

## ASSESSING AND ANALYZING

### RECOMMENDED TASK 11

#### NEEDS ASSESSMENT AND GAP ANALYSIS

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##### 1. Purpose

The aim of the Needs Assessment and Gap Analysis is to identify gaps in [Country] geospatial information management capabilities and make decisions about how to address the gaps, the priority of addressing the gaps, and how to proceed with resolving the gaps through actions.

The Needs Assessment and Gap Analysis:

- articulates the collective vision and goals of the [Country] and its stakeholders for integrated geospatial information management;
- a review of the current state of integrated geospatial information management and identification of the challenges faced

The Needs Assessment and Gap Analysis provides the information necessary to prepare a detailed Country Action Plan to strengthen geospatial information management.

The Needs Assessment and Gap Analysis references the United Nations Integrated Geospatial Information Framework [Part 2: Implementation Guide](#).

##### 2. Method

Follow the suggestions in the Needs Assessment and Gap Analysis Report Template (below). The information required to populate each section of the report has been completed in Tasks 2 - 10. It is a matter of transferring this information to the Needs Assessment and Gap Analysis Report. The objective is to complete a single succinct report of needs and capability gaps that will inform the country-level Action Plan.

A clarifying note:

*The banners with blue background are suggested sections. The headers in blue are suggested headers and like the banners with blue background, will very much depend on the outputs/outcomes from the work through recommended tasks 2 – 10. The texts in red are suggestions or rather instructions and at certain segments, may also be viewed as examples, on how to work with the template and write up the Needs Assessment and Gap Analysis Report.*

# NEEDS ASSESSMENT AND GAP ANALYSIS REPORT

## [COUNTRY]

### TOWARDS STRENGTHENING INTEGRATED GEOSPATIAL INFORMATION MANAGEMENT ARRANGEMENTS

# Executive Summary

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Our Vision is to “Empower evidence-based policy development and decision-making by connecting all people to place, events and activities over land and sea - anywhere, anytime, anyhow”.

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*In this section, provide an executive summary for the Needs Assessment and Gap Analysis. This will include the current and desired state and a list of the gaps in capacity and capabilities and a general description about how these need to be address.*

*Note: The executive summary is usually written last. For a document this size it will usually be 3-4 pages in length.*

## **Purpose**

*In this section, explain to the reader the purpose of the Needs Assessment and Gap Analysis. **For example:***

*This Needs Assessment and Gap Analysis has been prepared by [Organisation] towards “Strengthening integrated geospatial information management to achieve national development priorities and the 2030 Agenda for Sustainable Development.*

*The aim of the Needs Assessment and Gap Analysis is to identify gaps in [Country] geospatial information management capacities and capabilities, make decisions about how to address the gaps, the priority of addressing the gaps, and how to proceed with resolving the gaps through actions.*

*The Needs Assessment and Gap Analysis:*

- *articulates the collective vision and goals of the [Country] and its stakeholders for integrated geospatial information management;*
- *a review of the current state of integrated geospatial information management and identification of the challenges faced and opportunities available.*

*The Needs Assessment and Gap Analysis provides the information necessary to prepare a detailed Country-level Action Plan to strengthen national geospatial information management arrangements.*

*The Needs Assessment and Gap Analysis references the United Nations Integrated Geospatial Information Framework [Part 2: Implementation Guide](#).*

## **Current Situation**

*In this section, summarise the current geospatial information management situation.*

*The notes from the 'Current and Desired Performance Survey' (recommended Task #4) on current situation are to be transferred to this section.*

*Add a paragraph on the following topics:*

- *Governance and Institutions*
- *Legal and Policy*
- *Data and Standards*
- *Capacity and Education*
- *Data sharing technology*

## **Future horizons**

*In this section, summarise the future in respect to the vision, mission, and goals.*

*Transfer the vision, mission, and goals (as completed under recommended Task #10) to this section 'Future Horizons. You may wish to elaborate with notes taken during the 'Current and Desired Performance Survey' (recommended Task #4)*

## **Major Gaps in Capability**

*In this section, summarise the major gaps in capability and the actions required. Transfer the information in column 'Capacity Gap' from the Gap Analysis Matrix, to this section 'Major Gaps in Capability'*

## Strategic Actions

*In this section, list the actions to be undertaken for each strategic pathway. These are the action identified in the Gap Analysis Matrix. Transfer the information in column 'Possible Strategies to this section.*

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# Strengthening Integrated Geospatial Information Management

*Envisioning the Future*

## Objective

Articulate the collective vision and goals of the [Country] and its stakeholders for integrated geospatial information management.

## 1.1 INTRODUCTION

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*Write a general introduction about the work undertaken towards the development of a country-level Action Plan*

*Explain the purpose of the Needs Assessment and Gap Analysis*

*Explain your journey so far – leading to the Needs Assessment and Gap Analysis e.g., what activities have been completed to enable the Needs Assessment and Gap Analysis to be completed. This will provide the reader with background on the depth of the analysis undertaken, and the breadth with which people have been consulted. **Topics may include:***

- *Project Execution Plan*
- *Stakeholder Identification*
- *Current state and Desired Performance – who completed, when and how*
- *Baseline survey – who completed, when and how*
- *Workshops – Date, Attendees, activities undertaken e.g., PEST and SWOT Analysis, Vision, and Goals*
- *Strategic Alignment*
- *Gap Analysis Matrix*



## 1.2 INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK

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The [United Nations Integrated Geospatial Information Framework \(UN-IGIF\)](#) now provided an overarching paradigm to further strengthen nationally integrated geospatial information management, not only for Member States that were in the early stages of adopting national spatial data infrastructures but also for those that had already successfully implemented spatial data infrastructure capabilities that are limited in their potential effectiveness. Continuous collaboration is necessary including coordination with other emerging and complementary geospatial initiatives that extends the UN-IGIF's relevance as part of a future geospatial information ecosystem.

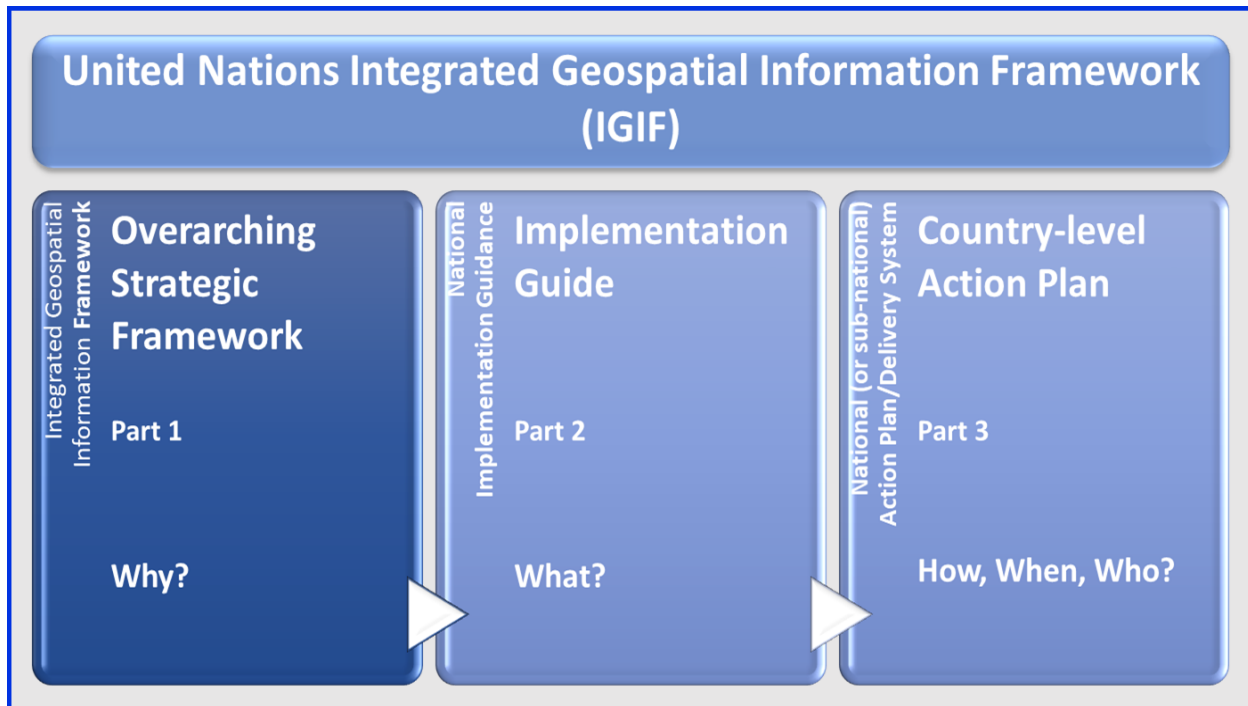
The UN-IGIF is a globally developed and consulted framework prior to its adoption by Member States of the United Nations. It provides a strategy, a guide and a mechanism towards strengthening nationally integrated geospatial information management, its arrangements including infrastructures and systems.

However, as the Framework has evolved, and will continue to evolve as a living document in the years ahead, it has become apparent that many high incomes and developed countries will also significantly benefit from the integrative and inclusive strategic nature of the Framework.

The Framework provides the strategic guidance that enables country-level action plans to be prepared and implemented. Direct benefits will include encapsulating new and innovative approaches to national geospatial information management, implementing integrated evidence-based decision-making solutions, and maximizing and leveraging national information systems that are tailored to individual country's situations and circumstances.

The Framework comprises three parts as separate, but connected documents:

- Part 1: Overarching Strategic Framework presents a forward-looking Framework built on national needs and circumstances, provides the overarching strategic messages and more expansive and integrated national framework, particularly focusing on policy, perspectives and elements of geospatial information.
- Part 2: Implementation Guide is the detail document that provides the 'what', the specific guidance and actions to be taken in implementing the Framework. Expanding on each of the nine strategic pathways, aimed at providing guidance for governments to establish or organize 'nationally' integrated geospatial information arrangements in countries.
- Part 3: Country-level Action Plans will operationalize the Framework in a national and subnational 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.

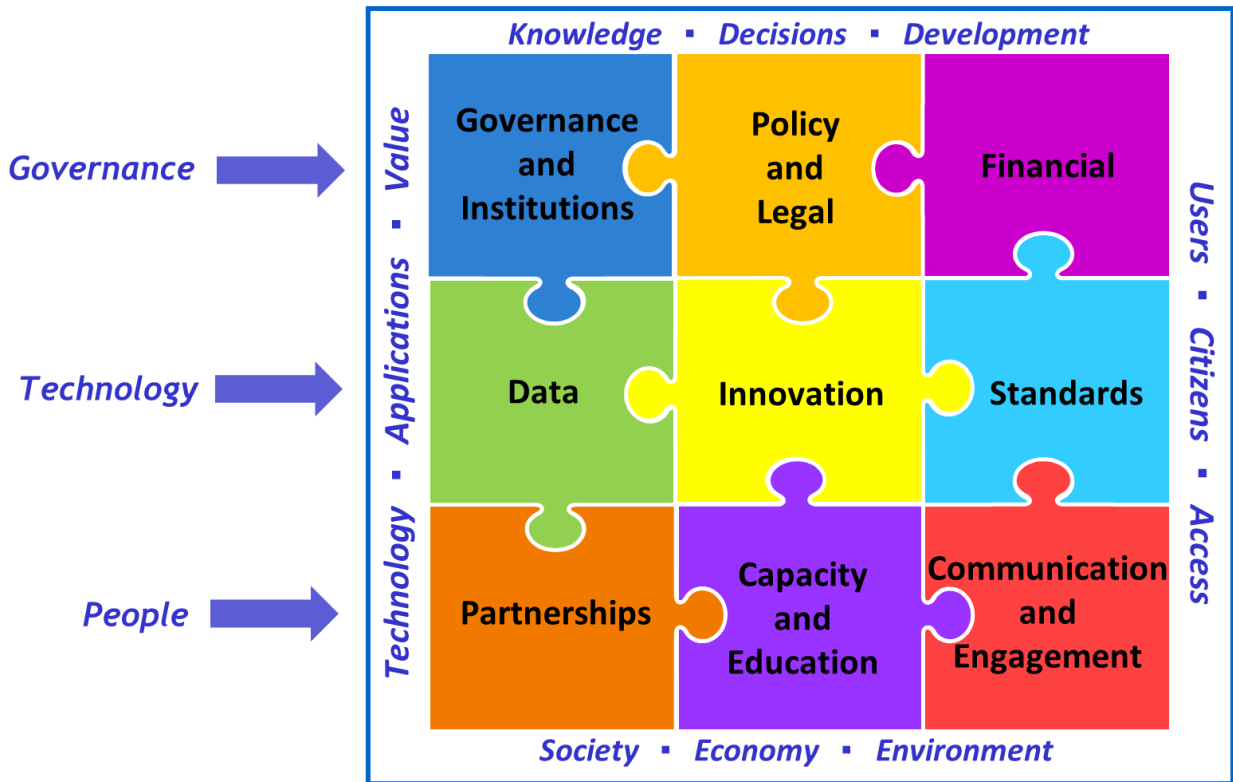


*Figure 1: The 3 component documents of the Integrated Geospatial Information Framework.*

The Integrated Geospatial Information Framework with its Part 2 – Implementation Guide provides specific guidance and actions to be taken by Member States to establish, strengthen and organize national geospatial information management arrangements, its infrastructures, and systems.

The Framework is anchored by nine (9) strategic pathways in three (3) main areas of influence: governance; technology; and people. The objective of these strategic pathways is to guide governments towards implementing integrated geospatial information management in a way that will deliver a vision for sustainable social, economic, and environmental development.

Each strategic pathway is augmented by specific objectives to assist countries in achieving the required results. The strategic pathways are presented as separate pieces of a jigsaw puzzle in recognition that there are many aspects and dimensions to each individual pathway, and that when joined together, the Framework is connected, integrated, and implemented. Figure 2 illustrates the nine strategic pathways surrounded by the benefits that can be realised when implemented together. Each of the nine strategic pathways are summarized below and are explained in more detail, along with specific actions, in Part 2: Implementation Guide.



**Figure 2:** The Framework is anchored by nine strategic pathways and three main areas of influence. Once implemented, the strategic pathways realize many benefits.

## 1.3 STRATEGIC ALIGNMENT

In this section, transfer the information from the Strategic Alignment Task (recommended Task #8). You can simply cut and paste the table or write a paragraph summary of each line item.

**For example: The paragraph approach is as follows**

### 1.3 Achieve improved service delivery from a resident's perspective

Integrated geospatial information is essential to the [Country's] objective for achieving improved service delivery from a resident's perspective. The [Country] **eGovernment Strategy 2021-2025** aims to simplify the delivery of information and services to residents to overcome existing fragmented and enhance service delivery. Currently, geospatial information is not accessible to the public. An online means, web-based, is required to provide residents with easy access to information, such as for viewing maps of the country and for downloading data for analysis and value adding. This is highly important. A web-based system will allow users to complete an interaction with government, such as a request for geospatial data, without the need to visit individual agencies. This fosters efficiency and transparency. It is essential that government agencies share their data via the web-based system. A policy or legislation for data sharing may be required to assist government agencies to understand their obligations, and the methodology for information sharing and exchange.

**For example: The table approach is shown below. You can simply cut and paste the table from Strategic Alignment Task (recommended Task #8)**

Strategic Drivers	Evidence of Government Strategic Priority	Geospatial Theme	Benefit of Geospatial Information	Current Situation	Investment Priority
<i>Example</i> Achieve improved service delivery from a citizen's perspective	<b>eGovernment Strategy 2017-2025</b> The strategy aims to simplify the delivery of information and services to citizens in order to overcome dissatisfaction with fragmented service delivery.	Accessible Information	Access to Geospatial Information allows users to complete an interaction with government without the need to visit individual agencies. This fosters transparent government.	Geospatial information is currently not accessible  There is no mandated policy on data sharing	High

## 1.4 ENVISIONING THE FUTURE

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*In this section, add the vision, mission and goal statements that were completed in recommend task #9. Cut and paste the vision, mission, and goals under the headings below*

### 1.4.1 Vision

### 1.4.2 Mission

### 1.4.3 Goals

# Current State of Integrated Geospatial Information Management

*Knowing Our Challenges*

## Objective

To document the current state of integrated geospatial information management and identify the challenges.

## 2.1 CURRENT SITUATION AND CHALLENGES

### 2.1.1 Governance and Institutions

*In this section, transfer the information from the Gap Analysis Matrix for ‘Governance and Institutions’ (recommended Task #10). You can simply cut and paste the table or write a paragraph summary of each line item. For example:*

Elements	Current Situation (Challenges)	Estimated Capacity Gap
Governance Model Leadership Institutional Structures Value Proposition	<ul style="list-style-type: none"> <li>An initial strategy on the role of geospatial information and can be built upon to strengthen geospatial information management</li> <li>Geospatial Information is not accessible and there is no mandated policy for data sharing</li> <li>Weak link or communication gap between the political/ policy level and geospatial information expertise and a lack of understanding about the value of geospatial information</li> </ul>	<ul style="list-style-type: none"> <li>There is a need to determine best approach of championing the importance of geospatial information – for example, through an Executive Order or sponsored legislation.</li> <li>There is a requirements for a central hub or governance mechanism for the coordination of geospatial information management that facilitates cross-agency coordination and cooperation.</li> <li>There is a need for a strategy to deliver the leadership, roles and responsibilities and</li> </ul>

	<ul style="list-style-type: none"> <li>• Uncoordinated planning, design and implementation of development projects resulting from siloed data management</li> </ul>	guidance for integrated geospatial information management across all levels of government.
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### 2.1.2 Policy and Legal

*In this section, transfer the information from the Gap Analysis Matrix for 'Policy and Legal' (recommended Task #10). You can simply cut and paste the table or write a paragraph summary of each line item. **For example:***

Elements	Current Situation (Challenges)	Capacity Gap
Legislation Policies, Norms and Guides Implementation and Accountability Data Protection, licensing and sharing	To be derived from the PEST and SWOT Analysis Report (Task #6), interviews and literature.	Refer to UN-IGIF Part 2 Implementation Guide for assistance.

### 2.1.3 Finance

*In this section, transfer the information from the Gap Analysis Matrix for 'Financial' (recommended Task #10). You can simply cut and paste the table or write a paragraph summary of each line item. **For example:***

Elements	Current Situation (Challenges)	Capacity Gap
Business Model Opportunities Investment and Funding Sources Benefits Realization	To be derived from the PEST and SWOT Analysis Report (Task #6), interviews and literature.	Refer to UN-IGIF Part 2 Implementation Guide for assistance.

### 2.1.4 Data

*In this section, transfer the information from the Gap Analysis Matrix for 'Data' (recommended Task #10). You can simply cut and paste the table or write a paragraph summary of each line item. **For example:***

Elements	Current Situation (Challenges)	Capacity Gap
Data Themes Custodianship, Acquisition and Management Data Supply Chains Data Curation and Delivery	To be derived from the PEST and SWOT Analysis Report (Task #6), interviews and literature.	Refer to UN-IGIF Part 2 Implementation Guide for assistance.

### 2.1.5 Innovation

*In this section, transfer the information from the Gap Analysis Matrix for 'Innovation' (recommended task #10). You can simply cut and paste the table or write a paragraph summary of each line item. **For example:***

Elements	Current Situation (Challenges)	Capacity Gap
Technological Advances Process Improvement Promoting Innovation and Creativity Bridging the Digital Divide	To be derived from the PEST and SWOT Analysis Report (Task #6), interviews and literature.	Refer to UN-IGIF Part 2 Implementation Guide for assistance.



### 2.1.6 Standards

*In this section, transfer the information from the Gap Analysis Matrix for 'Standards' (recommended Task #10). You can simply cut and paste the table or write a paragraph summary of each line item. **For example:***

Elements	Current Situation (Challenges)	Capacity Gap
Legal Interoperability Data Interoperability Semantic Interoperability Technical Interoperability	To be derived from the PEST and SWOT Analysis Report (Task #6), interviews and literature.	Refer to UN-IGIF Part 2 Implementation Guide for assistance.

### 2.1.7 Partnerships

*In this section, transfer the information from the Gap Analysis Matrix for 'Partnerships' (recommended Task #10). You can simply cut and paste the table or write a paragraph summary of each line item. **For example:***

Elements	Current Situation (Challenges)	Capacity Gap
Cross-sector and Interdisciplinary Cooperation Private Sector and Academia Partnership Community Participation International Collaboration	To be derived from the PEST and SWOT Analysis Report (Task #6), interviews and literature.	Refer to UN-IGIF Part 2 Implementation Guide for assistance.

### 2.1.8 Capacity and Education

*In this section, transfer the information from the Gap Analysis Matrix for 'Capacity and Education' (recommended Task #10). You can simply cut and paste the table or write a paragraph summary of each line item. For example:*

Elements	Current Situation (Challenges)	Capacity Gap
Awareness Raising Formal Education Entrepreneurship Professional Workplace Training	To be derived from the PEST and SWOT Analysis Report (Task #6), interviews and literature.	Refer to UN-IGIF Part 2 Implementation Guide for assistance.

### 2.1.9 Communication and Engagement

*In this section, transfer the information from the Gap Analysis Matrix for 'Communication and Engagement' (recommended Task #10). You can simply cut and paste the table or write a paragraph summary of each line item. For example:*

Elements	Current Situation (Challenges)	Capacity Gap
Stakeholder and User Relationships Strategic Messaging and Engagement Communications Strategy, Plans and Methods Monitoring and Evaluation	To be derived from the PEST and SWOT Analysis Report (Task #6), interviews and literature.	Refer to UN-IGIF Part 2 Implementation Guide for assistance.

## 2.2 STAKEHOLDERS

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*In this section identify your stakeholders as they have a bearing on the current situation as well as the future you are seeking.*

The stakeholders for integrated geospatial information management in [Country] include interest groups, institutions, individuals, organisations, and authorities. These stakeholders fall into the following categories:

- Organizations responsible for generating data, such as the Survey Department, Land and Land Use Policy Development, Forest Department, Department of Census and Statistics.
- Government departments and commercial enterprises who add value to the data by extracting information from the data collection, such as Department for Disaster Management.
- Information users including administrators, managers, agriculture co-operatives, retailers and the public who acquire benefits from the availability of information by way of economic growth.
- Community groups with a special interest in spatial information and its use, such as professional bodies and institutes, such as the Surveying, Geospatial Information and IT-related Societies, volunteered geographic information providers and hobbyists.
- Decision-makers, such as Ministers, and Committees/Councils who influence the financing, policy and strategic priorities of government in terms geospatial information management.

Individual stakeholders and groups are identified in the table below including contact information, level of importance and influence, potential as partners, and how they are likely to be impacted by, or have an impact on nationally integrated geospatial information management.

*If the list of stakeholders is extensive, you may wish to include the list in an appendix and just list the names of stakeholders here.*

*Table x.x Stakeholders for Integrated Geospatial Information Management*

<b>Stakeholder</b>	<b>Contact Person</b>	<b>Impact</b>	<b>Influence</b>	<b>Importance</b>	<b>Collaboration Potential</b>	<b>Potential Blockers</b>	<b>Engagement Strategy</b>
<i>Name</i>	<i>Phone, Email, Website Address</i>	<i>How much does Geospatial impact them (Low, Med, High)</i>	<i>How much influence do they have (Low, Med, High)</i>	<i>What is important to the Stakeholder</i>	<i>How can the stakeholder contribute to strengthening Geospatial Information Management</i>	<i>How could the stakeholder block progress</i>	<i>Strategy for engaging with the Stakeholder</i>
Survey Department	John Smith, Director General, <a href="mailto:jsmith@SD.gov">jsmith@SD.gov</a> , 0998 7765 453	High	High	The collection and management of high-quality geospatial data	Agree to abide by the recommended policies, standards and guidelines for managing and sharing information	Do not make data accessible potentially due perceived risks	Monthly round table discussion
Cabinet		Low	High	Understanding the financial, legal and policy implications of geospatial information management		Do not support financing of initiatives	Cabinet submissions, reports
VGI Community		Medium	Low	Collectors of geospatial information	Participate in community mapping programs such as map-a-thons	Provide incorrect information	Media releases
Commercial Real Estate Agencies		Medium	Low	Selling properties and land via real estate websites and Mobile Apps	Exemplify the use of geospatial information – awareness raising	Do not choose to leverage geospatial information for business innovation	Six monthly information sessions, information, blogs

# Actions for Strengthening Geospatial Information Management

*Planning for Change*

## Objective

To identify the strategic actions for strengthening integrated geospatial information management in [Country].

*In this section, list the actions to be undertaken for each strategic pathway. These are the actions identified in the Gap Analysis Matrix as ‘possible strategies’.*

*Use the baseline survey to identify specific information e.g., specific datasets that need to be collected or enhanced.*

*Use the UN-IGIF document as a guide to identify the actions that you can undertake to address gaps in capability.*

## 3.1 Governance and Institutions

The actions for establishing good governance and strong institutional arrangements have been identified to deliver evidence for effective policy development and decision making for [Country], and a heightened awareness of the value of geospatial information for across all stakeholder groups. The actions are as follows:

- Action 1. Establish the [Country] Geospatial Information Coordination Unit (or Office or Council or National Committee) as the central hub for the coordination and accountability for all integrated geospatial information activities.*
- Action 2. Establish Leadership Committees*
- Action 3. Develop a Governance Model - that defines the roles and responsibilities of key institutions, and processes and procedures*
- Action 4. Develop a National Geospatial Information Strategy*
- Action 5. Conduct a Geospatial Socio-Economic Value Assessment*

*Action 6. Develop a Monitoring and Evaluation Framework*

*Action 7. ?*

*Action 8. ?*

## 3.2 Policy and Legal

The actions for establishing a robust Policy and Legal Framework have been identified to deliver a cooperative data sharing environment for [Country], and a heightened awareness across all stakeholder groups of the value of geospatial information for decision-making. The actions are as follows:

*Action 9. Undertake a Policy and Legal Review and Needs Assessment*

*Action 10. Implement Policy/s*

*Action 11. Develop a Policy Management Plan - Policy Register, Communication Strategy, Quality Audit, Policy Analysis (Measures) and Compliance Criteria*

*Action 12. ?*

*Action 13. ?*

## 3.3 Financial

The actions for establishing a sustainable resource allocation and investment framework for integrated geospatial information management have been identified to deliver a business model, achieve an understanding of the implementation costs and ongoing financial commitment necessary to deliver integrated geospatial information management that can be sustained and maintained in the longer term.

*Action 14. Establish Financial Program Management and Leadership*

*Action 15. Undertake a Review of the Current Business Models and Investment Programs.*

*Action 16. Conduct a Needs Assessment and Gap Analysis to identify investments needs and sources of funding*

*Action 17. Develop a Business Model for sustaining integrated geospatial information management and sharing*

*Action 18. Conduct a Socio-Economic Value Assessment*

*Action 19. ?*

*Action 20. ?*

### 3.4 Data

The actions for promoting consistent data management, sharing and reuse have been identified to enable data custodians to meet their obligations to government and the user community through strengthening the management of geospatial information management.

- Action 21. Conduct a Data Inventory of all data sets currently collected by government vis-à-vis the United Nations Fundamental Geospatial Data Themes*
- Action 22. Consult on a National Geospatial Data Framework*
- Action 23. Operationalise the National Geospatial Data Framework*
- Action 24. Document Metadata Standards and Create Metadata*
- Action 25. Data Access and Pricing (to be implemented in line with Policy)*
- Action 26. ?*
- Action 27. ?*

### 3.5 Innovation

The actions to stimulate the use of the latest technologies, process improvements and innovations have been identified to enable Vietnam to adopt state-of-the-art geospatial information management systems and practises and in doing so quickly bridge the geospatial digital divide.

- Action 28. Conduct an Inventory of existing IT resources and capacity*
- Action 29. Assess Contemporary Storage*
- Action 30. Implement a web-based system of systems approach to geospatial data sharing and dissemination*
- Action 31. Develop an Innovation Program to incentivise the use of spatial data*
- Action 32. Develop and implement mechanism for process improvement within the agency*
- Action 33. ?*
- Action 34. ?*

### 3.6 Standards

The actions for establishing best practice standards and compliance have been identified to enable different information systems to communicate and exchange data, enable knowledge discovery and inferencing between systems using unambiguous meaning, and provide users with lawful access to and reuse of geospatial information. These elements are:

- Action 35. Conduct and Needs Assessment into data standards*
- Action 36. Conduct national event to raise awareness and promote the use of geospatial data standards*
- Action 37. Maintain an inventory of data and associated technical standard and document metadata*
- Action 38. ?*
- Action 39. ?*

### 3.7 Partnerships

The actions for establishing a Partnership Framework that will create and sustain the value of geospatial information in Vietnam have been identified to deliver effective cross-sector and interdisciplinary cooperation, industry partnerships, community participation and international cooperation.

- Action 40. Assess need, opportunity, and possibility of partnering to strengthen national geospatial capacities and capabilities*
- Action 41. Identify potential partners and assess usefulness/types of partnership*
- Action 42. Establish a Data Acquisition Partnership Program*
- Action 43. ?*
- Action 44. ?*

### 3.8 Capacity and Education

The actions for establishing enduring capacity building programs and education systems have been identified to raise awareness and develop and strengthen the skills, instincts, abilities, processes, and resources that departments require to manage and utilize geospatial information for decision-making.

- Action 45. Develop an Education and Awareness Strategy to promote an understanding of how integrated geospatial information supports economic, environmental, and societal needs*
- Action 46. Prepare a training package and deliver seminars and training sessions according to the Strategy and Plan*



- Action 47. Develop a Communications Plan to sustain behavioural change over time by targeting different audiences with different messages and using different arguments*
- Action 48. Develop a cross-government Capacity Plan to target professional development in geospatial technologies*
- Action 49. Conduct Education and Awareness activities to increase community participation as volunteer geographic information providers*
- Action 50. ?*
- Action 51. ?*

### 3.9 Communication and Engagement

The actions for achieving effective communication and engagement to enhance and deepen participation and contributions from all stakeholders and at all levels have been identified to engender commitment, mutual understanding, collaboration, cooperation, and communication, which are essential to successfully implementing the UN-IGIF.

- Action 52. Develop the Stakeholder Engagement Model - PLAN, ENGAGE, RESPOND and MEASURE.*
- Action 53. Engage with Stakeholders*
- Action 54. ?*
- Action 55. ?*