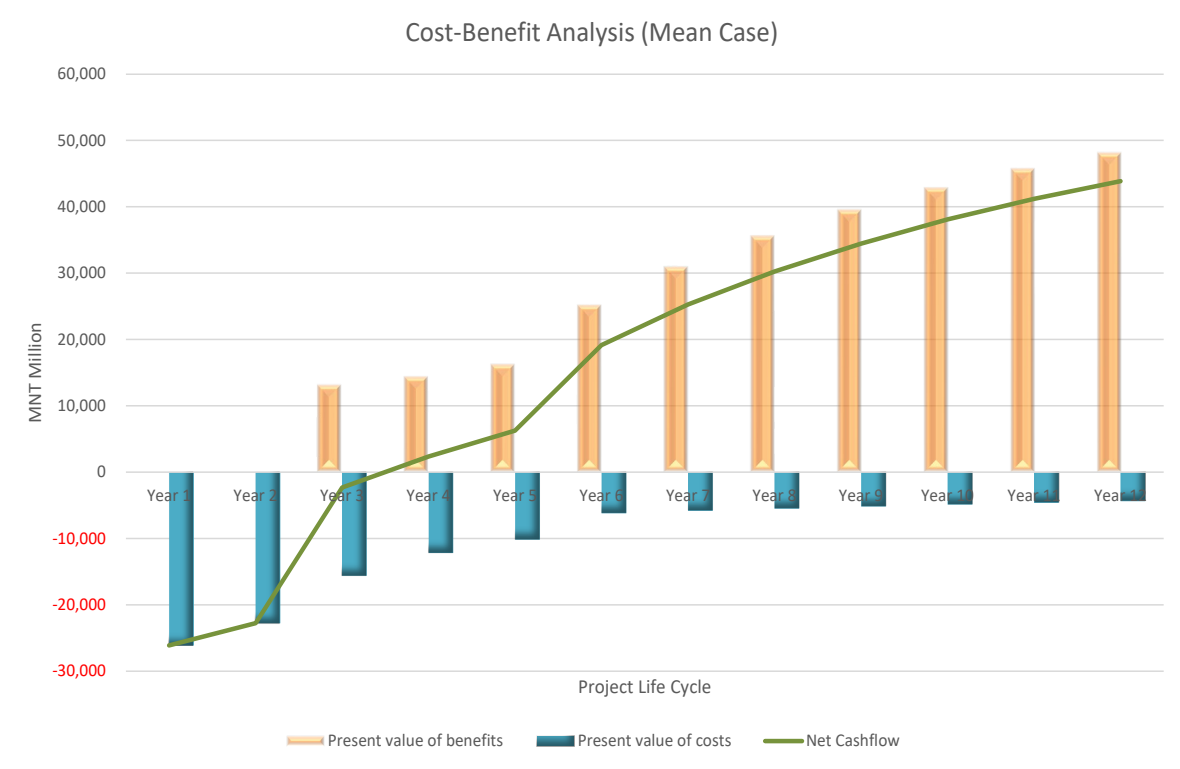
Socio-Economic Impact Assessment: Financing Justification

Benefit to Cost Ratio: 2.5: 1
Return on Investment: 250%
Net Present Value: US\$ 66,1 million

World Bank Infrastructure Project Model:

- Project Life Cycle:
 5 years development
 7 years operation
- Discount Rate: 6%

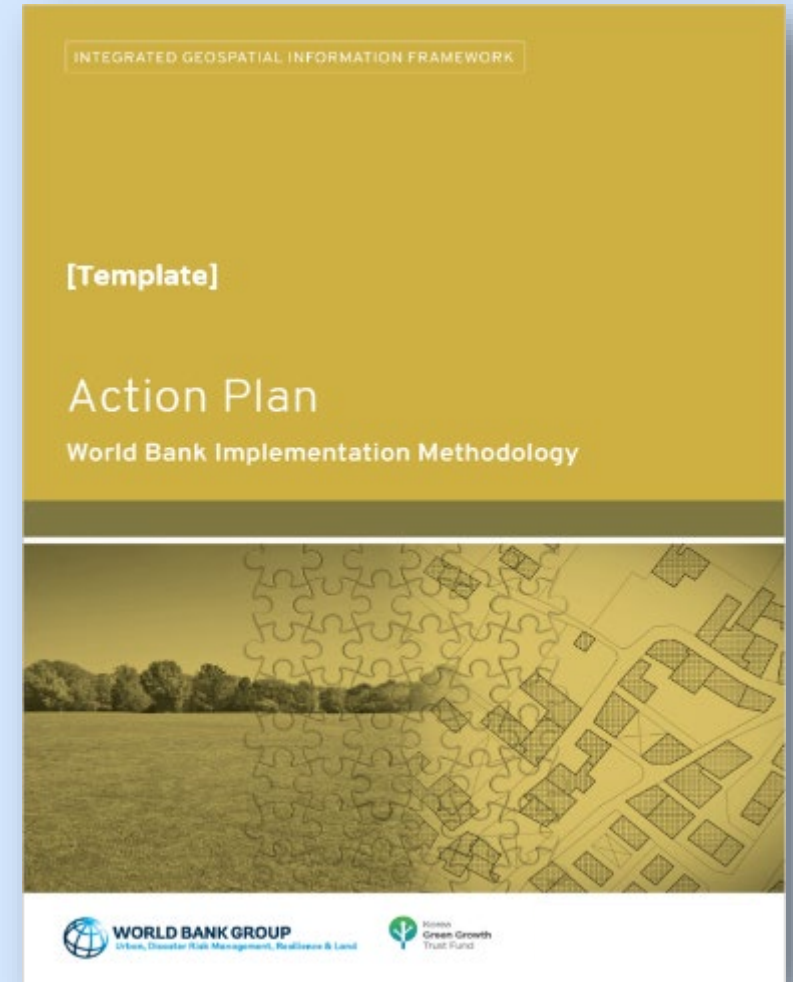
<p>Government Efficiency</p> <p>+</p> <p>Business Growth</p> <p>+</p> <p>Social and Environmental Benefits</p>	<p>Reduced operating costs by having a common National address database</p> <p>12 Bn MNT (\$4.5 Mn)</p> <p>Data Sharing </p>	<p>Increased land use fees from complete land parcel register</p> <p>72 Bn MNT (\$26.6 Mn)</p> <p>Fee Collection </p>	<p>Improved Commercial Property Tax Collection</p> <p>7 Bn MNT (\$2.1 Mn)</p> <p>Tax Revenues </p>
	<p>Reduced survey costs for mining, construction, utilities and transport</p> <p>49 Bn MNT (\$18.3 Mn)</p> <p>Geodetic Reference Stations </p>	<p>New jobs directly linked to geospatial globally estimated at 4 million, scaled to Mongolia</p> <p>17 Bn MNT (\$6.2 Mn)</p> <p>Employment </p>	<p>Land market growth stimulated by auctions of state land</p> <p>9 Bn MNT (\$3.5 Mn)</p> <p>Land market </p>
	<p>Improved response to disaster events</p> <p>89Bn MNT (\$33.2 Mn)</p> <p>National Emergency Management </p>	<p>Better and quicker urban planning decision making</p> <p>7Bn MNT (\$2.6m)</p> <p>Employment </p>	<p>Global decrease in CO2 emissions</p> <p>1686m Tonnes</p> <p>Climate Change </p>



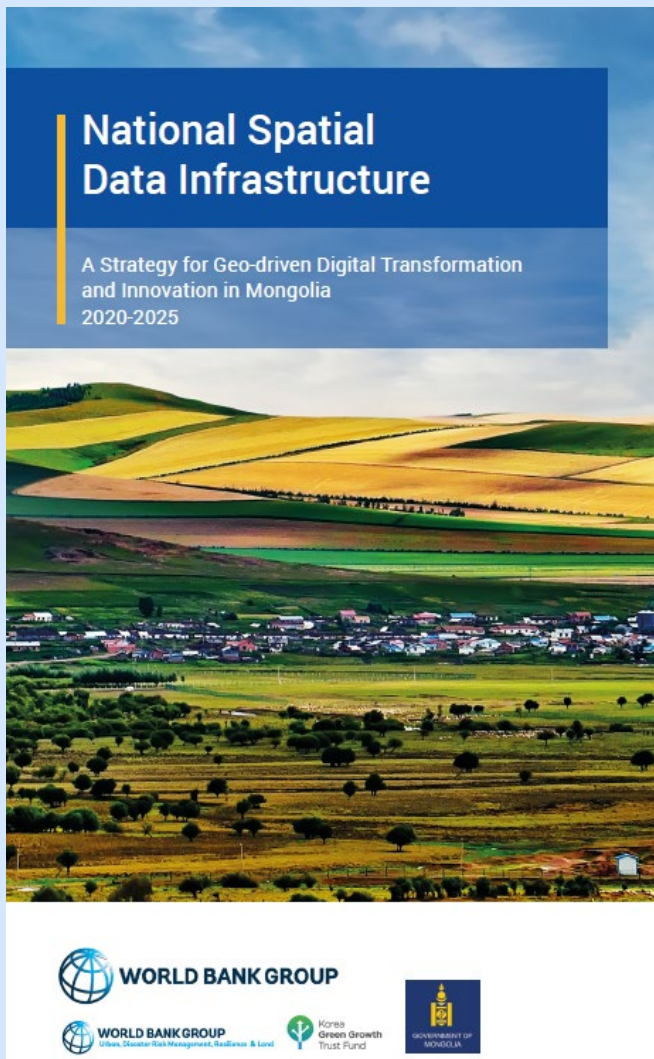
Country-level Action Plan

Country-level Action Plan template outlines the actions and investments in a sequenced and structured manner. It builds on the previous deliverables to create or update a high-level geospatial strategy and a corresponding costed roadmap for SDI enhancements, presented as a series of interdependent policy interventions and implementation projects.

The Country-level Action Plan Template is available for download [here](#).

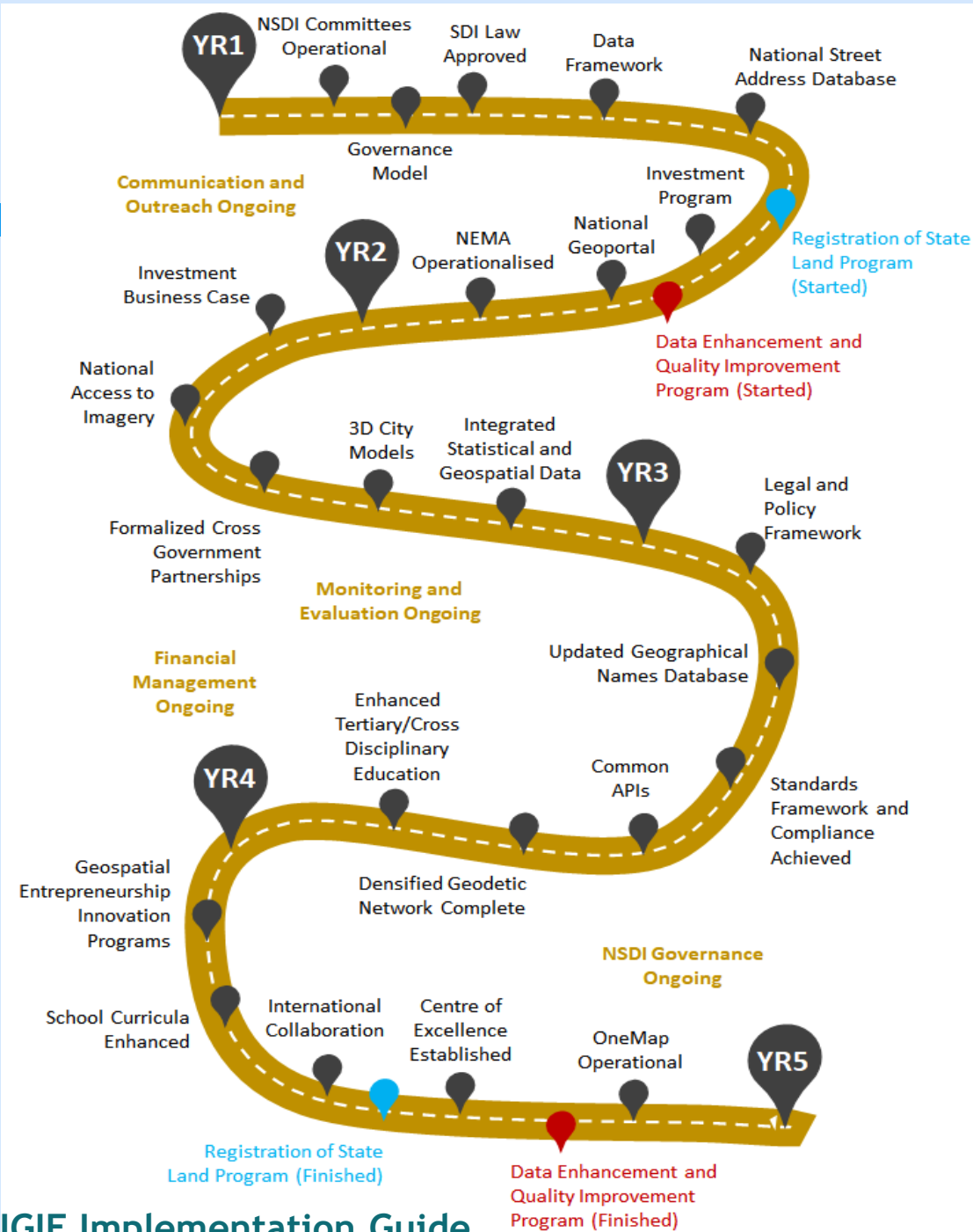


IGIF Action/Investment Plan: Mongolia



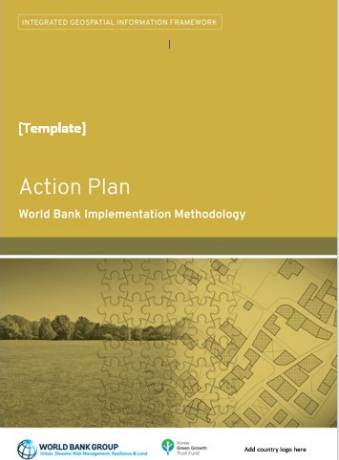
Vision: *Geo-driven eGovernment and innovation* that empowers efficient and effective use of geospatial information towards national sustainable development and economic growth.

Potential financing through the new WB- financed Digital Development Project: Delivery June, 2022



IGIF Implementation Guide

Action Plan Priority Investments Linked to Existing Financing

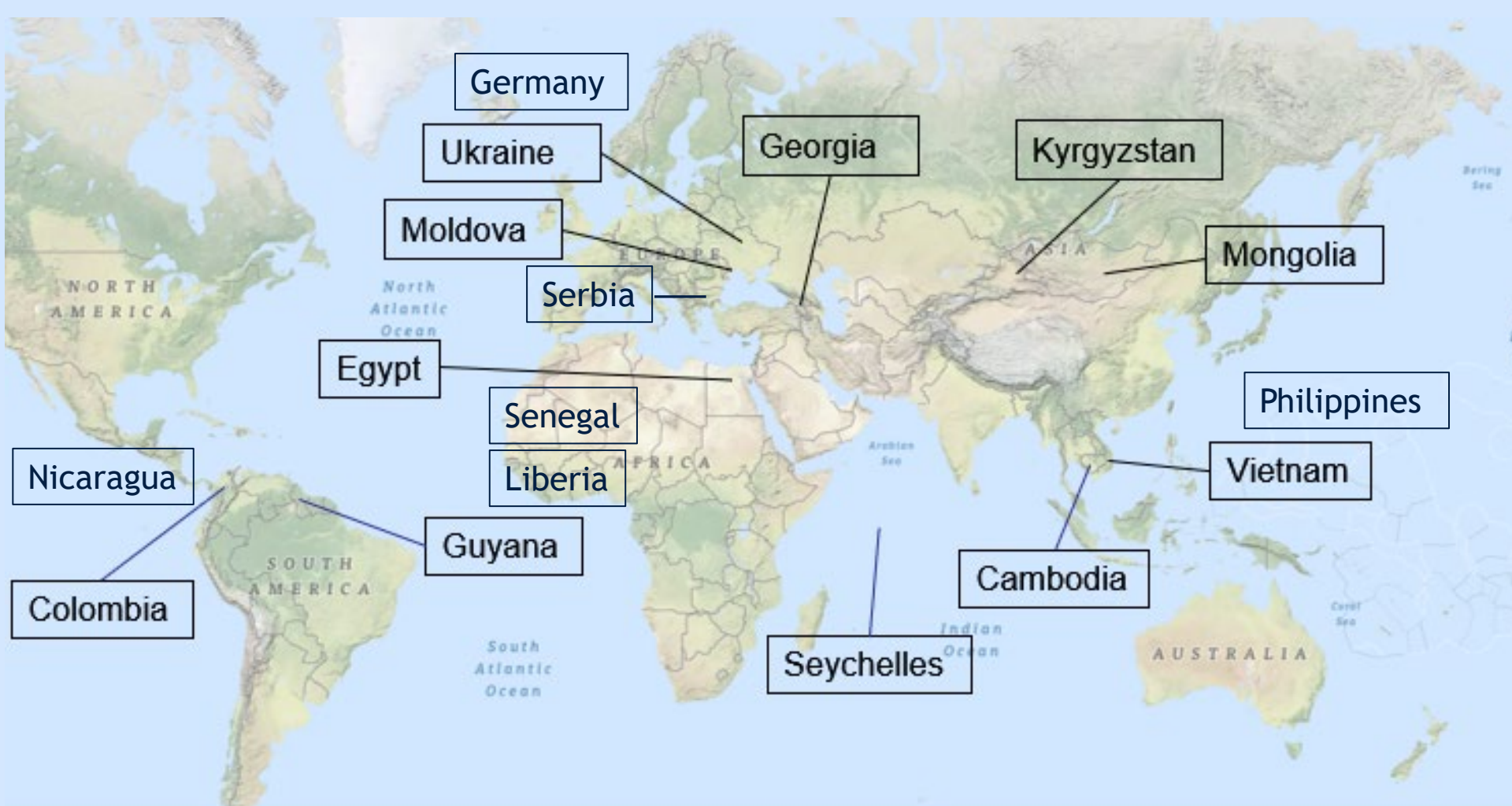


Example from Colombia IGIF Action Plan

Prioritize Activities in Existing Projects

Ref	Task Type			Financial			Time Frame				
	IGIF Pathway	Priority	Description	Total Investment (US\$)	Capital or Recurrent	Funding Source	Year 1	Year 2	Year 3	Year 4	Year 5
	Financial										
3.1	Create an NSDI Business Model	Med		35,000	C	WB	■				
4.1	Create inventory of existing data	High	See also overlap with 6.3	30,000	C	WB	■				
4.2	Train and Guide data owners to complete metadata	High		50,000	C	Gov		■			
4.3	Define fundamental dataset & custodians	High	Consultancy advised	50,000	C	Gov	■				
4.4	Invest in data themes, prioritised to demand	High	Depending on theme and demand								
	Cadastral Parcels - MPC	High	MPC Subcomponent 3.2	19,500,00	C	WB	■	■	■	■	■
	Functional Areas	High	Consultancy advised	500,000	C and R		■	■	■	■	■
	BaseMap	High	Consultancy advised	500,000	C and R		■	■	■	■	■
	Address Database	Med	Consultancy advised	500,000	C and R		■	■	■	■	■
	Security / Safety	High	Consultancy advised	50,000	C and R		■	■	■	■	■
4.5	Create digital archive of historical data and imagery	Low	Could be a PPP	500,000	C and R			■	■	■	■
		Innovation									
5.1	Ensure real time GNSS corrections are available	High	System testing	20,000	C		■				
5.2	Evaluate imagery for updated topographic base maps	High		20,000	C		■				
5.3	Develop a Geospatial Centre of Excellence (CoE)	Med	Assumes Head, 2 x trainers	250,000	C and R		■	■	■	■	■
5.4	Assess Geospatial Innovation start-up scheme	Med		20,000	C		■				
5.5	Improve access to key registers	Med	Demonstrator	50,000	C			■			

IGIF COUNTRY LEVEL IMPLEMENTATION



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Financing IGIF Implementation: World Bank Project Cycle

Easiest and 'immediate': Add to or Guide existing projects

- Land Administration: Colombia, Moldova, Serbia, Guyana (through FAO)
- Disaster Risk Management: Seychelles

Projects in the Pipeline (12-24 months)

- Cambodia: national (solid waste mgmt project); sub-national (Phnom Penh urban dev.)
- Nicaragua: land administration
- Liberia (analytics under existing land project; new financing under urban project)
 - * Swedish Grad student introduced via Landmateriet leading IGIF Diagnostic in coord. with Liberia Land Authority and WB urban/land team
- Mongolia: Digital Development project – IGIF reference in Project Appraisal Document

New Financing: 18+ months

- Most projects start with analytics (IGIF tools/Templates provide basis)
- Senegal

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Resources for IGIF Implementation

Blended Learning Program: eLearning and Open Online Course



Open Learning Campus

ACCELERATING SOLUTIONS THROUGH LEARNING



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www.olc.worldbank.org



Self-Paced ELearning

Strengthening Geospatial Information Management: Using the Integrated Geospatial Information Framework (Self-Paced)

The Integrated Geospatial Information Framework is guide for strengthening arrangements in geospatial information management.

★★★★★ • Discussion (2)

Massive Open Online Courses (MOOCs)



MOOC

Strengthening Geospatial Information Management: Using the Integrated Geospatial Information Framework (Self-Paced)

The Integrated Geospatial Information Framework is guide for strengthening arrangements in geospatial information management.

★★★★★



IGIF Self-paced Online Learning



The course is free and a nominal fee is charged for the 'certificate' graded version.

Since January 2020, the course has had 117 enrolments from 46 countries.



The course can be accessed [here](#)



IGIF Self-paced Online Learning

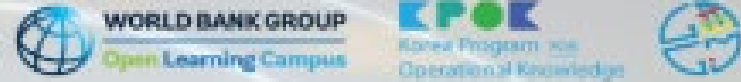
A fifth module was recently added and is currently a standalone module.

Module Five explains the socio-economic impact assessment methodology.

The fifth module is free and can be accessed [here](#)



IGIF Virtual Knowledge Exchange (Series 1 and Series 2)



Strengthening Geospatial Information Management: Using the Integrated Geospatial Information Framework (IGIF)

March 15 – April 9, 2021

Virtual Knowledge Exchange

REGISTER

Event Schedule

Session 1 on Governance

Live Webinar March 16, 2021
8-9:30am ET | 12-1:00pm GMT | 9-10:30pm Korea
Self-Paced Week 1

Session 2 on Technology

Live Webinar March 23, 2021
8-9:30am ET | 12-1:00pm GMT | 9-10:30pm Korea
Self-Paced Week 2

Session 3 on People

Live Webinar March 30, 2021
8-9:30am ET | 12-1:00pm GMT | 9-10:30pm Korea
Self-Paced Week 3

Session 4 on Benefits

Live Webinar April 6, 2021
8-9:30am ET | 12-1:00pm GMT | 9-10:30pm Korea
Self-Paced Week 4

About the Event

In the digital era, geospatial information technology has emerged as a major contributor to economic transformation for many countries. Every decision we make, every event or daily activity we do occurs at a geographic location. Geospatial information is used across different sectors to solve complex problems such as hazard risk management, integrated transportation, sustainable land administration and management, health services, urban policy and planning, and much more. Innovative geospatial information technologies are "disrupting" conventional ways for addressing the development and management of different sectors, transforming the culture, education and institutional frameworks along with its evolution. From navigating closest restaurants to tracking logistics and planning optimal delivery routes, the transforming digital services built on geospatial information, GPS and base maps have gradually become part of our daily routines.

However, while governments collect geospatial data, this information is often not well-integrated and cannot be easily accessed and used. In order to bridge the 'geospatial digital divide' and promote the development of geospatial information technologies in the emerging economies, the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), in partnership with the World Bank, adopted the Integrated Geospatial Information Framework (IGIF) in August 2018. The Framework aims to help governments develop, access, manage and use geospatial information, while enabling them to make effective policies to promote resilience and inclusive development across priority sectors. Currently, the World Bank's Open Learning Campus (OLC) and the Urban, Disaster Risk Management, Resilience and Land-Global Practice are conducting a series of virtual knowledge learning sessions that focuses on the key IGIF topics: (i) governance; (ii) technology; (iii) people; and (iv) socio-economic benefits.

4 week event in March & Oct. 2021:

- Weekly eLearning module
- A 2 hour live session
- Facilitated Online discussion forum

828 participants from 133 countries

The presentations are available in English, Spanish, Korean, French and Russian.

The Virtual Knowledge Exchange delivered in March 2021 can be accessed [here](#)



Thank you!

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<https://www.wbgkgtf.org>



<https://olc.worldbank.org>

