

Quick Reference Guide: UN-IGIF Nine Strategic Pathways



	DESCRIPTION AND OBJECTIVE	ELEMENTS OF THE STRATEGIC PATHWAY	POTENTIAL TOOLS AND METHODOLOGIES	KEY ACTIONS TO STRENGTHEN GEOSPATIAL INFORMATION MANAGEMENT	OUTCOMES	RELATED PATHWAYS	POSSIBLE DELIVERABLES
1 Governance and Institutions	<p>DESCRIPTION: Establishes the leadership, governance model, institutional arrangements and a clear value proposition to strengthen multi-disciplinary and multisectoral participation in, and a commitment to, achieving the UN-IGIF.</p> <p>OBJECTIVE: Attain political endorsement, strengthen institutional mandates and build a cooperative data sharing environment through a shared vision and understanding of the value of the UN-IGIF, and the roles and responsibilities to achieve the vision.</p>	<ul style="list-style-type: none"> Governance Model Leadership Value Proposition Instiitutional Arrangements 	<ul style="list-style-type: none"> 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 	<p>FORMING LEADERSHIP: Governing Body, Geospatial Coordination Unit(s), Specialist Working Groups</p> <p>ESTABLISHING ACCOUNTABILITY: Governance Model</p> <p>DEFINING VALUE: Strategic Alignment Study, Value Proposition Statement</p> <p>SETTING DIRECTION: Geospatial Information Management Strategy, Change Strategy</p> <p>CREATING A PLAN OF ACTION: Country-level Action Plan</p> <p>TRACKING SUCCESS: Monitoring and Evaluation, Success Indicators</p>	<ul style="list-style-type: none"> Efficient Planning and Coordination Strengthened Leadership, Institutional Mandates and Political Buy-in Cooperative Data Sharing Valued Geospatial Information Management 	<ul style="list-style-type: none"> 2 3 4 5 9 	<ul style="list-style-type: none"> Governance Model Strategic Alignment Study Value Proposition Statement Geospatial Information Management Strategy Change Strategy Success Indicators
2 Policy and Legal	<p>DESCRIPTION: Establishes a robust policy and legal framework that is essential for instituting effective, efficient and secure management and exchange of geospatial information-nationally and sub-nationally.</p> <p>OBJECTIVE: Address current policy and legal issues by improving the policies and laws associated with, and having an impact on, geospatial information management. This is achieved by proactively monitoring the policy and legal environment, including mandating responsibility for the production of data, and keeping abreast of issues and challenges arising from the evolving, innovative and creative use of geospatial information and emerging technologies.</p>	<ul style="list-style-type: none"> Legislation Policies, Norms and Guides Data Protection, Licensing and Sharing Governance and Accountability 	<ul style="list-style-type: none"> Common Legal Terms Review and Assessment Policy Review Questions Use Case Example Gap Analysis Matrix Policy and Legal Instrument Assessing Fitness for Purpose for Policy Managing Intellectual Property Rights Addressing Sensitive Information 	<p>PROVIDING LEADERSHIP: Policy and Legal Working Group</p> <p>ASSESSING NEEDS: Policy and Legal Review, Needs Assessment and GAP Analysis</p> <p>ADDRESSING OPPORTUNITIES: Policy and Legal Framework, Data Sharing and Dissemination, Licensing Geospatial Information</p> <p>FUTURE PROOFING: Future-Proofing</p> <p>ADDRESSING COHERENCE: Intellectual Property Rights, Privacy and Data Protection, Liability Concerns, Sensitive Information</p> <p>DELIVERING COMPLIANCE: Impact Assessment, Compliance Strategy</p>	<ul style="list-style-type: none"> Sound and Enabling Policy and Legal Environment Maximizes Utility of Geospatial Information with Safeguards Effective/Secure Management, Integration, and Application Responsive to Changes and Progress Mandates and Responsibilities Clarified Strengthen Governance and Accountability 	<ul style="list-style-type: none"> 1 9 	<ul style="list-style-type: none"> Review and Assessment Gaps and Opportunities Analysis Policy and Legal Framework Documented Intellectual Property Rights/Data Protections Impact Assessment Compliance Strategy Methodology for Modernization
3 Financial	<p>DESCRIPTION: Establishes the business model, develops financial partnerships, and identifies the investment needs and means of financing for delivering integrated geospatial information management, as well as recognizing the milestones that will achieve and maintain momentum, and realize benefits.</p> <p>OBJECTIVE: Achieve an understanding of the financial plans required to establish and maintain integrated geospatial information management, as well as the longer-term investment program that enables government to respond to evolving societal, environmental and economic demands for geospatial data.</p>	<ul style="list-style-type: none"> Business Model Opportunities Investment Benefits Realization 	<ul style="list-style-type: none"> UN-IGIF ‘Current and Desired Future Dual Response’ Survey UN-IGIF Baseline Survey World Bank/FAO SDI Diagnostic Tool Business Model Canvas Developing a Business Model Geospatial Program Budget Socio-Economic Impact Assessment Approach Components of a Business Case Developing an Annual Budget Financing Models 	<p>SETTING DIRECTION: Financial Governance, Financial Accountability</p> <p>SITUATIONAL ASSESSMENT: Current Operating Environment, Current Business Model, Data Policy, Public Good</p> <p>FINANCIAL PLAN: Desired Business Model, Financial Planning</p> <p>CASE FOR INVESTMENT: Socio-Economic Impact Assessment, Business Case, Investment Appraisal, Annual Budget</p> <p>SOURCES OF FUNDING: Sources of Funding, Strategic Opportunities</p> <p>DERIVING VALUE: Benefits Realization, Communicate Benefits</p>	<ul style="list-style-type: none"> Investment Plan with Funding Sources, Obligations, and Estimates for Future Years New Funding Initiatives Identified to Meet National Geospatial Information Priorities 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 	<ul style="list-style-type: none"> 1 2 7 9 	<ul style="list-style-type: none"> Financial Arrangement and Management Plan Situational Assessment Strategic Opportunities Assessment Desired Business Model Financial Plan Socio-Economic Impact Assessment Investment Appraisal Annual Budget
4 Data	<p>DESCRIPTION: Establishes a geospatial data framework and custodianship guidelines for best practice collection and management of integrated geospatial information that is appropriate to ensure cross sector and multidisciplinary collaboration.</p> <p>OBJECTIVE: Enable data custodians to meet their data management, sharing and reuse obligations to government and the user community through the execution of well-defined data supply chains for organizing, planning, acquiring, aggregating, integrating, curating, analyzing, publishing and archiving geospatial information.</p>	<ul style="list-style-type: none"> Data Themes Custodianship, Acquisition and Management Data Supply Chains Data Curation and Delivery 	<ul style="list-style-type: none"> Fundamental Geospatial Data Themes Data Theme Description Data Inventory Questionnaire Dataset Profile Template 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 Geodetic Infrastructure Global Statistical Geospatial Framework Guidance on Geo-Statistical Integration 	<p>GETTING ORGANIZED: Data Framework, Data Inventory, Dataset Profiles</p> <p>PLANNING FOR THE FUTURE: Data Gap Analysis, Data Theme Roadmap</p> <p>CAPTURING AND ACQUIRING DATA: Data Capture, Data Acquisition Program</p> <p>MANAGING DATA SUSTAINABILITY: Custodianship Policy, Data Governance, Data Management, Maintained Metadata, Data Release, Storage/Retrieval System</p> <p>MAINTAINING ACCURATE POSITIONING: Maintained Geodetic Reference Frame</p> <p>INTEGRATING DATA: Geospatial/Statistical Integration, Geocoding and Aggregation, Data Supply Chains, Data Interoperability</p>	<ul style="list-style-type: none"> Increased Range and Scope of Authoritative Data A Critical Mass of Centrally Coordinated Data Cost Reduction Through Productivity Improvements Ability to Monitor and Measure Progress Towards Achieving SDGs 	<ul style="list-style-type: none"> 1 2 5 6 7 9 	<ul style="list-style-type: none"> Data Framework Data Inventory Dataset Profiles Data Gap Analysis Data Theme Roadmap Custodianship Policy Data Governance and Management Data Storage/Retrieval Process Maintained Geodetic Infrastructure Data Interoperability Metadata Profiles

	DESCRIPTION AND OBJECTIVE	ELEMENTS OF THE STRATEGIC PATHWAY	POTENTIAL TOOLS AND METHODOLOGIES	KEY ACTIONS TO STRENGTHEN GEOSPATIAL INFORMATION MANAGEMENT	OUTCOMES	RELATED PATHWAYS	POSSIBLE DELIVERABLES
5 Innovation	<p>DESCRIPTION: Recognizes that innovation has the potential to stimulate, trigger and respond to rapid change, advance past outdated technologies and processes, and to bridge the geospatial digital divide. Technology is continually evolving, creating new opportunities for innovation and creativity.</p> <p>OBJECTIVE: Leverage the latest and cost-effective technologies, innovations and process improvements so that governments, businesses, academia, and communities, no matter what their current situation, may advance or leapfrog to modern geospatial information management practices and services.</p>	<ul style="list-style-type: none"> Technological Advances Innovation and Creativity Process Improvement Bridging the Geospatial Digital Divide 	<ul style="list-style-type: none"> UN-IGIF Technology Maturity Index Capability Framework Matrix Geospatial Drivers and Trends ICT Data inventory PEST and SWOT Analysis Modernizing Data Assets Modern Data Creation Methods Data Integration Approaches Data Storage Processes Pillars of an Innovation Program Critical Path Analysis Open SDG Data Hubs 	<p>GEOSPATIAL LANDSCAPE: Innovation Group, Technology Maturity Index, Strategic Alignment</p> <p>IDENTIFYING INNOVATION NEEDS: Monitoring Trends, Technology Needs Assessment</p> <p>TRANSFORMATION ROADMAP: Modernizing Data Assets, Modern Data Creation Methods, Enabling Infrastructure</p> <p>PLANNING FOR ACTION: Geospatial Digital Transformation Strategy, Building a Culture of Innovation</p> <p>OPERATIONALIZING INNOVATION: National Innovation System, Innovation Programs, Innovation Hubs, Process Improvement</p> <p>FUTURE DIRECTIONS: Buidling the Geospatial Digital Divide, Integrated System-of-Systems</p>	<ul style="list-style-type: none"> Effective Geospatial Information Managment Processes Increased Productivity Through an Innovation Enabled Environment Innovative Workforce Ability to Bridge the Geospatial Digital Divide 	<p>1</p> <p>4</p>	<ul style="list-style-type: none"> Technology Maturity Matrix Geospatial Digital Transformation Strategy Modernizing Data Assets Enabling Infastructure Innovation System and Programs Innovation Hubs Process Improvement Integrated Systems-of-Systems
6 Standards	<p>DESCRIPTION: Establishes and ensures the adoption of standards and compliance mechanisms for enabling data and technology interoperability to deliver integrated geospatial information and to create location-based knowledge.</p> <p>OBJECTIVE: Enable an efficient and consistent approach for different information systems to be able to discover, manage, communicate, exchange and apply geospatial information for a multitude of uses, improved understanding and decision making.</p>	<ul style="list-style-type: none"> Standards Governance and Policy Technical and Data Interoperability Compliance Testing and Certification Community of Practice 	<ul style="list-style-type: none"> National Governance Model Standards Baseline Survey Standards Needs Assessment and Gap Analysis Roles and Responsibilities for National Standards Governance Standards Training, Tools and Related Resources User Community Case Studies and Statements of Benefits Community Good Practices 	<p>DIRECTION SETTING: Standards Governance, Standards Awareness, Strategic Goals</p> <p>UNDERSTANDING NATIONAL NEEDS: Baseline Survey, Standards Inventory, Needs Assessment and Gap Analysis</p> <p>PLANNING FOR CHANGE: Action Plan, Institutional Arrangements</p> <p>TAKING ACTION: Implementation, Communication and Engagement, Risk Assessment</p> <p>ONGOING MANAGEMENT: Standards Review Program, Community of Practice, Capacity Development</p> <p>ACHIEVING OUTCOMES: Compliance, Success Indicators</p>	<ul style="list-style-type: none"> Minimized Barriers to Data Sharing and Integration Enhanced Abilities to Share and Address Common Issues Rapid Mobilization of New Sources of Data and Technologies Improved Uptake of Geospatial Information Efficiencies in Geospatial Data Production and Lifecycle Management 	<p>1</p> <p>3</p> <p>4</p> <p>8</p> <p>9</p>	<ul style="list-style-type: none"> Standards Governance Framework Standards Strategy and Plan Strategic Goals Baseline Survey Standards Inventory Needs Assessment and Gap Analysis Action Plan Standards Review Program Standards Compliance Program
7 Partnerships	<p>DESCRIPTION: Establishes cross-sector and interdisciplinary collaboration, cooperation and coordination with all levels of government, geospatial industry, private sector, academia, and the international community, as an important premise to developing and sustaining an enduring nationally integrated geospatial information framework.</p> <p>OBJECTIVE: Create and sustain the value of geospatial information through a culture based on inclusion, trusted partnerships and strategic alliances that recognize common needs, aspirations and goals, towards achieving national priorities and outcomes.</p>	<ul style="list-style-type: none"> Cross-sector and Interdisciplinary Cooperation Private Sector and Academia Collaboration International Collaboration Community Participation 	<ul style="list-style-type: none"> Identifying and Classifying Potential Partners Evaluation of Potential Partners Review and Evaluation Types of Partnerships Communication Plan Success Indicators 	<p>UNDERSTANDING PARTNERSHIPS: Needs for Partnering, Types of Partnerships</p> <p>EVALUATING OPPORTUNITIES: Partnership Opportunities, Selection Criteria</p> <p>IDENTIFYING POTENTIAL PARTNERS: Potential Partners, Preliminary Screening, Initial Engagement</p> <p>SELECTING PARTNERS: Options and Operational Implications, Financial Analysis</p> <p>FORMALIZING PARTNERSHIPS: Establishing Agreement, Communication Plan, Governance Structure</p> <p>MANAGING PARTNERSHIP: Reporting and Accountability, Review and Evaluation, Concluding a Partnership</p>	<ul style="list-style-type: none"> Increased Development Capacity through Sharing, Learning and Knowledge Transfer Enhanced Organization Knowledge, Expertise, and Proficiencies and Expanded Capability through Complementary Resources Agility and Flexibility in Transformation and Reform Empowered Creativity and Innovation through Collaboration and Joint Efforts 	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>9</p>	<ul style="list-style-type: none"> Stakeholder Identification Process Stakeholder Evaluation and Selection Criteria Partnership Agreement Governance Structure Communication Plan Review and Evaluation Process
8 Capacity and Education	<p>DESCRIPTION: Establishes enduring capacity development and education programs so that the value and benefits of integrated geospatial information management is sustained for the longer term.</p> <p>OBJECTIVE: Raise awareness, build and strengthen knowledge, competencies, skills, instincts, processes, resources, and innovative entrepreneurship that organizations, communities and individuals require to utilize geospatial information for evidence based decision-making and effective service delivery.</p>	<ul style="list-style-type: none"> Awareness Raising Formal Education Professional Workplace Training Entrepreneurship 	<ul style="list-style-type: none"> 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 Capacity Development Approaches Recording Success Indicators for Capacity Development 	<p>SETTING DIRECTION: Capacity and Education Working Group, Target Groups</p> <p>ASSESSING NEEDS: Inventory of Knowledge Skills and Resources, Assessment and Analysis</p> <p>CONSIDERING ALTERNATIVES: Capacity Development and Education</p> <p>PLANNING FOR ACTION: Development Approaches, Implementation Plan, Education Programs, Outreach Initiatives</p> <p>TAKING ACTION: Community of Practice, Innovation Hubs and Incubators, Geospatial Challenges, Geography in Schools, Scholarships and Internships</p> <p>ASSESSING VALUE: Monitor and Evaluate</p>	<ul style="list-style-type: none"> Broad Geospatial Awareness and Capabilities at all Levels Increased Adoption/Application of Geospatial Information, Technologies, and Processes Stimulate Creativity and Innovative Solutions to Address Real-world Challenges, Economic Opportunities and Growth, and Well-being of Society Equipped with Increasing Knowledge, Proficiencies and Instincts in Geography and Geospatial Sciences 	<p>1</p> <p>2</p> <p>5</p> <p>7</p> <p>9</p>	<ul style="list-style-type: none"> Inventory of Knowledge, Skills, and Resources Needs Assessment and Gap Analysis Capacity Development Strategy Geospatial Education Programs Education Implementation Plan Innovation Hubs and Incubators Geospatial Literacy Outreach Plan Monitoring and Evaluation Framework
9 Communication and Engagement	<p>DESCRIPTION: Recognizes that stakeholder identification, user engagement and strategic communication are essential to successfully deliver integrated geospatial information management arrangements nationally and sub-nationally for sustainable social, economic and environmental development.</p> <p>OBJECTIVE: Ensure effective communication and engagement to enhance and deepen participation and contributions from all stakeholders and at all levels. Commitment, mutual understanding, collaboration, cooperation and communication are essential to successfully implement the UN-IGIF within organizations and with stakeholders.</p>	<ul style="list-style-type: none"> Stakeholder and User Engagement Strategic Messaging Strategy, Plans and Methods Monitoring and Evaluation 	<ul style="list-style-type: none"> 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- Methods for Benchmarking 	<p>PROVIDING LEADERSHIP: Communication and Engagement Strategy, Working Group, Internal Communication</p> <p>UNDERSTANDING OPPORTUNITIES: Stakeholder Identification, Stakeholder Analysis</p> <p>SETTING DIRECTION: Policy Platform, Geospatial Brand, Strategic Messages</p> <p>CREATING A PLAN OF ACTION: Communication Plan, Communication Methods</p> <p>MONITORING PROGRESS: Review and Evaluation, Stakeholder Surveys</p> <p>COMMUNICATING VALUE: Benefits Communication, Lessons Learned Resource</p>	<ul style="list-style-type: none"> Heightened Awareness and Active Engagement Elevated Trust, Confidence, and Increased Use of Geospatial Information Greater Synergy, Increased Opportunities, Innovations and Accomplishments Increasing Engagement, Awareness, and Participation Positive Relationships, Greater Efficiency and Effectiveness 	<p>1</p> <p>3</p>	<ul style="list-style-type: none"> Communication and Engagement Strategy Working Group for Communication and Engagement Stakeholder Identification Stakeholder Analysis Geospatial brand Communication Plan and Methods Review and Evaluation Plan