



Implementing the Strategic Framework on Geospatial Information and Services for Disasters in the Americas  
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# IGIF Implementation Guide: Enabling the implementation of the Strategic Framework on Disasters at the country level

**Greg Scott, UN-GGIM Secretariat**  
Environmental Statistics and Geospatial Information Branch  
United Nations Statistics Division  
Department of Economic and Social Affairs  
United Nations, New York



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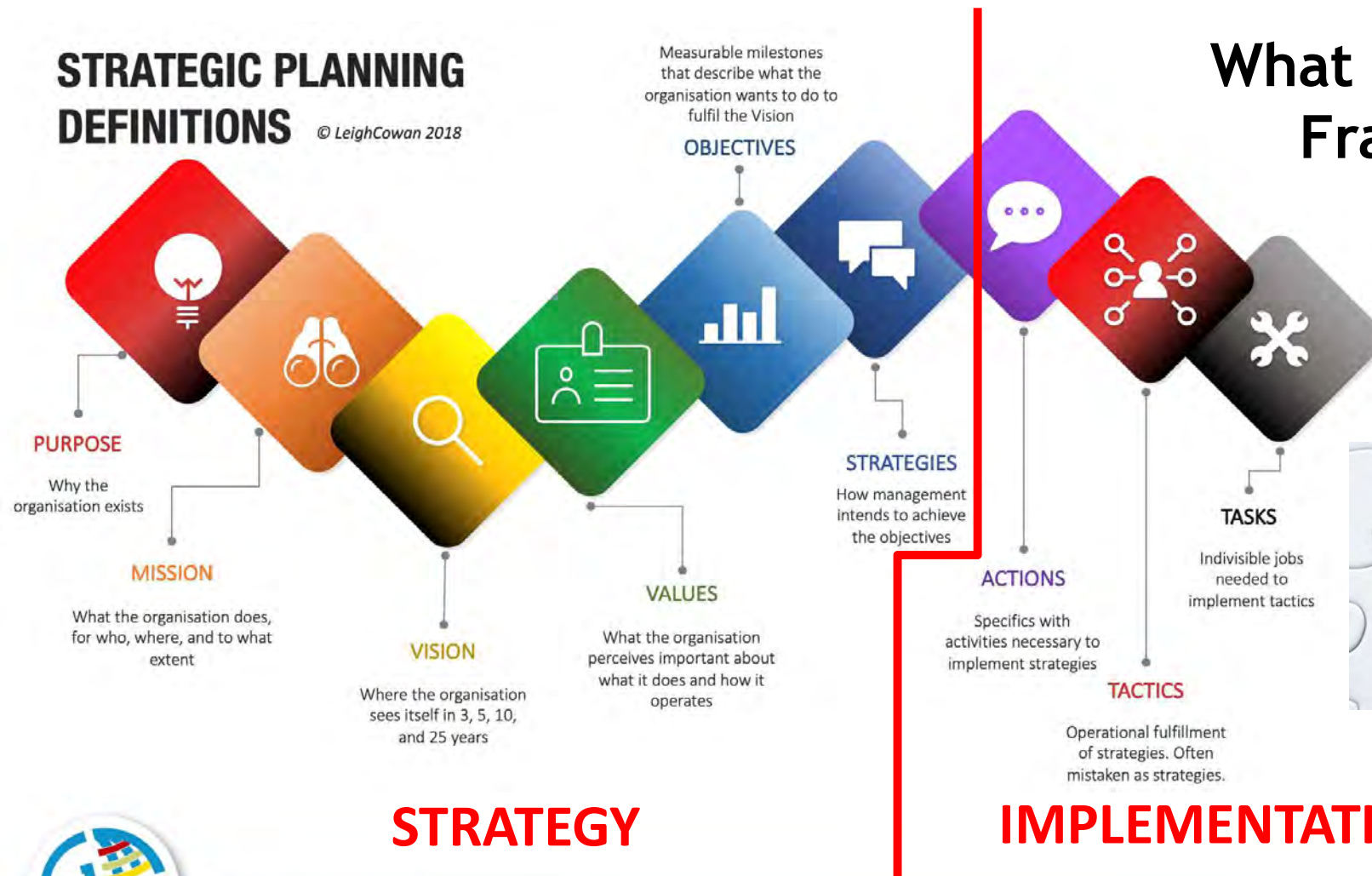
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# STRATEGIC PLANNING DEFINITIONS

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# What is a Strategic Framework?



## Global Development Frameworks

### 2030 Agenda for Sustainable Development

Sendai Framework for Disaster Risk Reduction 2015-2030

Paris Agreement on Climate Change

SAMOA Pathway for SIDS

Addis Ababa Action Agenda

HABITAT III New Urban Agenda

Our Ocean, Our Future: Call for Action

## Global Geospatial Frameworks

### Integrated Geospatial Information Framework (IGIF)

Strategic Framework on Geospatial Information and Services for Disasters

Global Statistical Geospatial Framework (GSGF)

Framework for Effective Land Administration (FELA)

Global Fundamental Geospatial Data Themes

Global Geodetic Reference Frame (GGRF)

National Institutional Arrangements in Geospatial Information Management

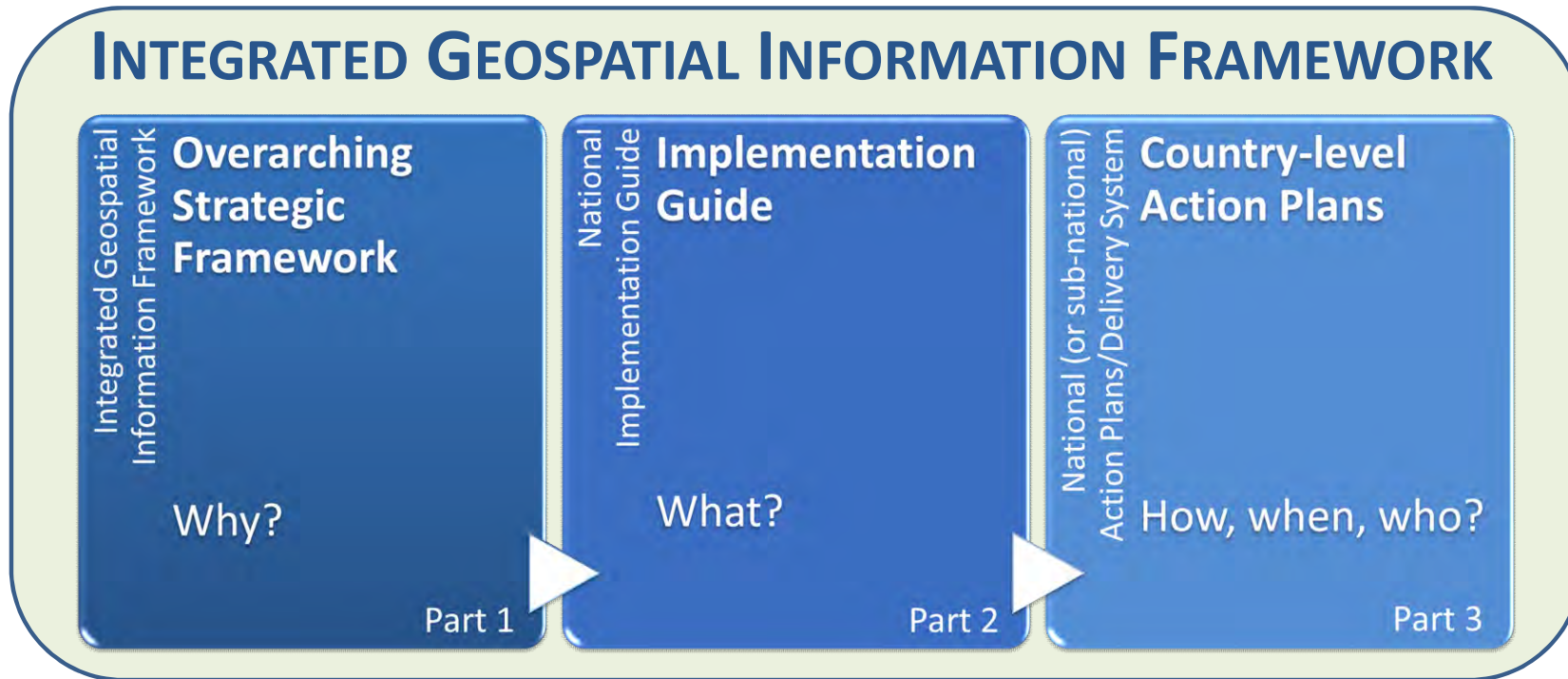
Role of Standards in Geospatial Information Management

Compendium on Licensing of Geospatial Information

Future Trends in Geospatial Information Management Reports



# INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK



Part 1: Overarching Strategic Framework - **WHY** geospatial information is a critical element of national social and economic development, and needs to be strengthened.

Part 2: Implementation Guide - **WHAT** actions can be taken to strengthen geospatial information management.

Part 3: Country-level Action Plans - **HOW** the actions will be carried out, **WHEN** and by **WHOM**.



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The 7 Principles are the key characteristics and values that provide the compass for implementing the Framework, and allow for methods to be tailored to individual country needs and circumstances.

**VISION**

The efficient use of geospatial information by all countries to effectively measure, monitor and achieve sustainable social, economic and environmental development – leaving no one behind

**MISSION**

To promote and support innovation and provide the leadership, coordination and standards necessary to deliver integrated geospatial information that can be leveraged to find sustainable solutions for social, economic and environmental development.

**STRATEGIC DRIVERS**

National Development Agenda • National Strategic Priorities • National Transformation Programme • Community Expectations • Multilateral trade agreements • Transforming our World: 2030 Agenda for Sustainable Development • New Urban Agenda • Sendai Framework for Disaster Risk Reduction 2015–2030 • Addis Ababa Action Agenda • Small Island Developing States Accelerated Modalities of Action (SAMOA Pathway) • United Nations Framework Convention on Climate Change (Paris Agreement) • United Nations Ocean Conference: Call for Action

**UNDERPINNING PRINCIPLES**

Strategic Enablement	Transparent and Accountable	Reliable, Accessible and Easily Used	Collaboration and Cooperation	Integrative Solution	Sustainable and Valued	Leadership and Commitment
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**GOALS**

Effective Geospatial Information Management	Increased Capacity, Capability and Knowledge Transfer	Integrated Geospatial Information Systems and Services	Economic Return on Investment
Sustainable Education and Training Programs	International Cooperation and Partnerships Leveraged	Enhanced National Engagement and Communication	Enriched Societal Value and Benefits



The 8 Goals reflect a future state where countries have the capacity and skills to organize, manage, curate and leverage geospatial information to advance government policy and decision-making capabilities.



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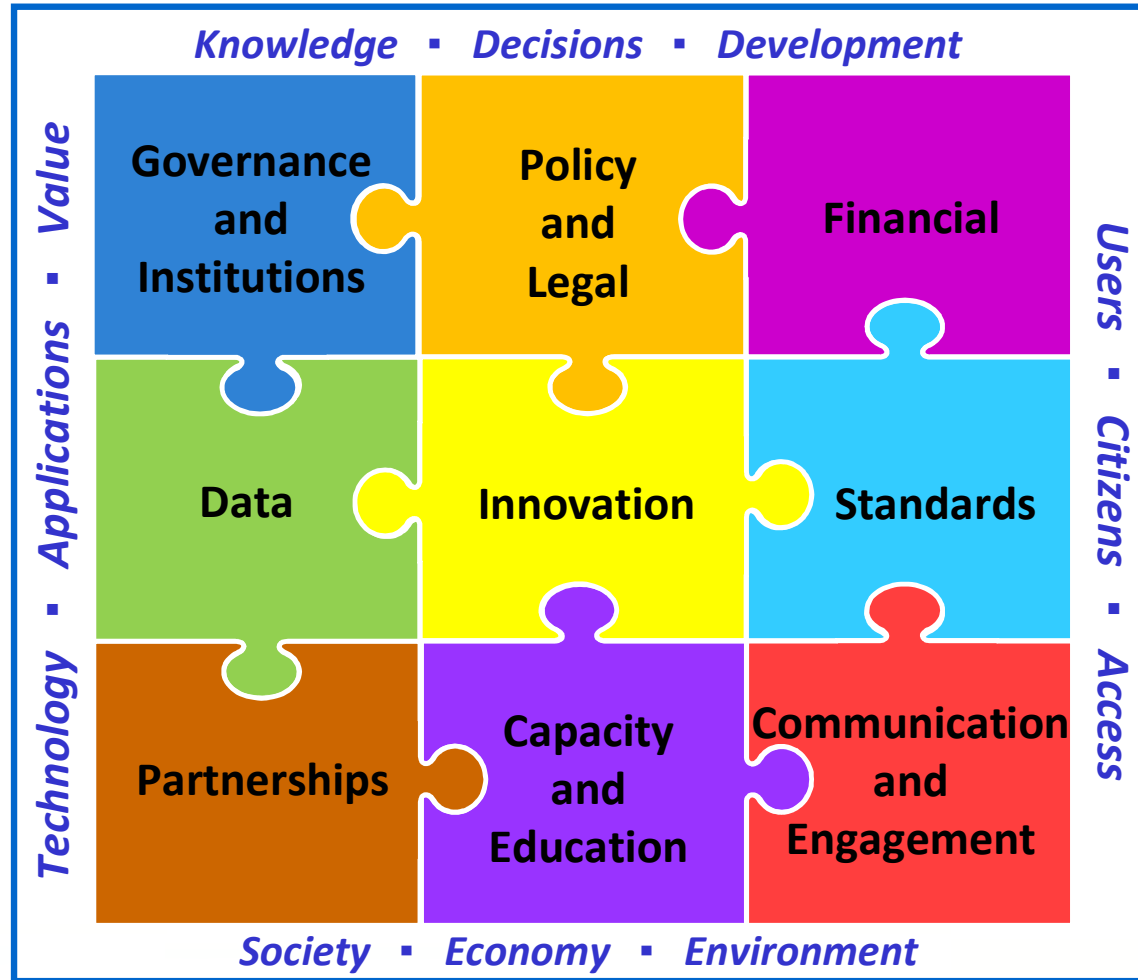
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# 9 Strategic Pathways

Governance →

Technology →

People →



Anchored by 9 Strategic Pathways, the IGIF is a mechanism for articulating and demonstrating national leadership in geospatial information, and the capacity to take positive steps. The Strategic Pathways 'implement' the IGIF through actions.



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# 135 Guidance Actions for Implementation



Elements of Governance and Institutions	Governance Model	Leadership	Value Proposition	Institutional Arrangements
<b>Guiding Principles</b>	Facilitate Strategic Outlook Credibility Participatory	Open and Transparent Accountability Guidance Clarity	Project Management Oversight Communication and Flexibility Legal Interoperability	
<b>Key Actions for Strengthening Geospatial Information Management</b>	Forming the Leadership Governing Board Specialist Working Groups	Setting Direction Strategic Alignment Study Geospatial Infrastructure Management Strategy	Tracking Success Monitoring and Evaluation Success Indicators	
<b>Tools to Assist in Completing the Actions</b>	Steering Committee Strategic Alignment Template	Guidance for Vision, Mission and Goal Statements Country-level Action Plan Template	Monitoring and Evaluation Template Success Indicators Example	
<b>Interrelated and/or Prerequisite Actions</b>	Policy Framework (SP2) ICT Capacity Review (SP3) ICT Needs Assessment and Gap Analysis (SP5)	ICT Needs Assessment and Gap Analysis (SP5) Stakeholder Engagement Strategy (SP9) Legal and Policy Review (SP2)	Data Inventory and Gap Analysis (SP4) Socio-Economic Vision Assessment (SP3)	
<b>Outcomes</b>	Strengthened Leadership, Institutional Mandates and Political Buy in	Efficient Planning and Coordination Geospatial Information is Valued	Cooperative Data Sharing	

Elements of Standards	Standards Governance and Policy	Technology and Data Interoperability	Compliance Testing and Certification	Community of Practice
<b>Guiding Principles</b>	Leadership Compliance Engagement	Collaborative Modernized Practice Interoperability Scalable	Usability Response Extensible Open and Accessible	
<b>Key Actions for Strengthening Geospatial Information Management</b>	Direction Setting Standards Governance Framework Standards Awareness Strategic Goals	Planning for Change Action Plan Institutional Arrangements	Ongoing Management Standards Review Program Community of Practice Capacity Building	
<b>Tools to Assist in Completing the Actions</b>	National Governance Model Example Standards Baseline Survey Needs Assessment and Gap Analysis Template	Roles and Responsibilities for National Standards Community of Practice Standards Training, Tools and Related Resources	User Community Case Studies and Statements of Benefits Community Best Practice Examples	
<b>Interrelated and/or Prerequisite Actions</b>	Governing Board (SP1) Geospatial Information Coordination Unit (SP1) Specialist Working Groups (SP1) Benefits Realization Plan (SP1)	Data Framework (SP4) Data Inventory Template (SP4) Data Inventory Governance Checklist for Creating Metadata (SP4)	Join/Build a Community of Practice/Coalition Building Methods (SP8) Communication Plan (SP9)	
<b>Outcomes</b>	Minimized Barriers to Data Sharing and Integration Improved Usability of Geospatial Information	Rapid Mobilization of New Data and Technologies Efficiency in Geospatial Data Production and Lifecycle Management	Enhanced Abilities to Share Geospatial Building Methods and Address Issues of Common Importance	

Elements of Policy and Legal	Legislation	Policies, Norms and Guides	Data Protection, Licensing and Sharing	Governance and Accountability
<b>Guiding Principles</b>	Available and Compatible Accessible and Equitable	Stewardship and Trust Strategic and Responsive Optimize Value and Resources Secure and Safeguarded	Future Proof and Responsive Policy Coherence and Legal Interoperability	
<b>Key Actions for Strengthening Geospatial Information Management</b>	Providing Leadership Review Group	Addressing Opportunities Design and Develop Data Sharing and Dissemination Licensing Geospatial Information	Addressing Coherence Intellectual Property Rights Privacy and Data Protection Liability Concerns Sensitive Information	
<b>Tools to Assist in Completing the Actions</b>	Common Legal Terms Review and Assessment Review and Assessment Questions	Use Case Example Gaps and Opportunities Analysis Gap Analysis Matrix Legal and Policy Instruments	Assessing Fitness for Purpose for a Policy Managing Intellectual Property Rights Addressing Sensitive Information	
<b>Interrelated and/or Prerequisite Actions</b>	Governing Board (SP1) Geospatial Coordination Unit (SP1)	Geospatial Information Management Strategy (SP1) Specialist Working Groups (SP1)	Identify Key Stakeholders (SP9) Stakeholder Analysis (SP9)	
<b>Outcomes</b>	Sound and Enabling Policy and Legal Environment Maximizes Utility of Geospatial Information with Safeguards	Mandates and Responsibilities Clarified Strengthened Governance and Accountability	Effective, Secure Management and Applications Responsive to Changes and Progress	

Elements of Partnerships	Cross-sector and Interdisciplinary Cooperation	Private Sector and Academia Collaboration	International Collaboration	Community Participation
<b>Guiding Principles</b>	Mutual Respect, Trust and Understanding Leadership, Commitment and Empowerment	Shared Vision and Goals Learning and Development Transparency and Communication	Clarity and Realism of Purpose and Scope Performance Management and Accountability	
<b>Key Actions for Strengthening Geospatial Information Management</b>	Understanding Partnerships Need for Partnering Types of Partnerships	Identifying Potential Partners Potential Partners Preliminary Screening Initial Engagement	Formalizing Partnerships Establishing Agreement Communication Plan Governance Structure	
<b>Tools to Assist in Completing the Actions</b>	Stakeholder Identification and Analysis Types of Partnerships	Evaluation of Potential Partners Success Indicators	Communication Plan Review and Evaluation	
<b>Interrelated and/or Prerequisite Actions</b>	Geospatial Information Management Strategy (SP1) Policy and Legal Review and Assessment (SP2) Sources of Funding Business Case (SP3) Data Gap Analysis (SP4)	Data Acquisition Programs, Data Governance, Storage and Retrieval Systems, Data Release (SP4) Data Acquisition Alternatives, Technology Needs Assessment (SP5)	Geospatial Innovation Systems, New Product Services (SP5) Capacity Needs Assessment (SP8) Stakeholder Identification, Stakeholder Analysis, Communication Plan (SP9)	
<b>Outcomes</b>	Increased Development Capacity Expanded Capability	Sharing, Learning and Knowledge Transfer Empowered Creativity and Innovation	Enhanced Organizational Knowledge, Expertise and Proficiencies Agility and Flexibility	

Elements of Financial	Business Model	Opportunities	Investment	Benefits Realization
<b>Guiding Principles</b>	Adherence Accountable Transparent	Leadership Responsive Credible	Collaborative Stewardship Sustainable	
<b>Key Actions for Strengthening Geospatial Information Management</b>	Setting Direction Financial Governance Financial Accountability	Financial Plan Business Planning	Sources of Funding Strategic Opportunities	
<b>Tools to Assist in Completing the Actions</b>	IGF 'Current and Desired Future' Dual-response Survey World Bank/FACSDI Diagnostic Tool	Business Model Canvas Developing a Business Model - Some Considerations	Components of a Business Case Developing an Annual Budget - Considerations Possible Financing Models	
<b>Interrelated and/or Prerequisite Actions</b>	Governing Board (SP1) Geospatial Coordination Unit (SP1) Geospatial Model (SP1) Specialist Working Group (SP1)	Review Group (SP2) Country-level Action Plan (SP1) Data Sharing and Dissemination (SP2)	Geospatial Information Management Strategy (SP1) Strategic Alignment Study (SP1) Communication Strategy (SP9)	
<b>Outcomes</b>	Investment plan with funding sources identified to meet national geospatial information priorities	New funding initiatives identified with all aspects of national geospatial information program	Financial accounting of costs associated with all aspects of national geospatial information program	Socio-economic value of geospatial information is defined, and aligned to financial plan to realize benefits

Elements of Capacity and Education	Awareness	Formal Education	Professional Training	Entrepreneurship
<b>Guiding Principles</b>	Responsible Relevant Responsive	Objective Inclusive Holistic	Collaborative Coordinated Resilient	Incentivized Sustainable Accountable
<b>Key Actions for Strengthening Geospatial Information Management</b>	Setting Direction Capacity and Education Working Group Target Groups	Considering Alternatives Capacity Development and Education Strategy	Taking Actions Community of Practice Innovation Hubs and Resilient Geospatial Industry 'Champions' Scholarships and Internships	
<b>Tools to Assist in Completing the Actions</b>	Knowledge-Skills-Resource Matrices for Organizations and Teams Capacity Scanning Matrix	Incremental Approach to Needs Assessment/Analysis Gap Analysis Approach to Needs Assessment/Analysis PEST and SWOT Analysis	Typical Components of a Capacity Development and Education Strategy Types of Capacity Development Approaches Recording Success Indicators for Capacity Development	
<b>Interrelated and/or Prerequisite Actions</b>	Geospatial Coordination Unit (SP1) Specialist Working Groups (SP1) Governance Model (SP1) Design and Develop (SP2)	Data Sharing and Dissemination (SP2) Innovation Hubs (SP5) Preliminary Screening and Initial Engagement (SP7)	Communication Strategy (SP9) Communication Plan (SP9) Stakeholder Identification (SP9)	
<b>Outcomes</b>	Broad geospatial awareness and capabilities at all levels Increased adoption and application of geospatial technologies and processes	Stimulate creativity and innovative solutions to address real-world challenges, economic opportunities and growth, and embracing of society and geospatial sciences.	Equipped with increasing knowledge, proficiencies and instincts in geospatial and geospatial sciences.	

Elements of Data	Data Themes	Custodianship, Acquisition and Management	Data Supply Chains	Data Curation and Delivery
<b>Guiding Principles</b>	Governance Consistent Quality Management	Metadata Standards Accessibility Reusable Formats	Authoritative Timeliness Provenance Integrity	Demand Driven Efficiency Security Respected Rights
<b>Key Actions for Strengthening Geospatial Information Management</b>	Getting Organized Data Framework Data Inventory Dataset Profiles	Capturing and Acquiring Data Data Capture Data Acquisition Program	Maintaining Accurate Positioning Maintained Geospatial Infrastructure	
<b>Tools to Assist in Completing the Actions</b>	Fundamental/Geospatial Data Themes Data Theme Description Data Inventory Dataset Profiles Data Management Plan Gap Analysis Matrix	Data Theme Road Map Template Data Custodianship Policy Principles Data Governance Roles Data Management Plan Elements	Metadata Creation/Checklist Data Release Guidelines Guidance for Improving Geospatial Infrastructure Global/Statistical Geospatial Framework Geospatial/Statistical Integration	
<b>Interrelated and/or Prerequisite Actions</b>	Geospatial Strategy (SP1) Country-level Action Plan (SP1) Governance Model (SP1) Geospatial Steering Committee (SP1)	Geospatial Information Coordination Unit (SP1) Policy Framework (SP2) Licensing Models (SP2) New Data Capture Methods (SP2)	Storage Solutions (SP5) Metadata Standards (SP6) Custodianship Partnering (SP7) Identify Key Stakeholders (SP9)	
<b>Outcomes</b>	Increased Range and Scope of Authoritative Data	A Critical Mass of Curated Geospatial Data Cost Reduction Through Productivity Improvements	Ability to Monitor and Measure Progress Towards Achieving SDGs	

Elements of Communication and Engagement	Stakeholder and User Engagement	Strategic Messaging and Engagement	Communication Strategy, Plans and Methods	Monitoring and Evaluation
<b>Guiding Principles</b>	Trusted and Transparent Participatory and Inclusive	Inclusive and Impartial Meaningful and Timely	Coordinated and Consistent Purposeful and Effective	Addressable and Responsive
<b>Key Actions for Strengthening Geospatial Information Management</b>	Providing Leadership Engagement Strategy Steering Group Internal Communication	Setting Direction Policy Platform Geospatial Brand Strategic Messages	Monitoring Progress Review and Evaluate Stakeholder Survey	
<b>Tools to Assist in Completing the Actions</b>	Categories of Stakeholders Identifying and Classifying Stakeholders	Stakeholder Analysis Matrix Stakeholder Analysis and Communication	Stakeholder Communication Plan Communication Methods	Communication Methods - Advantages and Disadvantages Review and Evaluation: Benchmarking
<b>Interrelated and/or Prerequisite Actions</b>	Geospatial Information Management Strategy (SP1) Specialist Working Groups (SP1)	'Socio-Economic Impact Assessment (SP1)	Governing Board (SP1) Communication Plan (SP9)	Geospatial Coordination Unit (SP1) Benefits Realization Plan (SP9)
<b>Outcomes</b>	Heightened Awareness and Active Engagement	Engaged, Inclusive and Participatory	Positive and Beneficial Relationships	Increased Opportunities, Innovations and Accomplishments

# IGIF: Country-level Action Plans (CAPs)

- Country-level Action Plans (CAPs) describe HOW the actions will be carried out, WHEN and by WHOM.
- A CAP provide the process to build an IGIF for a nation, beginning with specific plans that align with a nation's priorities and circumstances.
- A CAP references the specific guidance, options and actions provided in the Implementation Guide and addresses each of the Strategic Pathways, while taking into account the strategic and operational needs of a country when implementing the Framework.
- The CAP is a plan, not a programme that is implemented. The CAPs contain the processes, templates and tools that are available and necessary to first develop a national action plan, and then operationalize the IGIF through its subsequent implementation, and aligned with national priorities.
- The CAPs will include elements such as the economic impact and value of geospatial information systems, identification of investment needs and priorities, and sequenced implementation options.



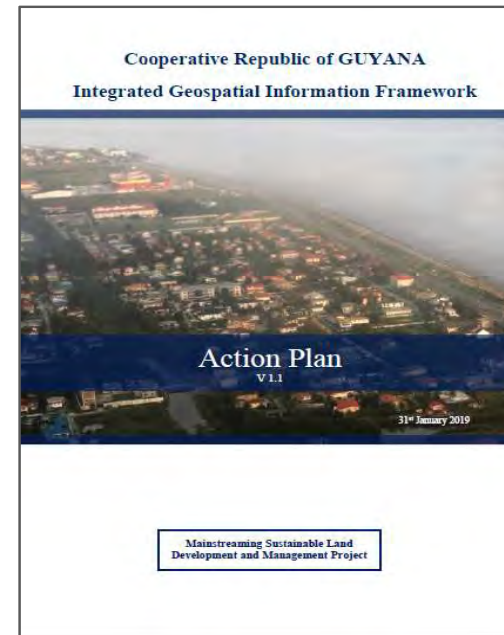


# IGIF: Country-level Action Plans - Approaches

United Nations and the World Bank are actively engaged in assisting countries to develop Country-level Action Plans



Development Account Project  
UNSD  
(self-paced learning and execution)



Technical Assistance Programs  
World Bank and FAO  
(assisted execution)



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# Strategic Framework on Geospatial Information and Services for Disasters

## Scope and Purpose

The strategic framework aims to guide all stakeholders and partners in the management of geospatial information and services in all phases of disaster risk management

## Expected Outcome






The social, economic, and environmental risks and impacts of disasters are prevented or reduced through the use of geospatial information and services

## Goal

Quality geospatial information and services are available and accessible in a timely and coordinated way to support decision-making and operations within and among all stakeholders and partners and in all phases of disaster risk management

## Priorities for Action

Member States with the support of regional and international organizations as well as other relevant organizations should focus their action on the following 5 priorities for action

				
<b>Priority 1 Governance and Policies</b>	<b>Priority 2 Awareness Raising and Capacity Building</b>	<b>Priority 3 Data Management</b>	<b>Priority 4 Common Infrastructure and Services</b>	<b>Priority 5 Resource Mobilization</b>
<b>Policies, collaborative agreements and legal frameworks aiming at improving the availability and accessibility of quality geospatial information and services among all stakeholders and partners established and implemented in all phases of DRM</b>	<b>Awareness is raised among concerned entities on the importance of geospatial information and services and all necessary technical and human capacities are built and/or strengthened</b>	<b>Geospatial databases and information products are developed based on common standards, protocols and processes as important tools in every decision-making process across all phases of DRM</b>	<b>Common facilities and services are established for all key stakeholders and partners to have a common operational picture of emergency scenarios</b>	<b>All necessary technical, human and financial resources are available to sustain all the activities of DRM</b>

## Guiding Principles

The strategic framework is guided by the 2030 Agenda for Sustainable Development, International Strategy for Disaster Reduction, Sendai Framework for Disaster Risk Reduction (2015-2030), the UN-GGIM Global Statistical Geospatial Framework, UN General Assembly resolution on international cooperation on humanitarian assistance in the field of natural disasters, from relief to development and other relevant instruments. It is also guided by the principles of open data and requirements of national data infrastructure, and by the UN-GGIM's Statement of Shared Guiding Principles for the Management of Geospatial Information.

During disaster situations, the data-sharing mechanism to support decision-making is generally not in place. As a result, the many actors and stakeholders simultaneously engaged in response are not only gathering volumes of concurrent and inconsistent geospatial datasets, but they are also concerned with issues of coordination and communication. This underscores the strong relevance of a Strategic Framework.



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WHAT specific actions need to be taken for implementation of the Strategic Framework, and HOW will the actions be carried out, WHEN and by WHOM?

## VI. Implementation

34. Geospatial information and services contribute vastly to the overarching effort of preventing or reducing the social, economic, and environmental impacts of disasters. Thus, Member States and other stakeholders should prioritize a geospatially-oriented agenda in their respective development plans and programs.

35. Member States and other stakeholders should commit themselves to the full implementation of the priorities for action by improving their current capacities in providing geospatial information and services across all phases of DRM and actively promoting the goals of the five priorities for action, and translate the same into national implementation plans.

36. A participatory and inclusive approach in generating, improving and managing geospatial information should be employed by all entities involved in DRM efforts.

37. Managing geospatial information and services before, during and after disasters will require all Member States and other stakeholders to institutionalize good governance practices and science-based policies supported by improved capacities on human resource, infrastructure and geospatial data management, among others.

38. In support to the Sendai Framework for Disaster Risk Reduction (2015-2030), international cooperation should be recognized as a critical element in managing geospatial information and services before, during and after disasters, and thus implementing the provisions of the strategic framework. Adopting best practices and identifying champions among Member States will augment their existing capacities in using geospatial information and services across all phases of the DRM.

This Strategic Framework is not only timely in view of the increasing number and impact of disasters, but also contributes to the Member States' implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030.





### Governance and Policies



### Awareness Raising and Capacity Building



### Data Management



### Common Infrastructure and Services



### Resource Mobilization

Refers to the framing, implementation and monitoring of policies to make geospatial information accessible and available across all phases of the disaster cycle.



Refers to the improved understanding and use of spatial data as a vital tool for all new technical and human capacities are built and/or strengthened, especially in the pre-disaster phase of the disaster cycle.



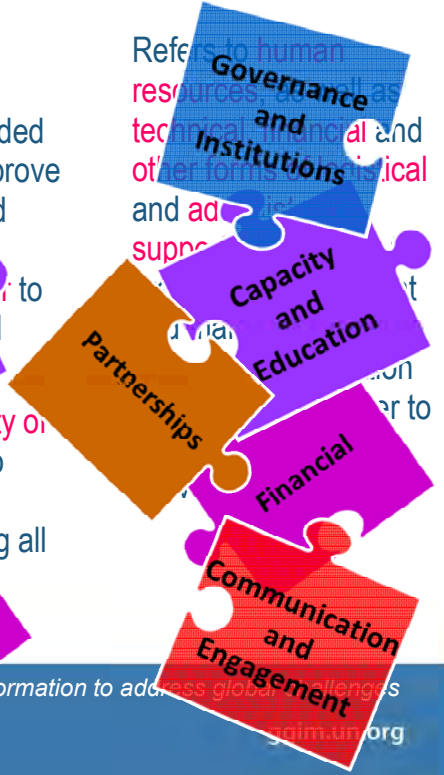
Refers to the comprehensive management and use of data and information. Specific activities include:



Refers to the hardware, software, and services needed to improve geospatial information and services, and to be established by government and other actors.



Refers to human resources, technical and other forms of capital and administrative support.

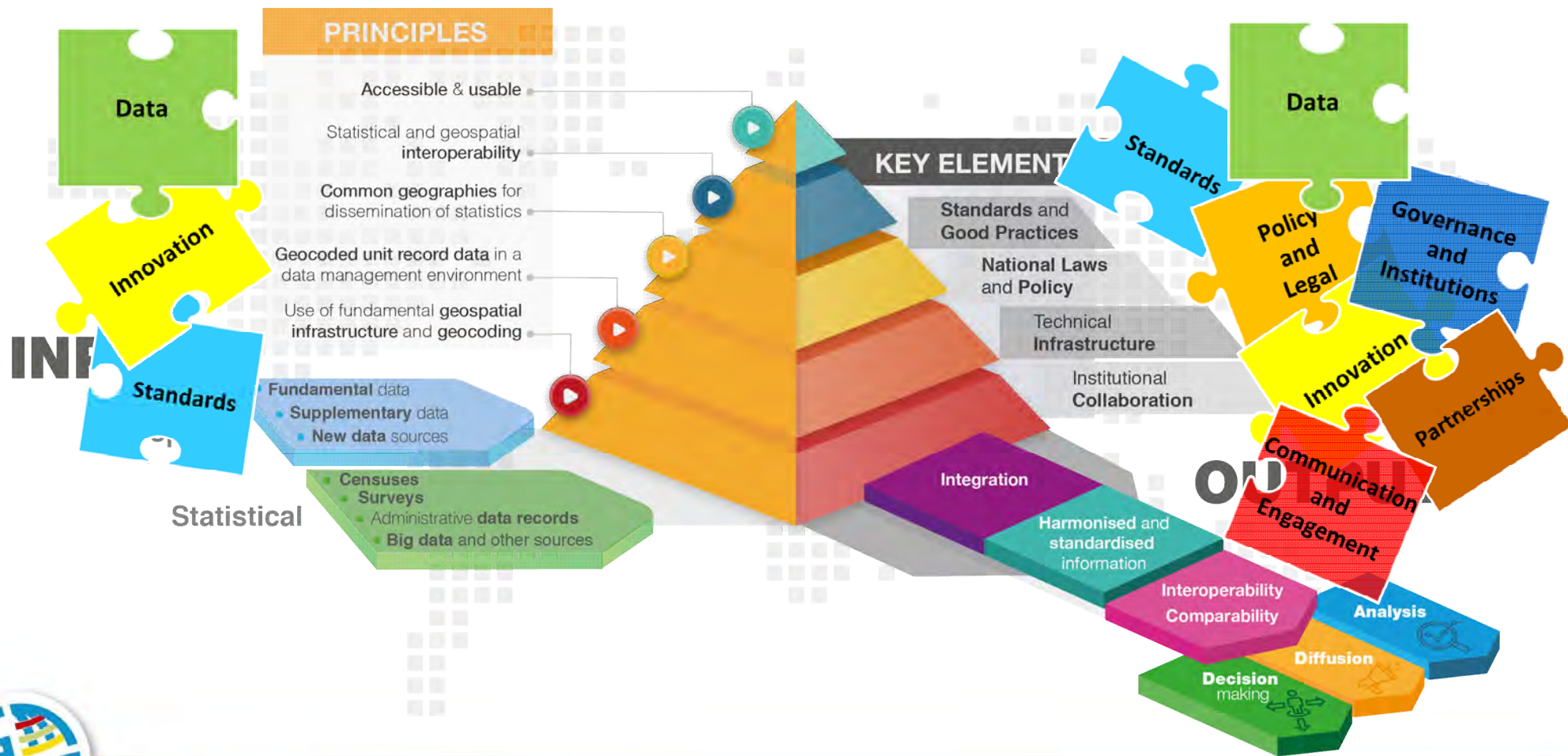


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# Global Statistical Geospatial Framework (GSGF)



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Transforming our world -  
The 2030 Agenda for  
Sustainable Development



# Integrated Geospatial Information Framework (IGIF)

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