

First International Workshop on Operationalizing the Integrated Geospatial Information Framework
9 - 11 September 2019, Celso Furtado Conference Room, ECLAC, Santiago, Chile

The Integrated Geospatial Information Framework

Part 2: The Implementation Guide

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INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK

DEVELOPING THE IMPLEMENTATION GUIDE

JANUARY - SEPTEMBER 2019



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

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IGIF: Implementation Guide - Foundations

- The Implementation Guide provides the ‘what’, the specific guidance and options to be taken by countries in implementing the IGIF. It captures strategic to operational needs with guiding principles; while not being detailed and prescriptive – Country-level Action Plans do that.
- Expanding on each of the 9 Strategic Pathways, the Guide comprises references, good practices and specific principles and actions for each of the Pathways, including those generated through each of the Subcommittee, Expert and Working Groups of UN-GGIM.
- The aim is to provide guidance for governments to establish ‘nationally’ integrated geospatial information frameworks in countries in such a way that transformational change is enabled, visible and sustainable. The Guide’s benefits will cascade right down to the citizen.
- While intended to benefit low to middle income countries and small island developing States, the Guide can be used to establish and/or improve national geospatial information management arrangements. The Guide can also be used to coordinate activities to achieve alignment between already existing national agency capabilities and infrastructures.



IGIF: Implementation Guide - Consultations

- **19-23 March:** Convene Expert Review Group for the zero draft of the Implementation Guide.
- **25 March:** Consultation/Information Session on the zero draft Implementation Guide at World Bank Land and Poverty Conference.
- **22-25 April:** Regional consultation on the draft Implementation Guide with UN-GGIM: Africa and Arab States.
- **22-26 April:** FIG Working Week in Hanoi. World Bank convene a session on the IGIF and Action Plans.
- **5-6 June:** Regional consultation on the draft Implementation Guide with UN-GGIM: Europe.
- **18-21 June:** Expert Review Group for the draft Implementation Guide, Kuala Lumpur, Malaysia.
- **7-9 August:** Ninth session of UN-GGIM and IGIF Information Forum convened on 6 August.
- **9-11 September:** Sub-Regional Awareness Raising Workshop on the draft Implementation Guide at ECLAC in Santiago, Chile.
- **30 September:** Initiation of global consultation for the Final Draft Implementation Guide.

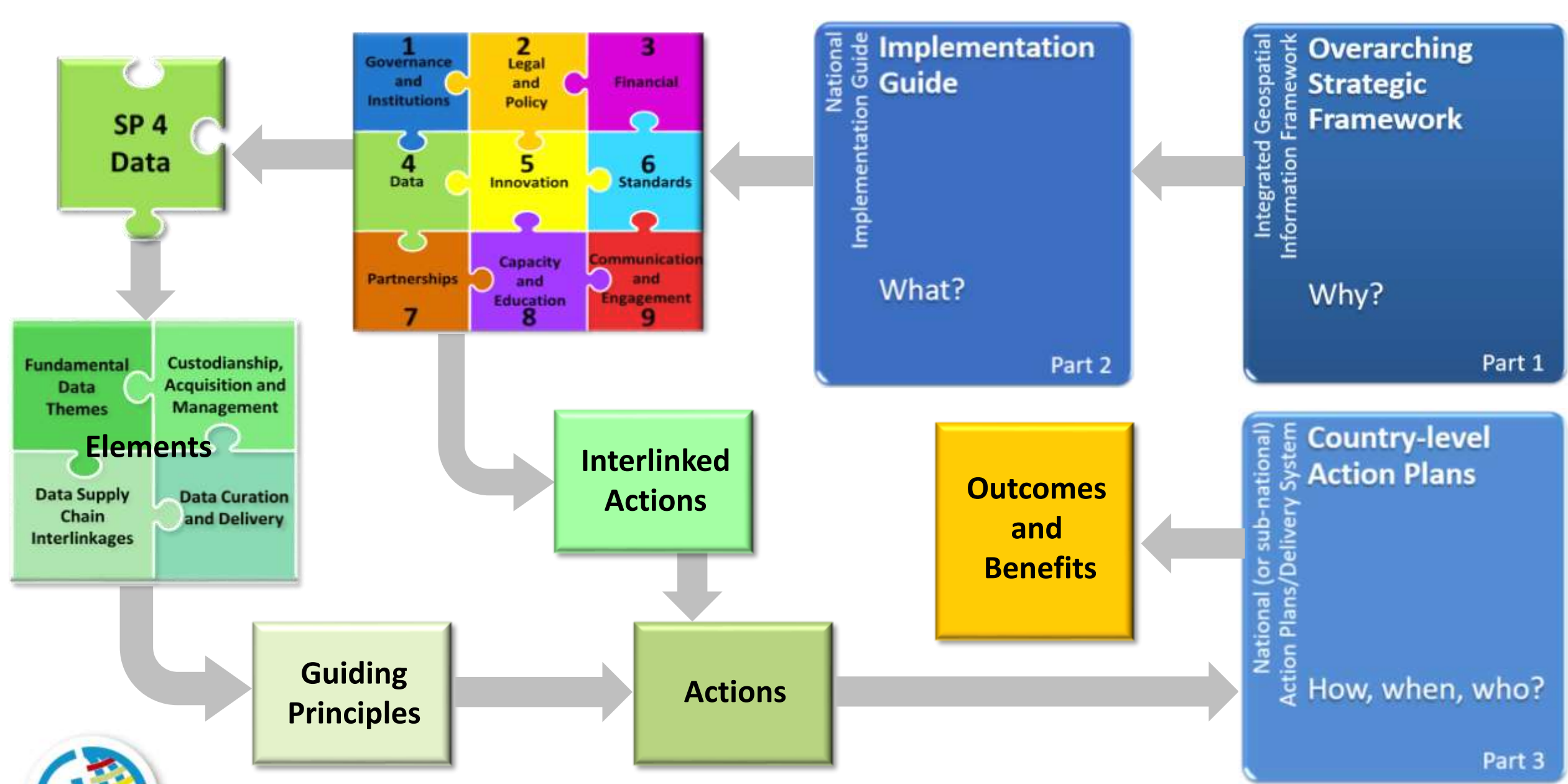


IGIF: Implementation Guide - March 2019

Proposed “structure, shape and form”

- The ‘IGIF’ pieces and relationships need to be understood: IGIF; Guide; Appendices; Case Studies; Country-level Action Plans, etc. Every country will be different in their response. Every country has a vision and/or strategy. The elements of the Guide will feed into these.
- The initial proposed Guide ‘structure, shape and form’ is suitable, but expand to 10 Chapters.
- First Chapter will be the Index: To describe and explain the flow and structure of the Guide; bring each of the introductory diagrams together; look at interlinkages across each of the Strategic Pathways; address NSDI perspectives; and articulate the ‘level of detail’ of the Guide.
- The remaining chapters of the Guide will begin with a Summary (to articulate the value proposition the pathway offers) and an Introduction that includes a schematic flow diagram.





IGIF: Implementation Guide - Structure

- The Implementation Guide is a reference resource that defines, describes, and offers helpful guidance on each of the nine pathways.
- While each pathway addresses a component of the Framework, there are interrelated linkages and associations with one or more of the other pathways.
- The Guide mentions common relationships between the different pathways so that users see the connections.
- The Guide tells the user what is needed to create, implement, and/or maintain a national (or sub-national) geospatial information capability. It offers recommended, suggested, or required actions in order to be successful.
- This is helpful in gaining new knowledge or validating geospatial programs already in place. However, the Guide does not describe how to implement the many points offered.

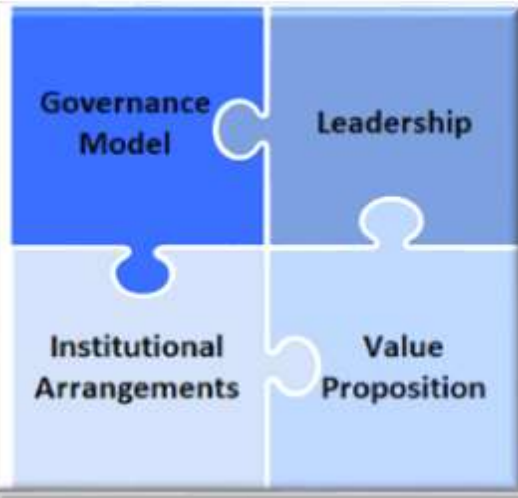




Final Guide Structure for each Strategic Pathway as aligned to that agreed in March 2019

Proposed Document Structure

- **Abstract**
- **Summary**
- **1.1 Introduction**
- **1.2 Context and Rationale**
- **1.3 Approach**
- **1.4 Elements**
- **1.5 Guiding Principles**
- **1.6 Actions**
- **1.7 Deliverables**
- **1.8 Outcomes**
- **1.9 Resources**



Strategic Pathway 1

Governance and Institutions

This strategic pathway establishes the leadership, governance model, institutional arrangements and a clear value proposition to strengthen multi-disciplinary and multi-sectoral participation in, and a commitment to, achieving an Integrated Geospatial Information Framework.

The objective is to attain political endorsement, strengthen institutional mandates and build a cooperative data sharing environment through a shared vision and understanding of the value of an Integrated Geospatial Information Framework, and the roles and responsibilities to achieve the vision.

Summary

Geospatial information is increasingly being harnessed to interconnect and integrate government functions and commercial services - making cities more livable, citizens more engaged and informed, and agricultural areas more productive. Traffic congestion, weather reports, air pollution, bus locations, pest monitoring, flood sensors, and electricity outage applications are all underpinned by geospatial information that can be synthesized into a seamless knowledge environment so that information can be accessed quickly by users to make informed decisions. For government this means streamlining operations, reducing costs and improving overall economic and social sustainability.

This level of geospatial capability can only be achieved through cooperative governance frameworks and with strong leadership that penetrates across sectors and through all levels of government. Institutions need to work together to share information and work towards common strategic priorities and goals.

By interconnecting government functions through well-functioning governance frameworks, it is possible to bring together geospatial information from multiple sources so that it can be used seamlessly on any digital device.

Good governance and cooperative institutional arrangements are the first priority in the geospatial information reform agenda. They enable geospatial information challenges to be met head on, provide flexibility to accommodate the rapidly changing environment, and the ability to embrace community and business participation within a culture of digital reform and transformation.

Common to all governance and institutional arrangements are four key elements that are required to build a cooperative data sharing environment and an appreciation of the value of geospatial information for decision-making.

Strategic Pathway 1

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The four elements are:

- **Governance Model** - based on a geospatial strategy for the nation and facilitated by governing bodies responsible for aligning and supporting policies and laws affecting the acquisition, creation, management, use, and dissemination of geospatial information.
- **Leadership** - to formulate and sustain a national geospatial information management strategy, develop a Country-level Action Plan for implementing the Integrated Geospatial Information Framework (IGIF), and create a governance process for assuring effective management responsibilities for the enterprise.
- **Value Proposition** - that measures, monitors, and communicates the economic benefit of integrated geospatial information to national priorities including citizen and societal benefits.
- **Institutional Arrangements** - that define roles and responsibilities across government for tasks associated with all aspects of geospatial information management, including appropriate coordination, management and oversight for meeting national priorities.

These elements are underpinned by principles that promote successful governance and institutional arrangements that can be adopted by each country. The principles are put into practice through several strategic actions that deliver and strengthen participation and commitment to achieving the IGIF. Tools, such as matrices, examples and checklists, are provided in the appendices to assist countries to work through concepts and processes to successfully complete each action. The overall structure for governance and institutional arrangements is illustrated in and anchored by Figure 1.1.

When implemented the actions (and their interrelated actions¹) will enable the achievement of the four elements, which in turn will deliver significant and sustainable national outcomes and benefits for a country. These outcomes include attaining:

- Efficient planning and coordination of the government’s geospatial information resources;
- Strengthened leadership, institutional mandates and political buy-in;
- A cooperative data sharing environment; and
- A shared understanding of the value of integrated geospatial information management.

¹ The interrelated actions across all Strategic Pathways are described in detail in the introductory Chapter; Solving the Puzzle: Understanding the Implementation Guide.

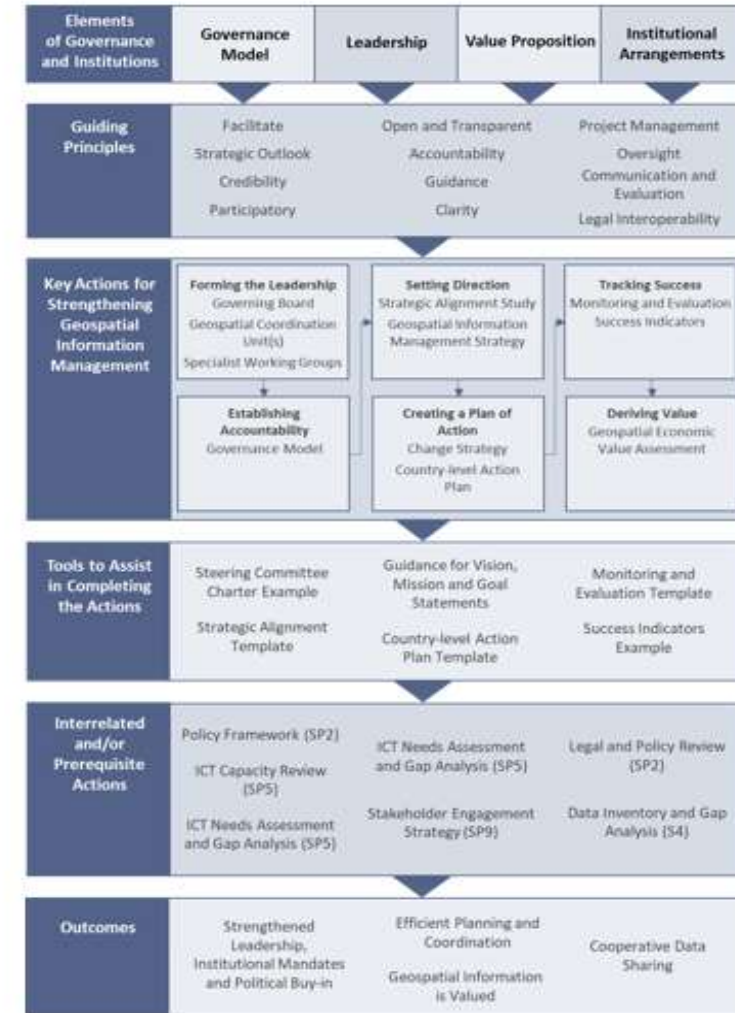


Figure 1.1: Overall structure for the Governance and Institutions Strategic Pathway - showing the four key elements, guiding principles, actions and interrelated actions, and the tools provided in the Appendices to support and achieve the outcomes.

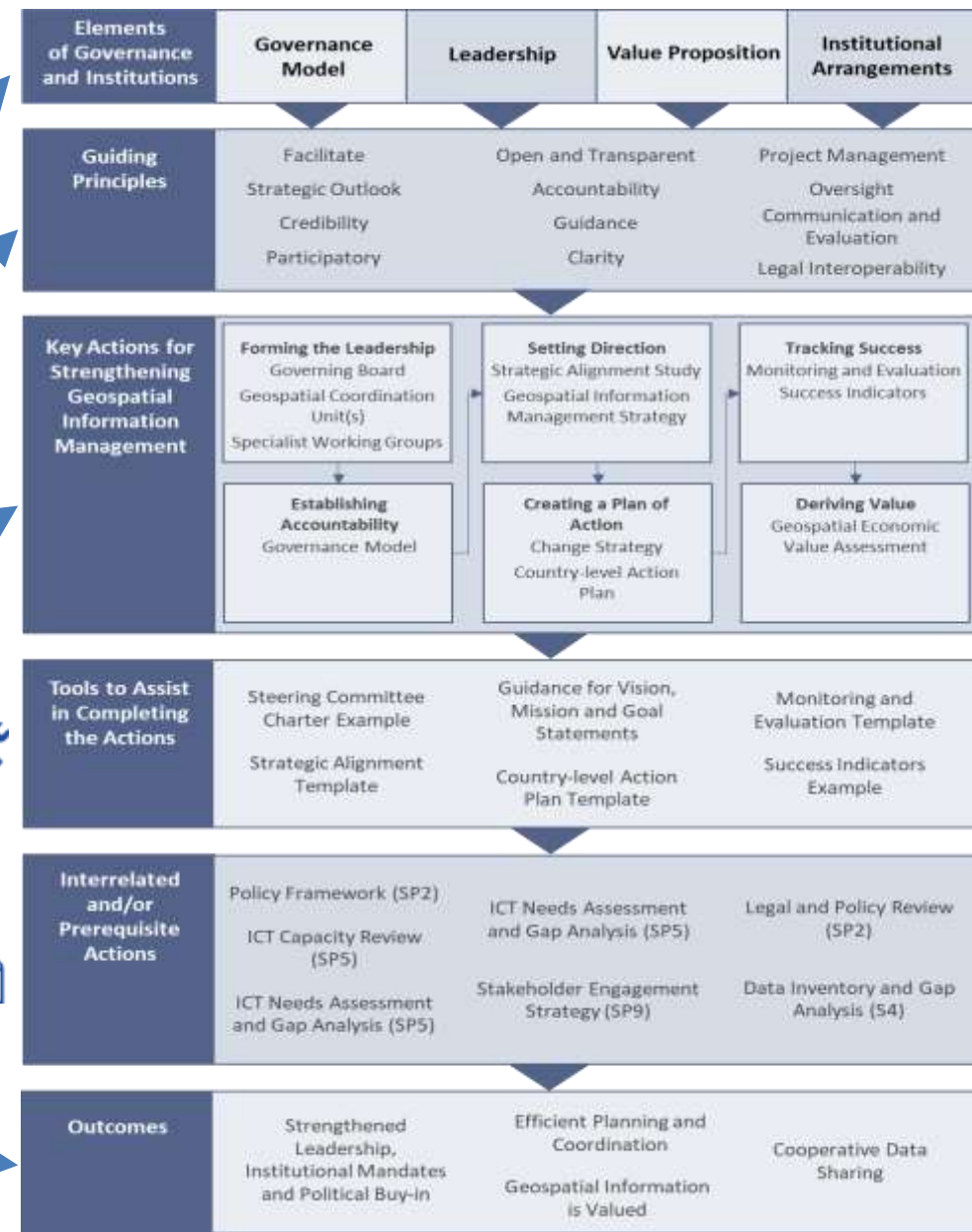


The overall structure diagram for the Chapter as part of the 3-page Summary. Shows what is in the Chapter and the relevance between sections.

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“Tools” and “Interrelated Actions” are identified throughout the Chapter

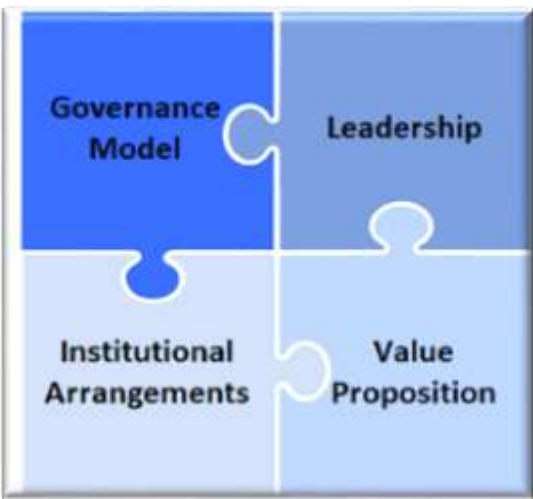




The 'Approach' to the Chapter. Repeats what is in the Summary diagram, but goes into more detail. Items will be hyperlinked for ease of search and navigation.

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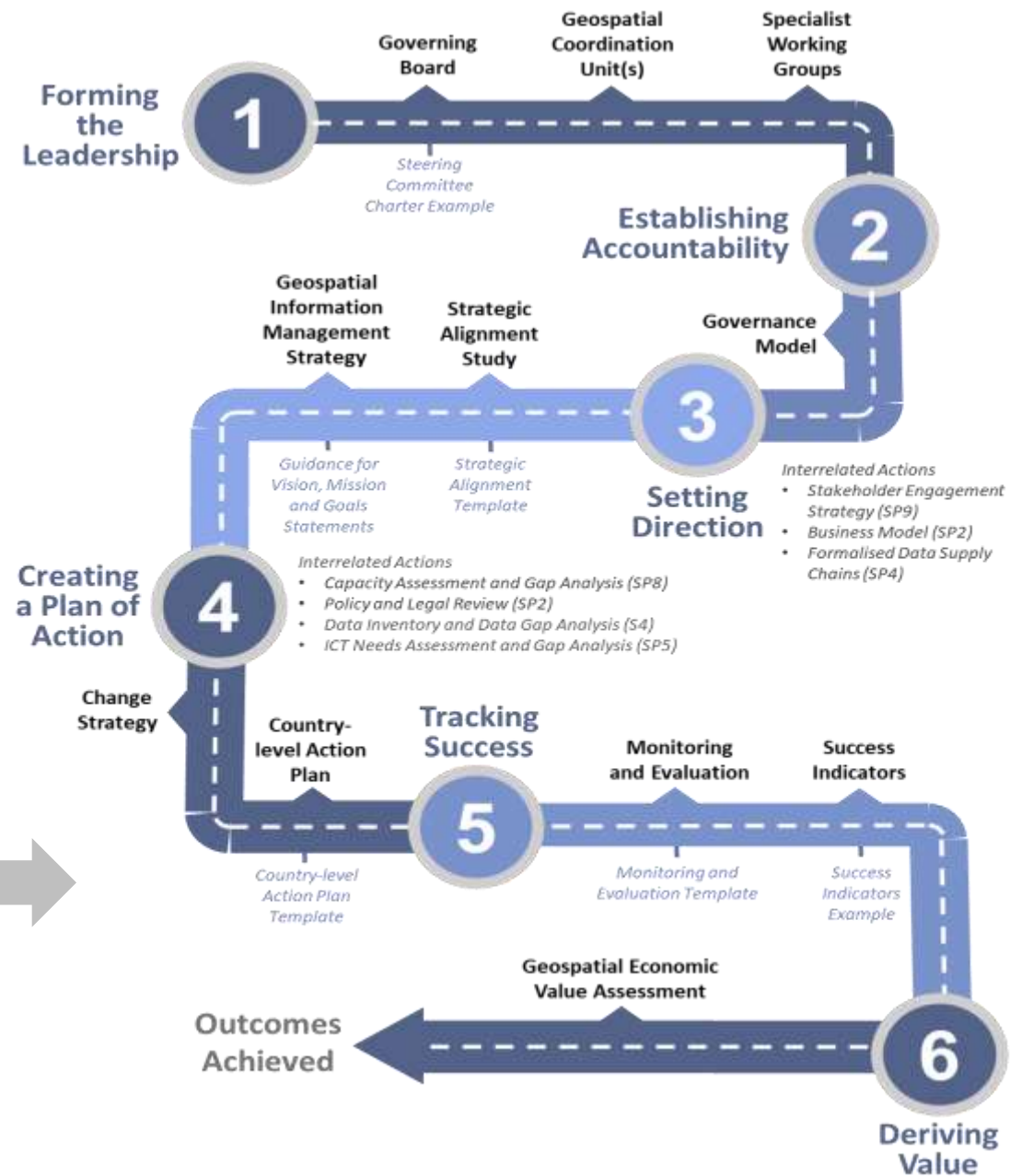




The Actions as a sequential 'step-by-step' road map that links the actions and recommended steps.

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Actions repeated here as a different schematic, but with more detail regarding the 'Tools' and 'Interrelated Actions'. Will be hyperlinked for ease of search and navigation.

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Outcomes

- Efficient planning and coordination of the governments geospatial information resources
- Strengthened leadership, institutional mandates and political buy-in
- A cooperative data sharing environment
- A shared understanding of the value of integrated geospatial information management

Elements

- Governance Model
- Leadership
- Value Proposition
- Institutional Arrangements

Principles

- Facilitate
- Strategic Outlook
- Credibility
- Participatory
- Open and Transparent
- Accountability
- Guidance
- Clarity
- Project Management
- Oversight
- Communication and Evaluation
- Legal Interoperability

Actions

- Forming the Leadership**
 - Governing Board
 - Geospatial Coordination Unit(s)
 - Specialist Working Groups
- Establishing Accountability**
 - Governance Model
- Setting Direction**
 - Strategic Alignment Study
 - Geospatial Information Management Strategy
- Creating a Plan of Action**
 - Change Strategy
 - Country-level Action Plan
- Tracking Success**
 - Monitoring and Evaluation
 - Success Indicators
- Deriving Value**
 - Geospatial Economic Value Assessment

Interrelated Actions

- Policy and Legal Review (SP2)
- Data Inventory (SP4)
- Data Gap Analysis (S4)
- Policy Framework (SP2)
- ICT Capacity Review (SP5)
- ICT Needs Assessment and Gap Analysis (SP5)
- Stakeholder Engagement Strategy (SP9)
- Capacity Assessment and Gap Analysis (SP8)
- Business Model (SP2)
- Data Acquisition Program (SP4)
- Formalised Data Supply Chains (SP4)

Tools

- Steering Committee Charter Example
- Strategic Alignment Template
- Guidance for Vision, Mission and Goal Statements
- Country-level Action Plan Template
- Monitoring and Evaluation Template
- Success Indicators Example



Forming the Leadership





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This level of geospatial capability can only be achieved through strong governance frameworks and with strong leadership that permeates all sectors and through all levels of government. Institutions need to be established to share information and work towards common strategic priorities.

By interconnecting government functions through well-functioning governance frameworks, it is possible to bring together geospatial information from various sources so that it can be used seamlessly on a computer, tablet and smartphone.

Good governance and cooperative institutional arrangements are a high priority in the geospatial information reform agenda. They enable information challenges to be met head on, provide flexibility to adapt to the rapidly changing environment, and the ability to embrace cooperative business participation within a culture of digital reform.

Common to all governance and institutional arrangements are the elements that are required to build a cooperative data sharing environment and an appreciation of the value of geospatial information for decision making.

Strategic Pathway 1: Governance and Institutions

Strategic Pathway 4

DATA

This strategic pathway establishes a geospatial custodianship guidelines for best practice on the use of integrated geospatial information that is consistent with the sector and multidisciplinary collaboration.

The objective is to enable data custodianship, management, sharing and reuse obligations on the geospatial community through the execution of well-defined processes for organizing, planning, acquiring, integrating and archiving geospatial information.

Summary

Geospatial data is the foundation on which geospatial information is used. It is used in policy development and in the private sector. Its use is growing exponentially across all sectors to harness intelligence to make timely and accurate decisions.

Having access to the right data and at the right time is critical for decision making. It is data that provides new levels of insight into the past, present and future. For this reason, governments, businesses and citizens know they are using the most accurate and up-to-date data for analysis, navigation and visualization – good data.

As the amount, variability and availability of geospatial data increases, requirements for 'organized' geospatial data become more important. Geospatial data has grown in use across all sectors. Every part of government creates and manages geospatial data, a nation's 'digital currency', an asset that must be designed, and managed to provide enduring geospatial information of quality, accuracy, security and use.

An ecosystem that fosters the proper collection, management and use of geospatial data, leads to cutting-edge innovation across a range of sectors. Advances can already be seen in disaster management and transportation sectors, enabling the discovery of new patterns and influencing social and cultural norms in a way that enhances geospatial visualizations, analysis and traceability.

Strategic Pathway 4: Data

Strategic Pathway 7

Partnerships

This strategic pathway establishes cross-sectoral cooperation, coordination and collaborative arrangements between government, the geospatial industry¹, private sector, academia and international community, as an important pre-condition for sustaining an enduring nationally integrated geospatial information framework.

The objective is to create and sustain the value of geospatial information through a culture based on inclusion, trusted partnerships and alliances that recognize common needs, aspirations and achieving national priorities and outcomes.

Summary

The 2030 Agenda for Sustainable Development is an inclusive plan for "all countries and all stakeholders, acting in collaboration to implement this plan"². As an integrated plan of action, it identifies Partnerships, along with People, Planet, Prosperity and Peace, as one of its five defining pillars; and with a specific target to "strengthen effective public, public-private and civil society partnerships"³. Drawing on the experience and resourcing strategies of partnerships:

Partnerships should always be actively explored. They bring together strengths and perspectives that stimulate creativity, drive innovation through unique capabilities, and drive achievement. Partnerships at all levels – international, regional, national, local, different but complementary skills, experiences, knowledge and resources – initiative or programme to establish, strengthen and sustain information management arrangements. Partnership arrangements, national, regional and international programs, bring diversity that can increase organizational effectiveness.

¹ In some countries and regions, Africa in particular, the term 'geospatial industry' is an inclusive term that captures the entire geospatial sector as a 'geospatial industry'.

² Preamble of the United Nations General Assembly Resolution 70/1, the 2030 Agenda for Sustainable Development

³ Target 17.17 under Goal 17 - strengthen the means of implementation and promote a global partnership for sustainable development.

Strategic Pathway 7: Partnerships

Strategic Pathway 9

Communication and Engagement

This strategic pathway recognizes that stakeholder identification, engagement and strategic communication are essential to successful implementation of integrated geospatial information management arrangements nationally for sustainable social, economic and environmental development.

The objective is to ensure effective communication and engagement and deeper participation and contributions from all stakeholders and organizations. Commitment, mutual understanding, collaboration, cooperative communication are essential to successfully implement the Integrated Geospatial Information Framework within organizations and with stakeholders.

Summary

Communications and engagement develop and sustains effective, collaborative relationships with stakeholders. Successfully understanding and persuades stakeholders to invest in geospatial information and its application.

Communication and engagement raise awareness and advocacy across the community, businesses, professionals, decision makers and political leaders. It highlights the relevance, contributions and benefits of integrated geospatial information management at all levels. It does so in the midst of rapidly changing social and economic outlooks and against a backdrop of many competing agendas.

Gaining political and fiscal recognition of the need for integrated geospatial information is a challenge faced from local to global levels. The development of an effective communication strategy and implementation plan cannot be done in isolation. Towards ensuring a successful geospatial program. Adopting a strategic professional communications approach, telling inspiring and relevant stories, finding champions is not familiar terrain for the geospatial community. It is absolutely critical. This strategic pathway aims to help address this challenge.

Common to all communication and engagement programs are four key elements that are required to build commitment, mutual understanding and effective relationships between stakeholders to successfully implement the Integrated Geospatial Information Framework. The four elements are:

- **Stakeholder and User Engagement** - identifies and develops relationships and alliances with advocates, partners, users and the public. Stakeholder and user engagement should be ongoing as interests, needs and motivations are diverse and will continually evolve over time.
- **Strategic Messaging and Engagement** - seeks to develop the right messages, clear, succinct and compelling messages to all audiences and to engender initial buy-in and retain support during implementation.

Strategic Pathway 9: Communication and Engagement



IGIF: Implementation Guide - First Chapter

- Chapter title: **Solving the Puzzle: Understanding the Implementation Guide**
- **Introduction** elaborates: What is the Framework, the Implementation Guide, the relationships with the Overarching Strategic Framework and the Country-level Action Plans. What is the purpose of the Implementation Guide, what is it to be used for and how we got here?
- ‘Solving the Puzzle’ Chapter will contain **nine** sections, namely:
 1. Executive Summary;
 2. Introduction;
 3. Describing the Guide;
 4. Examples of How the Guide will be Used and Managed;
 5. Describing the Strategic Pathways;
 6. How to Use the Guide;
 7. Country-level Action Plans;
 8. Benefits; and
 9. Interlinkages.





INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK ROADMAP AHEAD



UN-GGIM

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Positioning geospatial information to address global challenges

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Implementation Guide - Roadmap Update

- **7-9 August:** Ninth session of UN-GGIM and Information Forum on 6 August.
- **9-11 September:** Sub-Regional Awareness Raising Workshop on the draft Implementation Guide at ECLAC in Santiago, Chile.
- **30 September:** Initiation of global consultation for the Final Draft Implementation Guide.
- **11 October:** Regional consultation on the Draft Implementation Guide with UN-GGIM Americas at its Sixth Plenary Meeting in Mexico City, Mexico.
- **4-5 November:** Regional consultation on the Draft Implementation Guide with UN-GGIM Asia-Pacific at its Eighth Plenary Meeting in Canberra, Australia.
- **18-20 November:** Regional consultation on the Draft Implementation Guide with UN-GGIM Africa at its Sixth Plenary Meeting in Kigali, Rwanda.
- **31 December:** Global consultation for the Final Draft Implementation Guide concludes.
- **15-16 February 2020:** Regional Awareness Raising Workshop on the Implementation Guide with UN-GGIM Arab States, preceding its Seventh Plenary Meeting (17-19 February) in Algiers, Algeria.
- **31 March 2020:** Final Implementation Guide completed. To be launched at the UN-GGIM HLF in UK in April 2020. Formally adopted by UN-GGIM at tenth session in August 2020.

