

[Template]

Geospatial Alignment to Policy Drivers

World Bank Implementation Methodology



Credits

This template has been prepared by the World Bank Urban, Disaster Risk Management, Resilience and Land Global Practice' (GPURL), Land and Geospatial Team, and supported by the Korea Green Growth Trust Fund.

The World Bank team was led by Kathrine Kelm, Senior Land Administration Specialist, Land and Geospatial Team, and included Andrew Coote, Dr Lesley Arnold and Dr Robin McLaren.

The concepts for the methodology are based on the Integrated Geospatial Information Framework (IGIF), which was adopted by the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), August 2018.

The World Bank Methodology was developed in conjunction with the Food and Agriculture Organization of the United Nations.

More Information

For further information regarding this template or to acquire additional copies please contact:

The World Bank

1818 H Street, Washington DC, 20433, USA

Kathrine Kelm, Senior Land Administration Specialist

Urban, Disaster Risk Management, Resilience and Land Global Practice

Email: kkelm@worldbank.org | Web: www.worldbank.org

Disclaimer

Some rights reserved

This work is a product of the staff and consultants to The World Bank. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work.

Rights and Permissions

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for non-commercial purposes as long as full attribution to this work is given.

Copyright Statement

© This document Template is the property of the World Bank - All rights reserved.

Instructions

This template is for reporting the results of analyzing how the fundamental geospatial data¹ might be optimally applied to assist in the delivery of key Government policies. This alignment is designed to ensure that the Spatial Data Infrastructure (SDI) delivers more efficient government, economic growth, citizen benefits and sustainable development.

This document provides headings, instructions, standard content and examples that are recommended for Geospatial Alignment to Policy Drivers Report:

- *[Template] – On cover page to be overwritten with Country name*
- *Country Logo - Add to cover page*
- *[Country] – Bracketed text is to be overwritten*
- *Headings – are included to assist in structuring the content and shaping the report.*
- *Instructions – are shown in purple italics and are to be deleted once understood.*
- *Standard Content – is content, shown in black text, which is to be retained/included in each Country Action Plan.*
- *Examples – are shown in grey as a guide to the content of each section and are to be overwritten with new material or removed as required.*
- *Remember to update the Table of Contents page numbers and Figure and Table caption numbering and references.*
- *Also update the Abbreviations to those relevant to this document.*

This section can be deleted in its entirety once the instructions are understood.

¹ Definition and Scope of UN-GGIM Fundamental Data Themes – see Annex A
http://ggim.un.org/meetings/GGIM-committee/8th-Session/documents/E-C20-2018-7-Add_1-Global-fundamental-geospatial-data-themes.pdf

Status

This version of the template is final. It has been prepared by the World Bank following the publication of IGIF Part 2 in August 2020.

Add short statement to indicate clearly to the reader its status e.g., internal, draft, final. Check if a disclaimer is also required.

Report: Version history			
Version	Date	Author(s)	Remarks

Report: Review history			
Version	Date	Reviewer	Remarks

ABBREVIATIONS

The table below should provide common abbreviations. It should be updated to reflect what is relevant for each country and circumstance. All other abbreviations should be spelt out in full in the text on their first usage.

CORS	Continuously Operating Reference Station
CPF	World Bank Country Partnership Framework
DT	Diagnostic Tool
GAPD	Geospatial Alignment to Policy Drivers
GDP	Gross Domestic Product
GIS	Geographic Information System
GNSS	Global Navigation Satellite System
IGIF	Integrated Geospatial Information Framework
ISO	International Standards Organization
KPI	Key Performance Indicator
NMA	National Mapping Authority
NSDI	National Spatial Data Infrastructure
NSO	National Statistical Office
SDG	Sustainable Development Goal(s)
SDI	Spatial Data Infrastructure
TA	Technical Assistance
ToR	Terms of Reference
UN-GGIM	United Nations Global Geospatial Information Management
WB	World Bank

ACKNOWLEDGEMENTS

This report was prepared at the requested of *[Name of Commissioning Agency]*.

The team was led by *[name of team leader]* and included *[names of team members]*.

The team is grateful to the *[title of head of commissioning agency]*, for their direction and hospitality and for putting together a support team which helped in organizing stakeholder meetings and collecting and collating data at both sector and higher-level government institutions.

The team also expresses their sincere gratitude to the wide range of stakeholders from different Ministries and Agencies, private sector organizations and Non-Government Organizations (NGOs) who gave valuable insights, information and time.

A full list of the parties engaged in the production of this report is included as Appendix A.

PREFACE

This is a common introduction to all templates within the IGIF World Bank methodology. Please check for updates prior to publication.

The world is experiencing a fourth industrial revolution built upon the internet and a comprehensive data infrastructure of fundamental datasets². The term infrastructure is used here in the same sense as the road network is part of the fundamental infrastructure required to support transportation.

To help achieve this transition, many countries are building national data infrastructures. For instance, the Netherlands has been at the forefront of recognizing that integrating authoritative key data registers, such as buildings, addresses and ownership, into a coherent data infrastructure will, not only make Government more cost-effective, but will also make the interaction for citizens and businesses with Government quicker and more efficient³ and allow the private sector to derive benefits from new services.

One of the primary components of a data infrastructure is the location of a nation's assets, including land, natural resources and the built environment to allow these assets to be managed more effectively in the context of development planning and climate change mitigation, for example. This is because "everything happens somewhere" and without knowledge of location (geospatial position⁴), decision making on many matters of national importance is significantly impaired.

The term Spatial Data Infrastructure (SDI) has historically focused on the collection of data and the implementation of technologies. The IGIF provides guidance on how to extend the scope of SDI to cover the governance, policy, financial, capacity and engagement processes necessary to collect, maintain, integrate and share geospatial information, through all levels of government and society.

In August 2020, the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) adopted the Integrated Geospatial Information Framework (IGIF), which provides the strategic guidance that enables sub-national or national-specific Action Plans to be prepared and implemented to strengthen integrated information management.

The IGIF aims to assist countries (including city and regional governments) to move towards e-economies, e-services, and e-commerce. Delivering socio-economic value by improving services to citizens, enhancing evidence-based government decision making processes, creating new job opportunities, facilitating private sector economic growth, and taking practical actions to achieve a digital transformation. Through these means, the IGIF will help

² United Nations GGIM Fundamental Geospatial Data Themes: https://ggim.un.org/documents/E-C20-2018-7-Add_1-Global-fundamental-geospatial-data-themes.pdf

³ <https://business.gov.nl/regulation/addresses-and-buildings-key-geo-register/>

⁴ These terms are used in different geographies and contexts and are regarded here as interchangeable.

to bridge the geospatial digital divide between developed and developing countries and to support the 2030 Agenda for Sustainable Development.

IGIF Structure

The IGIF comprises of three (3) parts as separate, but connected, documents:

- **Part 1:** Overarching Strategic Framework presents a forward-looking Framework built on national needs and circumstances, focusing on policy, perspectives and elements of geospatial information. It sets the context of ‘why’ geospatial information management is a critical element of national social, economic and environmental development.
- **Part 2:** Implementation Guide is the detailed document that provides the ‘what’, the specific guidance and actions to be taken in implementing the Framework. The aim is to provide guidance for governments to establish ‘nationally’ integrated geospatial information frameworks in such a way that transformational, albeit staged, change is enabled, visible and sustainable.
- **Part 3:** Country-level Action Plans will provide templates and guides to operationalize the Framework in a national and sub-national context. Providing the ‘how, when and who’ approach, this document will assist countries to prepare and implement their own country-level Action Plans taking into consideration national circumstances and priorities.

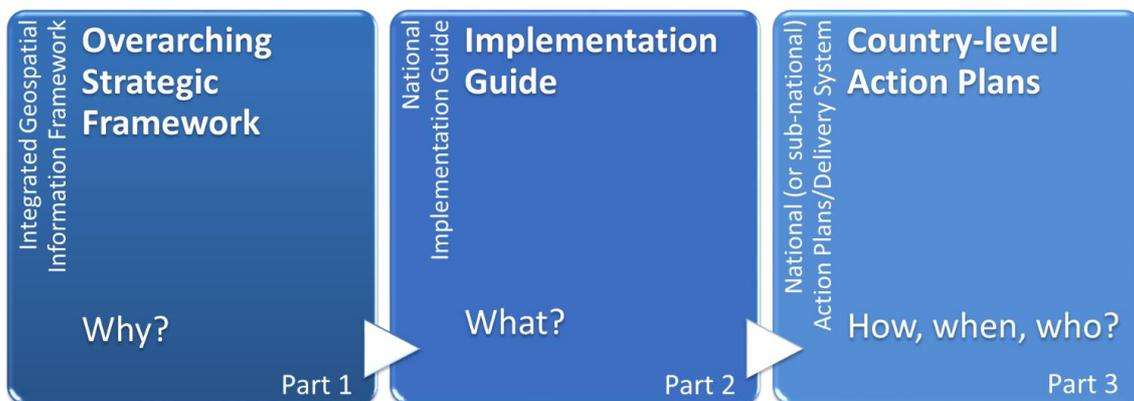


Figure 1 The 3 component documents of the Integrated Geospatial Information Framework

World Bank IGIF Implementation Methodology

The World Bank Group has established an IGIF Implementation Methodology and corresponding analytical toolkit to support the use of the IGIF and incrementally create SDIs customized to specific countries and priorities. The graphic below illustrates the sequence and relationship of these analytical tools used to arrive at the implementation of the SDI. The symbology shows the analytical tools (in orange), key inputs (in blue), the IGIF in purple, outcomes (in green) and uses arrows to different types of information flows.

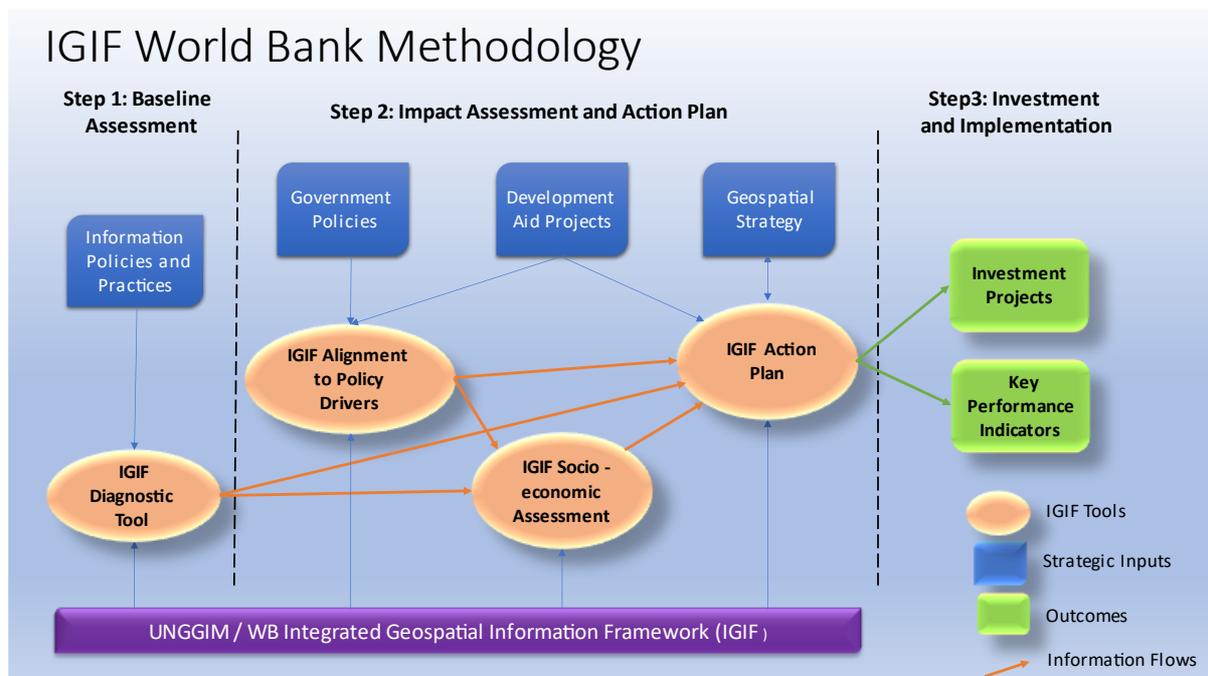


Figure 2 World Bank IGIF Implementation Methodology

In summary, this methodology has been applied as follows:

Step 1: Baseline Assessment

A single integrated tool is used for this purpose:

Analytical Tool 1 - IGIF Baseline Diagnostic Tool (DT): this provides an assessment of the “as is” position of geospatial information management in the country, structured around the nine IGIF pathways, including governance, policy, financial, human capacity, and technical perspectives. The output forms a baseline for the next steps.

Step 2: Impact Assessment and Action Plan

Three tools are used to build a prioritized, cost-justified roadmap for strengthening integrated geospatial information management:

Analytical Tool 2.1 - IGIF Alignment to Government Policy Drivers: this tool 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.

Analytical Tool 2.2 - IGIF Socio-economic Impact Assessment: this tool 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.

Analytical Tool 2.3 – IGIF Action Plan: this tool 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.

Step 3: Investment and Implementation

Once the Action Plan has been approved in terms of scope, investment plan and priorities, then work will commence to identify sources of government and international funding. Individual actions may also need to be specified in greater detail to support implementation planning and the definition of Key Performance Indicators (KPIs) to monitor and evaluate implementation.

These steps must be delivered within a recognized project management methodology that provides appropriate governance and incorporates transparency and accountability for all tasks and outcomes.

DOCUMENT STRUCTURE

How the rest of the document is organized.

Reference to the other outputs of the study and how this report relates to them.

The report is structured as follows:

- **Section 1: Context** - a brief overview of the customer (city, region or nation), its recent history, particularly related to geospatial information and related infrastructure. It also describes the purpose of undertaking the geospatial alignment to policy drivers at this time. Achievements to date in the field of geospatial information and SDI development are described.
- **Section 2: Purpose** – summarizes the results of each stage of the application of the Geospatial Alignment to Policy Drivers (GAPD) tool.
- **Section 3: Reference Documents** – contains a series of summaries of the relevant parts of existing Government policies and strategies and international commitments that have been considered in the development of this output.
- **Section 4: Key Geospatial Use Cases** – details the use cases, outcomes and the geospatial information requirements that “add value” to the Government policy objectives.
- **Section 5: Stakeholder Characteristics** – lists the key stakeholders to be involved in future development of the SDI.
- **Section 6: Conclusions and Next Steps** – describes what has been achieved so far, acknowledge any limitations, and outline the lessons learned that could be applied to other studies.

CONTENTS

Abbreviations.....	5
Acknowledgements.....	6
Preface	7
IGIF Structure	8
World Bank IGIF Implementation Methodology.....	8
Document Structure	11
Contents.....	12
Executive Summary.....	13
1. Context	15
1.1 Terminology	15
1.2 Brief Country Description.....	15
1.3 Background on NSDI Activity.....	15
1.4 Recent, current and proposed SDI-related activity.....	16
2. Purpose.....	17
2.1 Overview	17
2.2 Analysis Methodology	17
3. Reference Document Review.....	19
3.1 National Policies and Strategies.....	19
3.2 International Commitments.....	24
4. Key Geospatial Use Cases.....	25
5. Stakeholder characteristics	29
6. Conclusions and Next Steps.....	31
Appendix A: List of Stakeholders.....	32
Appendix B: Full Use Case Spreadsheet.....	33

EXECUTIVE SUMMARY

As the GAPD is an intermediate deliverable, an executive summary is not always necessary. If required for review by decision makers, it should be only 2-3 pages in length and designed to bring out the key learnings from its completion that feed into the socio-economic impact assessment and action plan.

i. Context

Sets out the program(s) that have funded the work, when it was completed, and all the stakeholders consulted.

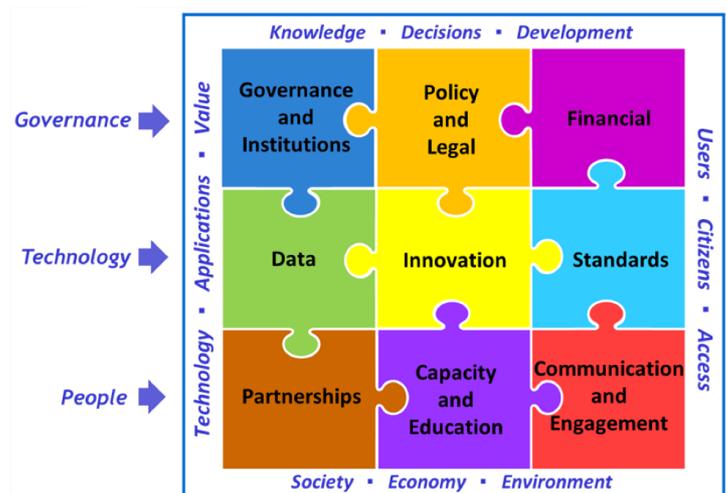
It should also describe its purpose as ensuring alignment of the subsequent Action Plan to the government’s policy drivers, particularly by identifying use cases of geospatial information that help to achieve positive outcomes for enhancing citizen welfare and stimulating economic growth, and support implementation of the Sustainable Development Goals (SDGs).

The next paragraphs explain the IGIF and World Bank methodology for its implementation.

ii. Integrated Geospatial Information Framework (IGIF)

This GAPD is created in accordance with the UN-GGIM IGIF, its principles and methodologies. The Framework has been developed in a shared UN-GGIM – World Bank project and was adopted by UN-GGIM in August 2018.

The IGIF is anchored by nine strategic pathways within three main areas of influence: governance; technology; and people. These nine strategic pathways seek to maximize the innovative and integral nature of geospatial information by making it available and accessible to governments, communities, businesses, academia and civil societies. This provision serves to innovate, co-create and develop new products, services and applications that deliver new knowledge for evidence-based policy and decision-making.



iii. Geospatial Information in [Name of Country or Region]

Key stages or events in the development of Geospatial information, focusing on what has historically determined the current state. This may include political, economic, social, technological, and environmental and cultural factors.

iv. Strategic Alignment to Policy Drivers

The results of this analysis, describes and prioritizes the Government’s policy objectives and how particular geospatial use cases and consequent data needs can be deployed to support and accelerate these objectives. It is informed by inputs that include relevant Government policies and associated strategic objectives as expressed in policy and strategy documents and international commitments.

In the executive summary it is only necessary to give the titles and a maximum one sentence description of the relevant policy drivers and international commitments.

The results summary should be a list of potential high value use cases for the SDI categorized by the policies and international commitments positively impacted by implementing the use case.

The identification of key stakeholders, a summary of their circles of influence and how this is likely to influence the strategic direction of SDI development should be included here with reference to the appropriate section of the report.

v. Conclusions

Key messages from the process for the National or sub-National Government, particularly regarding next steps in the methodology.

A statement should be included that makes clear that the GAPD is a living document and will be refined and revised as additional information becomes available during detailed planning and implementation.

1. CONTEXT

Explain the background as to why this country, sub-national region or city has chosen to develop an IGIF Action Plan to create or update an SDI.

1.1 Terminology

This section is added as the terms used in IGIF are somewhat ambiguous and inconsistent. Further, the terms executive order and directive for instance have meaning and precedence that varies between countries. Translation will introduce further complications. There are many terms within the scope of legislation and governance that vary between different jurisdictions. It is recommended that usage in IGIF Strategic Pathway 2 Policy and Legal and local usage are explained in this paragraph.

Unless otherwise stated, the following definitions are adopted:

- Policy - a set of principles of what to do in defined situations, that has been agreed by a government or organization.
- Strategy - a plan of action designed to achieve a long-term or overall aim.
- Instrument – a formal or legal written document.

Within IGIF a further distinction is drawn between legislation that consists of laws and regulations, and policies, norms and guides that are described as “typically aspirational and relatively easy to develop and adopt. They include proven practices”⁵.

The term “norm” is particularly problematic as it may have different meanings in different geospatial contexts, the general definition as something that is usual, typical or standard, is adopted unless otherwise explicitly stated.

1.2 Brief Country Description

Short description that picks out some key geographic, demographic, socio and economic facts and issues that should link to government policies and hence the need for geospatial information to support activities to implement and monitor those policies.

1.3 Background on NSDI Activity

The history of the SDI in the country / region / city so far – laws, institutions, governance progress to date and recognized gaps.

It may be useful to describe any previous development partner support for SDI implementation.

⁵ IGIF Implementation Guide Strategic Pathway 2 available at <https://ggim.un.org/IGIF/part2.cshtml>

1.4 Recent, current and proposed SDI-related activity

A summary of project activity, particularly relevant are large programs, such as land reform, digital transformation, disaster risk management, city resilience or delivery of sustainable energy to rural communities, to which the SDI initiative may be linked.

2. PURPOSE

2.1 Overview

This section should present a summary of the results of each stage of the application of the GAPD tool.

The initial objective (Part 1) is used to identify the most relevant policies and frameworks where geospatial can make the most significant impacts. It is expected that focus will be on 6 to 8 prioritized policy areas (themes) to make the Action Plan manageable. It should avoid attempting to satisfy all possible use cases that could be impacted by the SDI.

Part 2 of the analysis then aims to identify the geospatial use cases that, from interactions with stakeholders and knowledge of the geospatial market, offer a pre-study assessment of the highest socio-economic impact.

Part 3 of the analysis reports on the major stakeholders, both on the supply and demand-side (users) and their influence on the likely success of the SDI initiative.

2.2 Analysis Methodology

The analysis has been built up in three parts:

Part 1: **Reference document review:** this stage assembles Government policy and associated strategic statements, International commitments, and other reference materials from relevant planned or on-going development projects. It also identifies key policy areas where NSDI is likely to have a positive impact on implementation of policies or international commitments. Relevant to the selection of policy themes are:

- a) achievability within the timeframe for implementation, and
- b) alignment with sponsor's business entry point(s), such as land administration or disaster risk management.

The IGIF refers to the applicability in some cases of a "topic-focused approach" for reasons of simplicity and the ability to rapidly demonstrate results⁶.

Part 2: **Geospatial use cases:** the use cases are elaborated in sufficient detail to clearly identify how each would advance the thematic policy areas identified in Part 1.

⁶ IGIF Part 2 (Page 9): <http://ggim.un.org/meetings/GGIM-committee/8th-Session/documents/Part%202-IGIF-Implementation-Guide-Consultation-Draft%2014Jun2018.pdf>

Part 3: **Characteristics of the key stakeholders:** this includes the likely influence of these organizations on the development of the NSDI.

3. REFERENCE DOCUMENT REVIEW

This part of the report contains a series of summaries of the relevant parts of existing Government policies and strategies and international commitments that have been considered in the development of this output. Those selected should be where geospatial data and technologies offer significant potential to:

- i) Support improvements to the evidence-base used for decision-making.*
- ii) Provide analysis capabilities that cannot be easily replicated where no fundamental geospatial information is included.*
- iii) Integrate information sources in ways not possible without using geospatial data.*

3.1 National Policies and Strategies

The policies selected should be presented as a table in the structure illustrated below. The information presented in the template is illustrative of the required content and format. The examples are drawn from previous studies in other developing countries.

Table 1 presents the results of the analysis under the following headings:

Reference – a unique reference that can be used in subsequent sections.

Policy Theme Title – the policy area to which the key reference documents refer.

Summary description of Policy or Strategy – contains the title, provenance (date of endorsement, Web URL, and date of access) and a brief description of the primary relevant policies.

Importance of Geospatial technologies – outlines how geospatial technologies can support implementation.

The range of themes to potentially include varies widely between countries. Some examples from previous studies are included in the table to illustrate the type of content for each cell.

Table 1 National Policies and Strategies

National Policies and Strategies			
Ref	Policy Theme Title	Summary Description of Policy or Strategy	Importance of Geospatial Technologies
1	<i>Green State and Low Carbon Development</i>	<p><i>Government of [Country]: Green State Development Strategy (GSDS):</i></p> <p><i>More sustainable exploitation of natural resources.</i></p> <p><i>Transitioned economy using renewable, cleaner and cheaper sources of energy.</i></p> <p><i>Better solid waste management plans</i></p> <p><i>Reorientation and diversification of the economy - investment opportunities in higher value adding and higher growth sectors.</i></p> <p><i>Reducing reliance on traditional sectors – mining, intensive agriculture (rice, sugar cane).</i></p>	<p><i>Reduction of land degradation using satellite imagery to monitor land cover health.</i></p> <p><i>Integrating land use, zoning and cadastral data for better informed development permitting, its enforcement and accountability.</i></p> <p><i>Improve the design of the urban areas including transport networks, green spaces, and parking by greater use of geospatial data in decision making.</i></p>
2	<i>Digital Transformation</i>	<p><i>Government of [Country] Program: Implementation Plan endorsed by Government of [Country], 26 October 2016 No.121</i></p> <p><i>In this action plan, there are number of geospatial related activities as follows,</i></p> <ul style="list-style-type: none"> <i>• Formulate and endorse Spatial Data Infrastructure Law.</i> 	<p><i>At the national level, cadastral land databases should be integrated into a unified system and coordinated with other policy documents.</i></p> <p><i>Increase citizens' participation in land management planning.</i></p>

National Policies and Strategies			
Ref	Policy Theme Title	Summary Description of Policy or Strategy	Importance of Geospatial Technologies
		<ul style="list-style-type: none"> • <i>Formulate and endorse National Policy on Spatial Data Infrastructure.</i> • <i>Develop geospatial services on geographic names, addresses, GCPs and administrative boundaries.</i> • <i>Develop geoportal platform among Government agencies providing geospatial information.</i> <p><i>The policy will be aimed at promoting interdependence between science and industry and development of knowledge-based societies.</i></p>	<i>Supports innovation in cross-discipline science.</i>
3	Building Resilience	<p><i>A key government policy is to create resilient and inclusive housing; approximately 23 percent of all [Country] households currently live in substandard and inadequate housing. Quantitative improvements in housing directly reduces poverty and improves living standards.</i></p> <p><i>The COVID-19 crisis has highlighted even more the fundamental value of quality housing. Improved housing also mitigates disaster risks and encourages climate sustainability. [Country] ranks 10th globally in terms of economic risk posed by three or more hazards</i></p>	<i>The use of drone and street level images in combination with machine learning can identify buildings with specific construction material, size, and use characteristics to create geospatial information and monitoring systems for the optimization of housing subsidy allocation. This a very efficient, consistent and transparent approach to implementing the subsidy program for</i>

National Policies and Strategies			
Ref	Policy Theme Title	Summary Description of Policy or Strategy	Importance of Geospatial Technologies
		<p><i>and has the highest recurrence of extreme events in South America⁷.</i></p> <p><i>To address this qualitative housing deficit, the government is introducing housing subsidy programs, including one to incrementally improve housing. Experience has shown that under certain conditions it is more cost effective and lifesaving to strengthen (retrofit) the existing housing stock and to construct robust buildings than it is to repair damaged buildings after a disaster: to Build Better Before. Studies have shown that every \$1 in disaster mitigation saves from \$4 to \$10 in post-disaster reconstruction costs.</i></p>	<p><i>improving housing quality and increasing resilience.</i></p>
4	National Climate Change Adaptation Strategy for [Country] 2011-2016.	<p><i>This document outlines a comprehensive National Climate Change Adaptation Strategy (NCCAS) which lays out a prioritized framework for action and investment for the 2011- 2016 period aimed at systematically moving [Country] and its people towards a climate change resilient future. The NCCAS mirrors and supports [Country]'s national development strategy and is aimed at ensuring its success and sustainability. Accordingly, key findings of sector-based analysis were synthesized into an integrated framework and</i></p>	<p><i>Geospatial information supports an integrated approach to decision-making for national planning and development through the visualization and integration of geography and statistics, and the dissemination of seamless nation-wide climate change</i></p>

⁷ <https://climateknowledgeportal.worldbank.org/country/colombia/vulnerability>

National Policies and Strategies			
Ref	Policy Theme Title	Summary Description of Policy or Strategy	Importance of Geospatial Technologies
		<i>structured into the following 5 Strategic Thrusts: 1. Mainstream Climate Change Adaptation into National Planning and Development; 2. Enable Climate Resilient and Healthy Human Settlements; 3. Minimize Climate Change Impacts on Food Security; 4. Improve Climate Resilience of Key Economic Drivers; 5. Safeguard Natural Resources and Biodiversity from Climate Change Impacts</i>	<i>information for the government and broader community.</i>

3.2 International Commitments

This section should include both bilateral agreements with national donors and International Financial Institutions (e.g., Regional Development Banks, World Bank) and relevant international commitments, which may include⁸:

- *Transforming our World: 2030 Agenda for Sustainable Development⁹*
- *Sendai Framework on Disaster Risk Reduction 2015 – 2030¹⁰*
- *Small Island Developing States Accelerated Modalities of Action (SAMOA Pathway)¹¹*
- *United Nations Framework Convention on Climate Change (Paris Agreement)¹²*
- *United Nations Ocean Conference: Call for Action¹³*
- *Multilateral trade agreements*

Responses for each should be structured in the format below (repeating that for section 3.1):

Table 2 International Policy Commitments

Ref	Policy Theme Title	Summary Description of Policy or Strategy	Importance of Geospatial Technologies
1			
2			

⁸ IGIF Part 2 Figure 2 (page 10) <http://ggim.un.org/meetings/GGIM-committee/8th-Session/documents/Part%202-IGIF-Implementation-Guide-Consultation-Draft%2014Jun2018.pdf>

⁹ <https://www.un.org/sustainabledevelopment/>

¹⁰ <https://www.undrr.org/implementing-sf>

¹¹ <https://sustainabledevelopment.un.org/sids/samoareview#home>

¹² <https://unfccc.int/>

¹³ <https://oceanconference.un.org/callforaction>

4. KEY GEOSPATIAL USE CASES

As a result of the previous analyses, it should now be possible to detail the use cases, outcomes and the geospatial information requirements that “add value” to the Government policy objectives.

There is no globally definitive list of geospatial use cases. The identification of the most effective use cases will rely on the experience of the national stakeholders and their advisors. However, a list of some of the most often relevant use cases for SDI implementation are provided in the accompanying excel spreadsheet.

Use cases should be documented in this report as follows:

The many policies noted in Part 1 above provide guidance into an assessment of geospatial use cases of relevance to [Country] policies, strategies and programs. These are summarized in Table 3: below and contained in full in the Use Case spreadsheet attached. These inform the Socio-economic Impact Assessment, which will draw upon the higher priority use cases, detailed interviews and relevant documents.

They are laid out thematically. In some cases, they have been informed by interviews with relevant organizations, in others by good practice elsewhere in Europe and the World. Where possible they are linked to the policies listed above.

Key to the Use Case attachment and the summary table below

- **Ref (Reference)** - links the use case back to the policy or strategy themes.
- **Geospatial Use Case Description** – a short title for the use case.
- **Priority** – in advance of the Socio-economic Impact Assessment this is a high-level categorization, based on a limited understanding of the potential benefits, but should reflect the political, economic, social and cultural importance derived from the assessment of alignment with policy direction in Part 2.
- **Lead Agency** – the part of government that would be expected to lead the development of the justification for investment.
- **Supporting Agencies** – other organizations that would be expected to support this process. This will often include multiple other government agencies, private companies, academic institutions and non-government organizations.
- **Primary outcomes** – outcomes in this context are the types of benefits that may reasonably be expected to be realized because of investing in implementation of the use case through the development of an application or process.
- **Outcome Categories** – this should be based on the World Bank scheme of classifying types of benefits. This is included in the spreadsheet.

- **Clarifying Description (if required)** – gives more detail of the use case expressed in terms of its potential application.
- **Principle data types and sources** - outlines the key data needed for the application to deliver useful results. Should identify geospatial fundamental themes but also other data required to implement the use case. This may include data from private and global sources, identified if possible. Names of the most likely sources (by organization name) of this data. For brevity, only the organization’s abbreviation is given, Part 4 provides the full title of each data supplier organization.
- **Duplicate data or systems** – identifies known alternative types or sources of data required to implement the use case. This may include partial coverage datasets or alternatively represent where potential savings may be realized by rationalizing data capture and maintenance by creating a single master source.
- **Additional Information** – references to case studies, particularly those demonstrating quantification of benefits, and further information useful to subsequent development of the use case under the socio-economic impact assessment and action plan.

Please note that not all cells in each use case entry need necessarily be complete and can be developed further during subsequent methodology steps. The cells shown in green are however necessary to the next stage of analysis and should be completed and validated with the customer organization.

The attached Excel spreadsheet provides exemplar use cases from recent World Bank engagements covering the following sectors:

- Strategic, Economic and Urban Planning
- Land Administration (includes land management and surveying)
- e-Government
- Transport (and logistics)
- Disaster Risk Management and Emergency Services
- Agriculture, Forestry and Fisheries
- Health and Social Care
- Natural Resources
- Water and Hydrology
- Energy (including Renewables)
- Environment (includes tourism)
- Commercial (Retail, Financial Services, Real Estate)

- City (and Regional)
- Multi-sector (cross-cutting use cases)

Other sectors or categories can be added to the spreadsheet as required. Extra sheets with single sentence descriptions of other common use cases are also included to further aid discussion with stakeholders of the range of possible benefits of SDI enhancement.

Table 3: Use Case Summary

Use Case Summary				
UC & Policy Ref	Geospatial Use Case Description	Qualitative or Quantitative	Lead Agency	Primary Outcomes
Improving Public Administration.				
IPA 1(N3 & N5)	Evidence-based Local Decision Making. Building and empowering autonomous and local government by ensuring geospatial data access to support local decision making	Qualitative	MRDI	Stronger planning, management, citizen service and governance mechanisms at all levels. Evidenced budget and planning decisions. Integrated planning including with neighbouring administrative areas. Geospatial representation of planning information will allow community online engagement, better informing decision-making. Much of the financial value is swept up in other use cases - the primary outcome of good geospatial data here lies in the ability of decentralisation to be effective, thus meeting GoG policy. Decentralization Strategy 2020-2025 (MRDI) and Regional Development Program of [Country] 2018-2021 These are cross-government initiatives, and at different levels of government. NSDI is critical in ensuring that plans and delivery can be integrated.

5. STAKEHOLDER CHARACTERISTICS

In this section, list the key stakeholders to be involved in future development of the SDI.

Complete the table:

For each stakeholder you should identify:

- *Key Stakeholder – name of organization.*
- *Abbreviation (optional) – acronym for organization used elsewhere in the study.*
- **Functions** – *the entries here are derived from their mission statements and other public statements. It should focus on those functions most directly relevant to the development of the SDI.*
- **Centralized / Decentralized** – *these characteristics will help in assessing the feasibility of certain strategic options, for instance if a distributed approach to data sharing may be impeded by low bandwidth or intermittent availability of suitable internet access.*
- **Influence** – *an examination of the current level of capabilities, commitment, existing data assets and user needs is used to assess the likely influence of the stakeholder in the future development of the SDI.*

The outputs from this part of the analysis helps to validate the feasibility of interventions in the high priority use cases identified in Part 2.

Table 3 Key Stakeholder Characteristics

Key Stakeholder	Abbreviation	Functions	Centralized / Decentralized	Influence
<i>Ministry of Natural Resources</i>		<i>Develop, implement and oversee policies for the responsible exploration, development and utilization of natural resources whilst ensuring the protection and conservation of the environment and advancement of the green economy.</i>	<i>Centralized with distributed implementation agencies</i>	<i>Comprehensive spatial data holdings related to geology and mining. Chair of GIS national steering committee dissolved in 2014.</i>
<i>Forestry Commission</i>		<i>Responsible for providing advice on issues relating to forest policy, forestry laws and regulations, administration and management of all State Forest land.</i>	<i>Centralized</i>	<i>Comprehensive and continuously maintained forestry layer. Topographic base mapping. Both derived from 2011 satellite imagery.</i>
<i>Civil Defense Commission</i>		<i>Mandate is to make plans and conduct operations to deal with all types of national disasters. Coordinate and monitor Disaster Risk and Recovery Management.</i>	<i>Centralized – coordination function.</i>	<i>Strong supporters of NSDI concept. Recent but rapidly growing capabilities in GIS.</i>

6. CONCLUSIONS AND NEXT STEPS

The conclusions should address how successful the process was in leading to the creation of the Geospatial Alignment to Policy Drivers Report. It should describe what has been achieved so far, acknowledge any limitations, and outline the lessons learned that could be applied to other studies?

The next step is to explain that the key use cases identified in this GAPD are to be used as inputs to the Socio-economic Impact Assessment and Action Plan.

Document Ends

Appendix A: List of Stakeholders

Appendix B: Full Use Case Spreadsheet