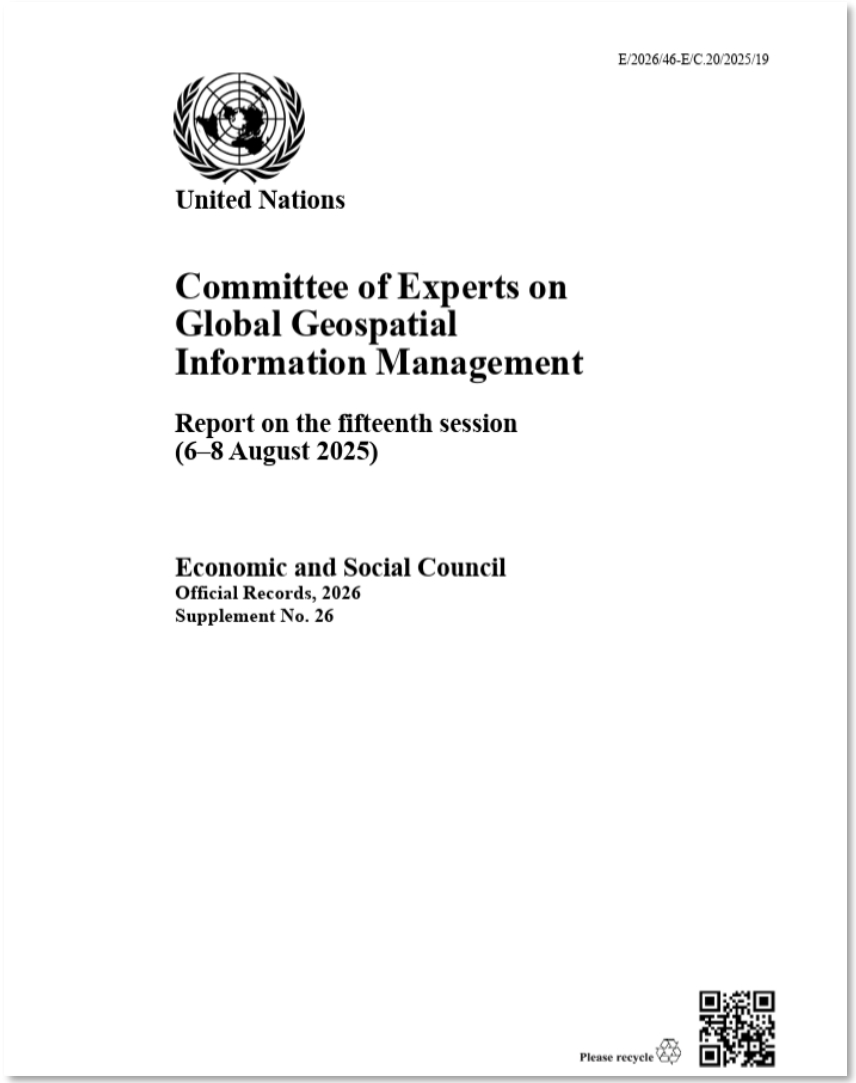
UNITED NATIONS COMMITTEE OF EXPERTS ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

Introduction to the United Nations Integrated Geospatial Information Framework and the development of Country-level Action Plan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United Nations

Committee of Experts on Global Geospatial Information Management

Report on the fifteenth session (6–8 August 2025)

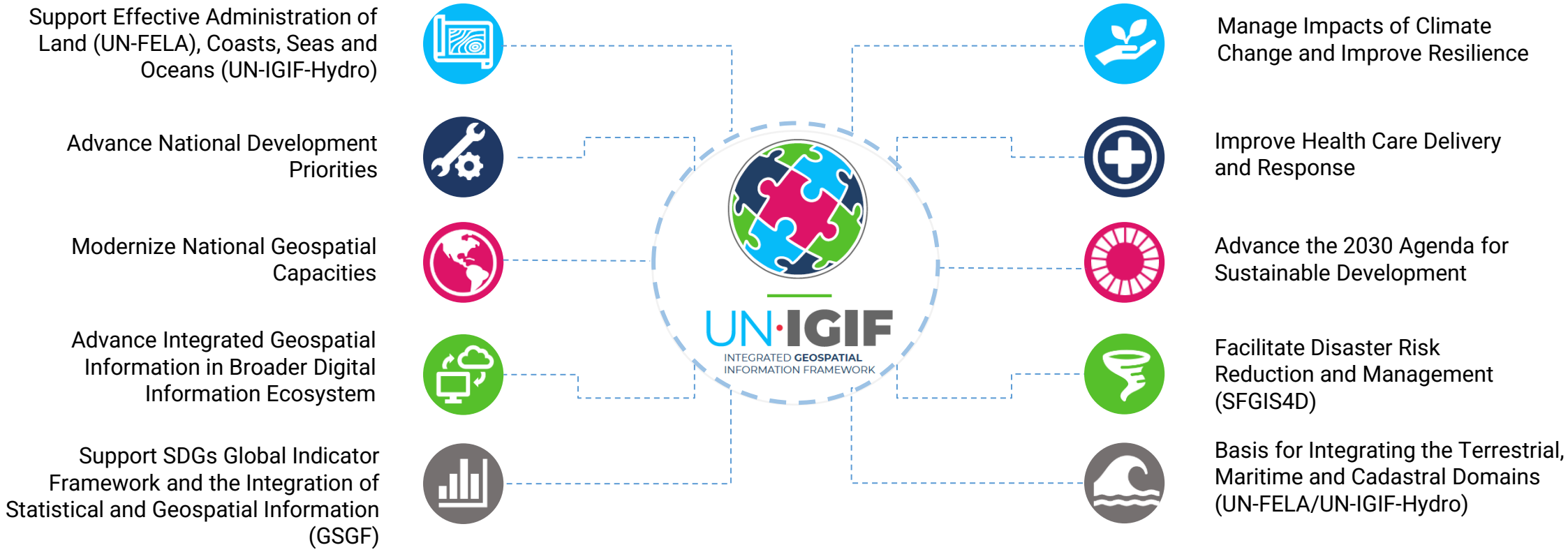
Economic and Social Council
Official Records, 2026
Supplement No. 26

Please recycle

Decision 15/101
United Nations Integrated Geospatial Information Framework

(b) **Encouraged all Member States to implement the United Nations Integrated Geospatial Information Framework as a foundational element for geospatial information management to achieve national priorities**, and to share their country-level action plans widely through the website to foster knowledge, good practices and dialogue and promote collective progress on implementing the Framework;

United Nations Integrated Geospatial Information Framework (UN-IGIF)

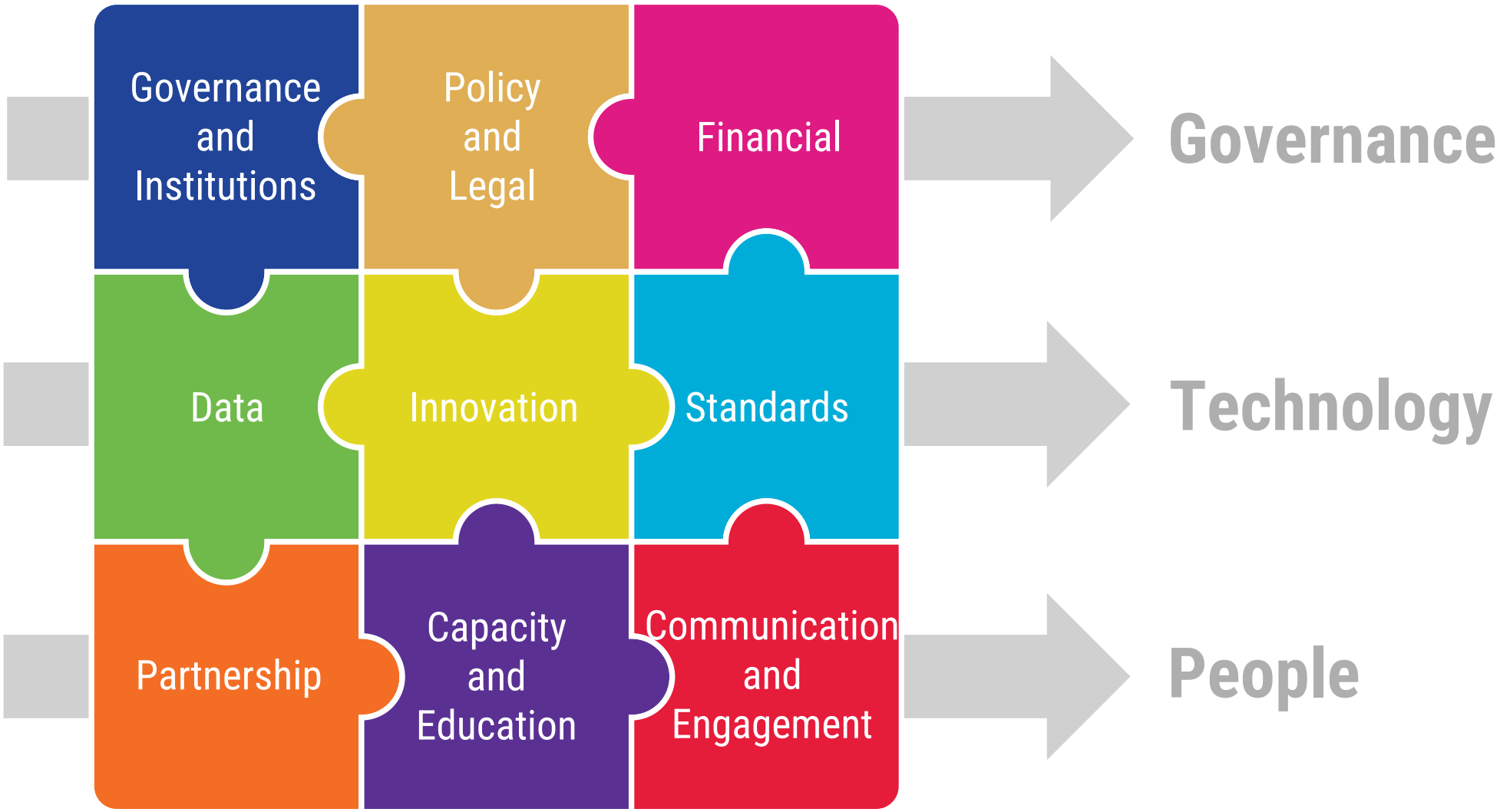


The United Nations Integrated Geospatial Information Framework (UN-IGIF) provides an overarching paradigm to further strengthen nationally integrated geospatial information management, not only for Member States that were in the early stages of adopting spatial data infrastructures but also for those that had already successfully implemented spatial data infrastructure capabilities.

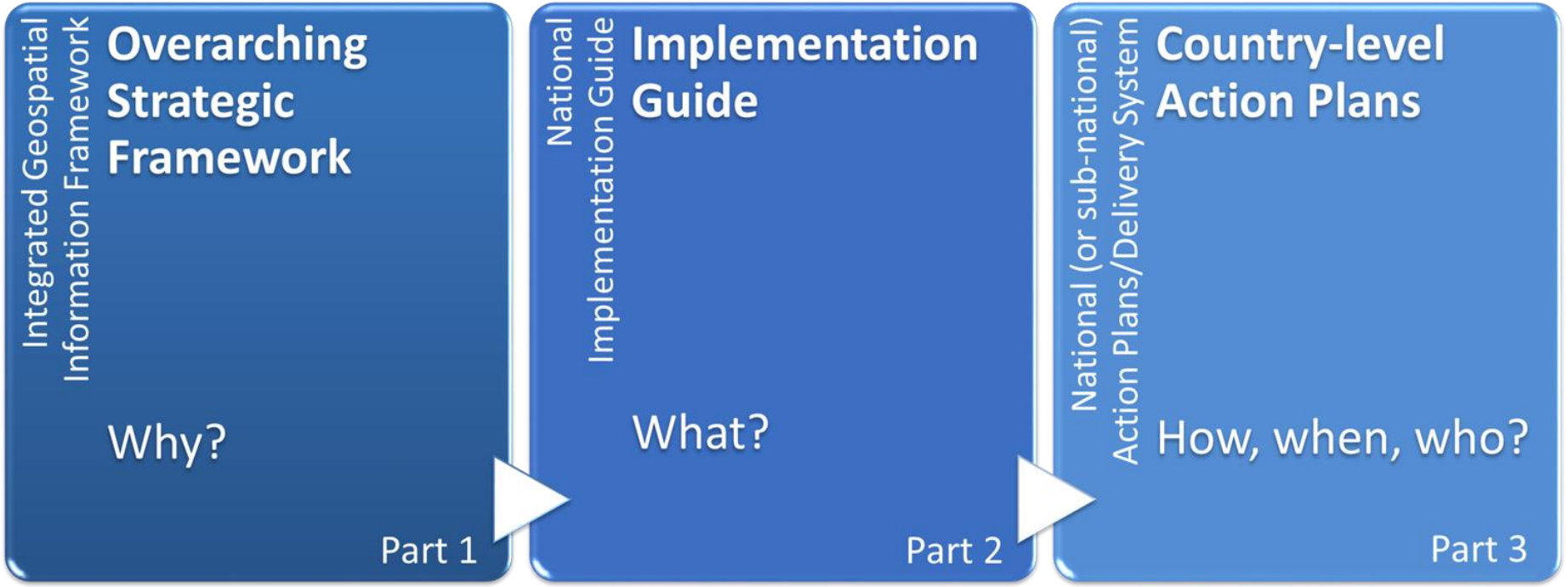
(Eleventh session, Committee of Experts on Global Geospatial Information Management, August 2021)

United Nations Integrated Geospatial Information Framework (UN-IGIF)

9 Strategic Pathways



United Nations Integrated Geospatial Information Framework (UN-IGIF)



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**.

https://ggim.un.org/UN-IGIF/

United Nations Integrated Geospatial Information Framework (UN-IGIF)

Part 1: Overarching Strategic Framework

– **WHY** geospatial information is a critical element of national social and economic development and needs to be strengthened.

https://ggim.un.org/UN-IGIF/part1.cshtml

United Nations Integrated Geospatial Information Framework (UN-IGIF)

Governanc
e
and
Institutions

[Y 2022]

Strategic Pathway 1

Governance and Institutions

...strategic pathway establishes the leadership, governance model, institution ...lements and a clear value proposition to strengthen multi-disciplinary and mul... ...al participation in, and a commitment to, achieving an Integrated Geospati... ...ation Framework.

...jective is to attain political endorsement, strengthen institutional mandates and bui... ...erative data sharing environment through a shared vision and understanding of t... ...of an Integrated Geospatial Information Framework, and the roles and responsibiliti... to achieve the vision.

Summary

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

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

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

Good governance and cooperative institutional arrangements are the first priority in the geospati... information reform agenda. They enable integrated geospatial information challenges to be met he... on, provide flexibility to accommodate the rapidly changing environment, and the ability to embra... 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 ... build a cooperative data sharing environment and an appreciation of the value of geospat... information for decision-making.

Strategic Pathway 1: Governance and Institutions Page |

[JANUARY 2022]

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, dissemination, and use 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, political, societal, technological, and environmental benefits of integrated geospatial information to national priorities and for all citizens.
- **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 and which 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 actions[1]) 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 government geospatial information resources;
- Strengthened leadership and stakeholders, institutional mandates and political buy-in;
- A cooperative data sharing environment ; and
- A shared understanding of the value and benefit of integrated geospatial information management.

[1] Examples of the interrelated actions across Strategic Pathways are described in the introductory chapter; Solving the Puzzle: Understanding the Implementation Guide.

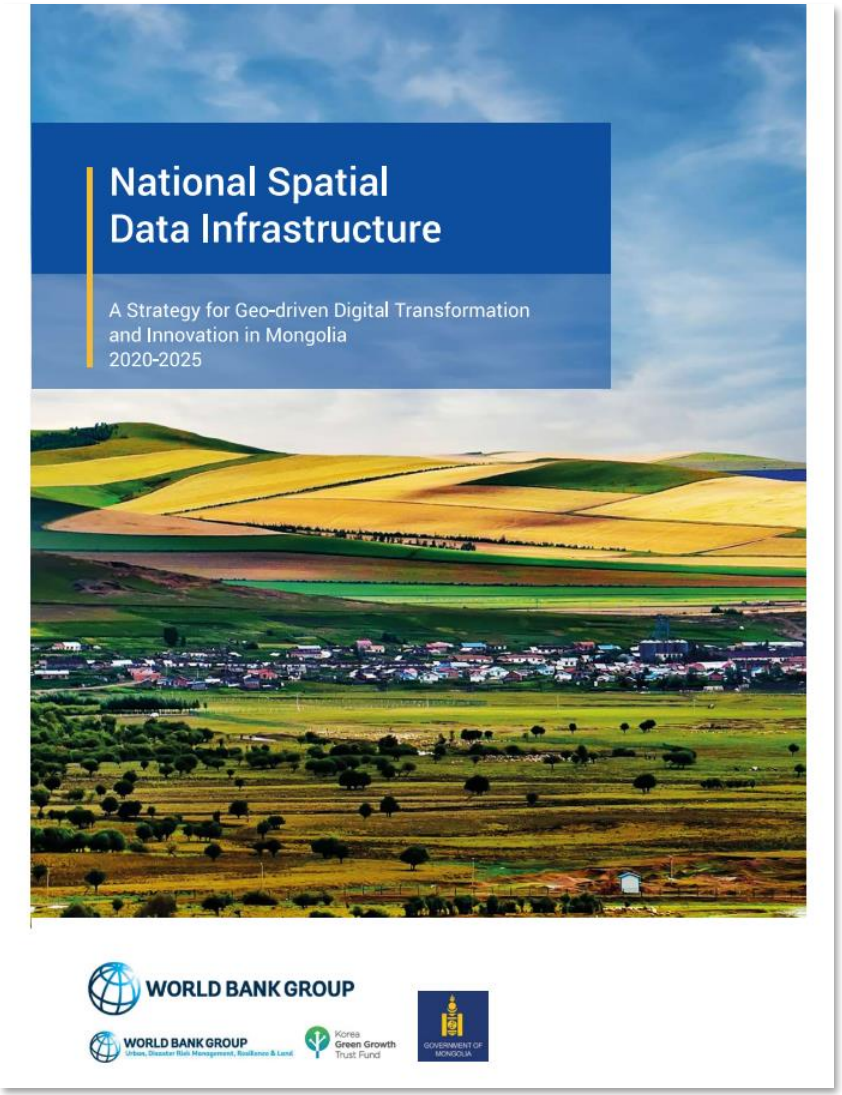
Strategic Pathway 1: Governance and Institutions Page | 2

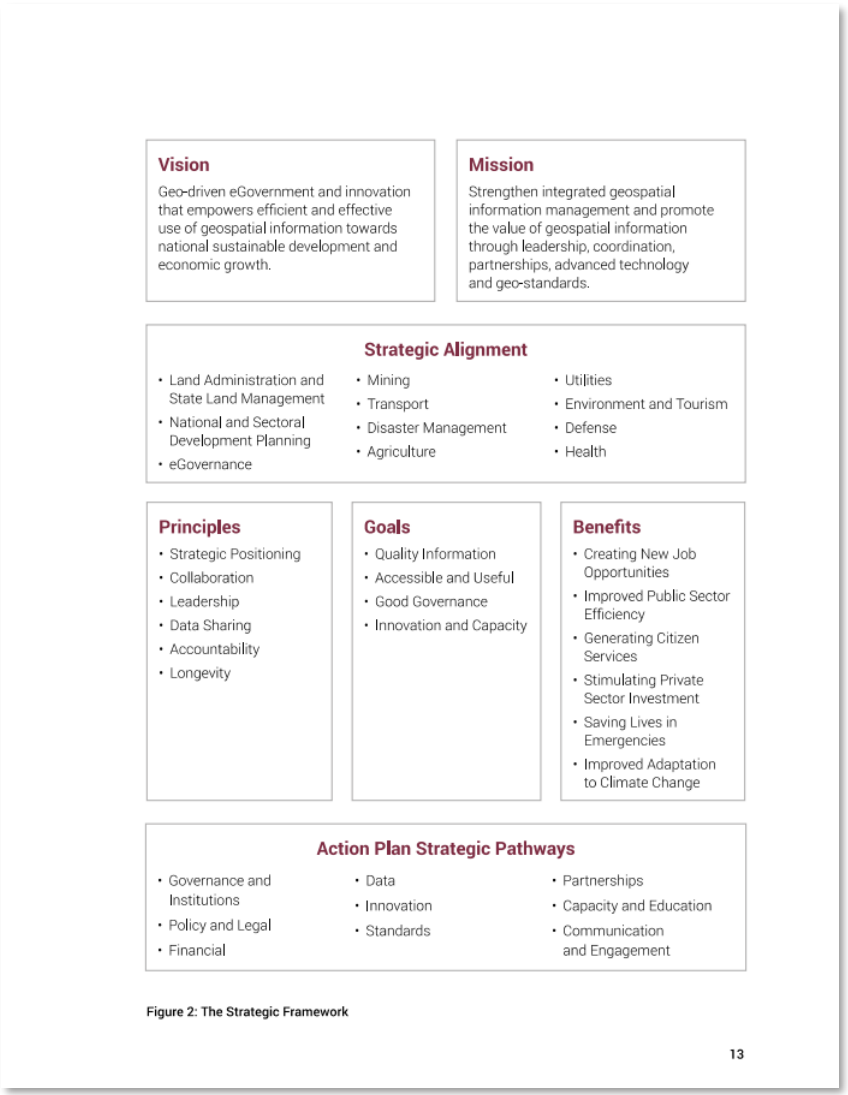
Part 2: Implementation Guides

– **WHAT** actions can be taken to strengthen geospatial information management.

https://ggim.un.org/UN-IGIF/part1.cshtml

United Nations Integrated Geospatial Information Framework (UN-IGIF)





Vision

Geo-driven eGovernment and innovation that empowers efficient and effective use of geospatial information towards national sustainable development and economic growth.

Mission

Strengthen integrated geospatial information management and promote the value of geospatial information through leadership, coordination, partnerships, advanced technology and geo-standards.

Strategic Alignment

- Land Administration and State Land Management
- National and Sectoral Development Planning
- eGovernance
- Mining
- Transport
- Disaster Management
- Agriculture
- Utilities
- Environment and Tourism
- Defense
- Health

Principles

- Strategic Positioning
- Collaboration
- Leadership
- Data Sharing
- Accountability
- Longevity

Goals

- Quality Information
- Accessible and Useful
- Good Governance
- Innovation and Capacity

Benefits

- Creating New Job Opportunities
- Improved Public Sector Efficiency
- Generating Citizen Services
- Stimulating Private Sector Investment
- Saving Lives in Emergencies
- Improved Adaptation to Climate Change

Action Plan Strategic Pathways

- Governance and Institutions
- Policy and Legal
- Financial
- Data
- Innovation
- Standards
- Partnerships
- Capacity and Education
- Communication and Engagement

Figure 2: The Strategic Framework

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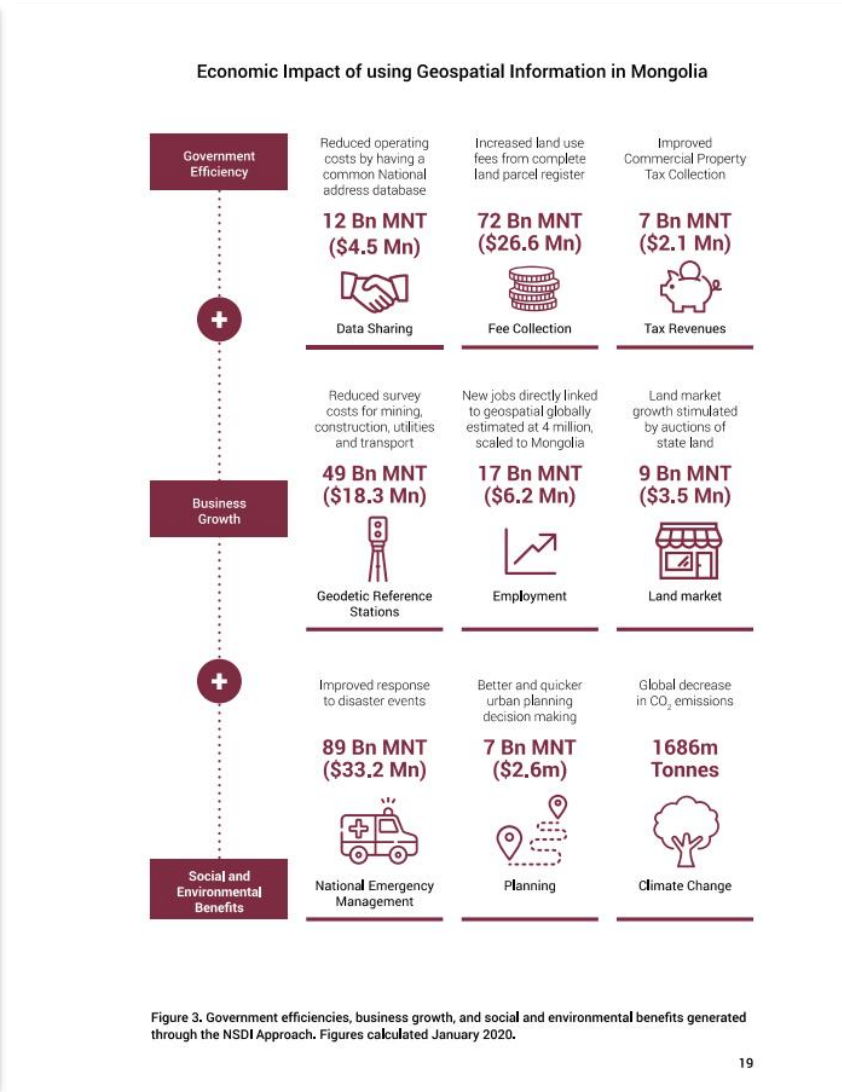


Figure 3. Government efficiencies, business growth, and social and environmental benefits generated through the NSDI Approach. Figures calculated January 2020.

19

Mongolia

Action Plan

> The Action Plan is the "heart" of NSDI implementation. The plan is arranged according to the nine strategic pathways of the United Nations endorsed Integrated Geospatial Information Framework (IGIF) (Figure 5). The pathways consist of - Governance and Institutions, Policy and Legal, Financial, Data, Innovation, Standards, Partnerships, Capacity and Education, and Communication and Engagement

The Action Plan is designed for implementation over a 5-year timeframe and operation for a least a further 7 years. It contains a total of 44 inter-dependent actions that form an integrated roadmap with outlines of costs and timeframes.

The pathway actions are illustrated in Figure 6, and discussed below.

Figure 5 The nine strategic pathways of the IGIF (Available at www.ggim.un.org/IGIF).

1 | Governance and Institutions

- Establish NSDI Committee, Program Office, Working Groups and Advisory Group
- Define the NSDI Governance Model
- Formulate the Geospatial Information Value Proposition
- Develop NSDI Geospatial Strategy
- Implement Monitoring and Evaluation Framework

4 | Data

- Establish Data Framework to organize government data holdings
- Densify the Geodetic Framework
- Complete the Cadastre, and Registration of State Land
- Provide National Access to Satellite Imagery
- Conduct Data Enhancement and Quality Improvements
- Create a single National Street Address Database
- Implement a 3D City Model for High Density City Area of Ulaanbaatar and AIMAG centres
- Integrate Statistical and Geospatial Data
- Update Geographical Names Database
- Ensure secure storage and protection of data and systems
- Identify geospatial datasets for Pandemic Response

7 | Partnerships

- Strengthen and Formalize Partnerships between government agencies and private sector within Mongolia
- Establish twinning arrangements with other countries to share experiences
- Seek International Collaboration

2 | Policy and Legal

- Endorse SDI Law (in progress)
- Establish NSDI Policy and Legal Framework including privacy laws to guide data release and use of geospatial data
- Prepare a Policy and Legal Compliance Strategy

3 | Financial

- Establish NSDI Financial Program Management and Leadership
- Review Best Practice NSDI Investment Programs
- Evaluate Alternate Funding Models
- Develop the Investment Business Case

5 | Innovation

- Develop National Geoportal
- Operationalize National Emergency Management Agency geospatial system
- Design National One Map Database System
- Design and Develop Common APIs for NSDI contributing agencies
- Embed Geospatial in existing Public Sector Innovation Programs
- Develop Centre for Geospatial Excellence

6 | Standards

- Strengthen and formalize cross-government partnerships
- Develop Compliance Mechanisms for Standards
- Build Knowledge and Skills Capacity in application of Standards
- Agree and adopt international standards where appropriate

8 | Capacity and Education

- Develop an NSDI Capacity Building and Education Strategy
- Conduct an NSDI Skills Gap Analysis
- Enhance Capabilities in Tertiary Level Education
- Enhance Teaching and Awareness of Geospatial Information in School Curricula
- Foster Geospatial Entrepreneurship
- Provide training on the use/misuse of data resources to all stakeholders

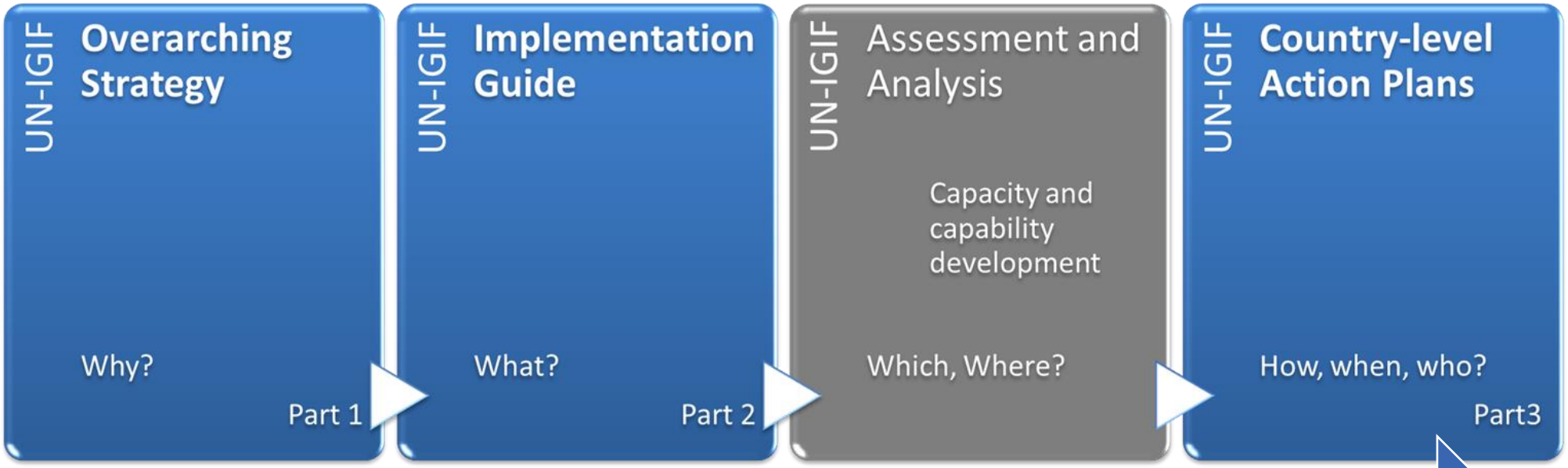
9 | Communication and Engagement

- Develop an NSDI Communication and Engagement Strategy and Plan
- Create an Outreach Group

Figure 6. The Nine Strategic Pathways and Associated Actions

A COUNTRY-LED APPROACH TOWARDS A COUNTRY-LEVEL ACTION PLAN

A country-led approach presently has three components with a set of activities and tasks complemented by a suite of resource materials for countries to reference. These materials are meant to support countries when assessing and analyzing their national circumstances before designing and developing their Country-level Action Plans.



1. Planning and preparing

2. Assessing and analyzing

3. Designing and developing

Self-paced, self-prioritized through learning and discovery with capacity and capability development – methodological and incremental

https://ggim.un.org/UN-IGIF/

THE THREE SUGGESTED COMPONENTS IN A COUNTRY-LED APPROACH

The three components comprise a number of suggested activities and tasks. These are all supported by a comprehensive suite of resource materials for countries to reference, consider and adapt to their national situation and include some templates and forms for ease of use.

https://ggim.un.org/UN-IGIF/

1. Planning and preparing

A shared understanding of the UN-IGIF and collective commitment to identify and engage stakeholders, plan and prepare for tasks ahead - gather information, assess and analyze, consult and review, design and develop country-level Action Plan

2. Assessing and analyzing

Collective efforts towards shared understanding of current situation (including limitations, issues, challenges and opportunities) and a collective understanding of what the desired and future nationally integrated geospatial information management arrangement should be

3. Designing and developing

Identifying and agreeing what needs to be done (or happen) where, when, by whom and how including sound and realistic estimation of resources required to strengthen nationally integrated geospatial information management towards evidence-based implementation of national development priorities and the 2030 Agenda for Sustainable Development

Plan of Work

National Needs Assessment and Gap Analysis Report

Country-level Action Plan

Self-paced, self-prioritized through learning and discovery with capacity and capability development – methodological and incremental

OPERATIONALIZING THE UN-IGIF AT THE COUNTRY-LEVEL

The country-led approach:
Self-paced, self-prioritized through a process that allows 'self' discover and learning of national situations, together with capacity and capability development, collectively design and develop a country-level Action Plan. The approach is methodological and incremental, recognize and build-upon the existing arrangements, infrastructures and

Planning and preparing

Awareness and Initial Assessment

Stakeholder Identification and Analysis

Project Initiation

PLAN OF WORK

Assessing and analyzing

Current and Desired Situation Assessment

Baseline Survey

Understanding National Situation and Analysis

Stakeholder Engagement Activities

Strategic Alignment Exercise

Developing Vision, Mission and Goals

Gap Analysis

NEEDS ASSESSMENT AND GAP ANALYSIS REPORT

Designing and developing

Developing strategic actions (*aligning the nine strategic pathways with national priorities*)

Estimating resources including budgetary and funding requirements

Developing an implementation schedule

Developing success indicators

COUNTRY-LEVEL ACTION PLAN

Plan of Work

National Needs Assessment and Gap Analysis Report

Country-level Action Plan

Self-paced, self-prioritized through learning and discovery with capacity and capability development – methodological and incremental

RECOMMENDED TASK 2

STAKEHOLDER IDENTIFICATION AND

1. Purpose

Stakeholder identification and analysis is a
information management. People are the
information, and using it for decision-makir

All decisions require data, and as data beco
sharing, security, accuracy and access; forg
and data.

Stakeholders are integral to the developme
therefore buy-in and commitment from all
to success. Potential stakeholders will only
organisation and customers, and if they do

It is worth noting that stakeholder engagen
have been known to make products and of

2. Method

The identification of stakeholders is driven
is best to begin by being inclusive.

Care must be taken to include groups who
may seem like a straightforward process, b
online and therefore geospatial organizatio
categories of users.

RECOMMENDED TASK 4

CURRENT AND DESIRED (OR FUTUR

1. Purpose

The Current and Desired (or Future) Situati
regarding both the current and desired (or
regarding the strategy, direction, and relati

The Current and Desired (or Future) Situati

- **Current situation** in terms of the e
- **Desired situation** in relation to cou

The survey is designed to get the project te
information management in order to build

The statements to be considered are based
Information Framework – Part 1: Overarchi
broader primary outcomes for strengthene
country will have different priorities for eac
desired or future state.

2. Method

The survey is best performed in a group set
method is as follows:

(i) Set up a meeting to discuss the sur
stakeholders that represent the use

(ii) Tailor the statements as appropriat
before working through each of the

(iii) Work through each survey questio

(iv) Appoint a scribe to take notes duri

(v) At the end of the meeting, summar
comments section under each que
may revisit the record of these disc

Note: The dual-response survey can also b
people. The project team may wish to send
on the current situation and future prioritie

Recommended Task 5

Baseline assessment

1. Purpose

The objective of the Baseline Survey is to g
information management ecosystem in a c
Assessment and Gap Analysis as it helps to

The questions are categorized according to
Geospatial Information Framework Part 1:

Because the baseline survey captures a pa
conducting the survey again at a later date

2. Method

The survey is best performed by a delegate
the questions from subject matter experts.
questions, particularly for the questions re

The suggested method is as follows:

1 Set up a meeting with subject mat
survey questions.

2 Work through each survey questio

ASSESSING AND ANALYZING

RECOMMENDED TASK 6

ENVIRONMENTAL SCANNING AND ANALYSIS

1. Purpose

Environmental scanning is an assessment of the internal and external factors having an impact on geospatial information management. Understanding the broader environment may lead to the identification of new opportunities, and strategies or actions to deal with any issues that are a threat to the success of the Country Action Plan.

Environmental Scanning is achieved by undertaking a PEST and SWOT Analysis with a group of stakeholders, and ideally in a workshop setting.

Having a facilitator who is not a participant will help to manage the success of the workshop.

2. PEST Analysis

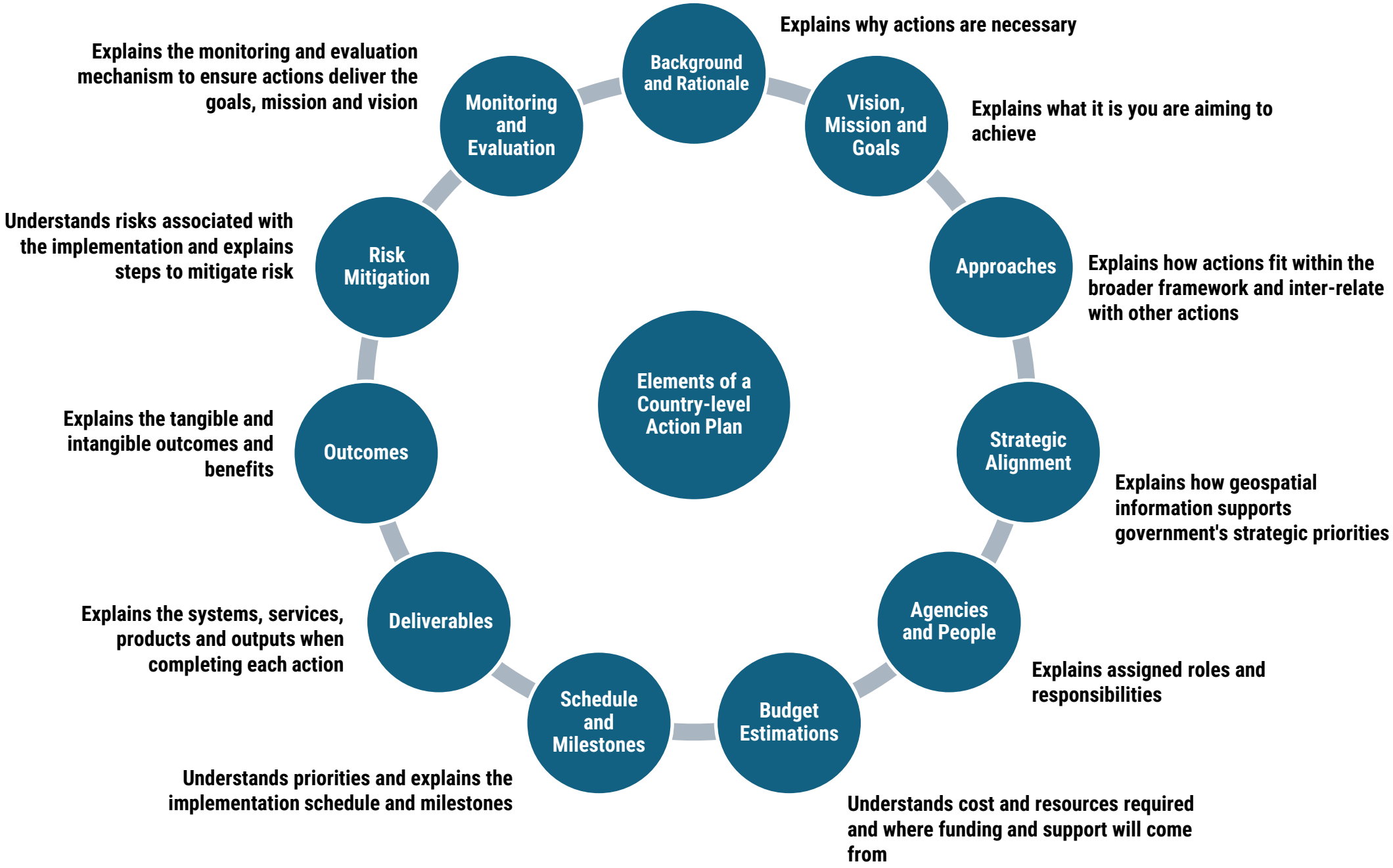
The PEST Analysis considers the external environment and focusses on the Political, Economic, Social and Technology issues that may have a positive or negative impact on the implementation of integrated geospatial information management.

An example of issues that may be raised during a PEST Analysis are presented below.

POLITICAL	ECONOMIC	SOCIAL	TECHNOLOGICAL
• Safer Country • Policy and legislation • E-Government • Regional Needs • Sufficient government support and Funding • Copyright and Intellectual Property • Value & importance to the country	• Investment Opportunities for revenue growth • Savings • Modernization and maintenance • Professional Skills • Plant, equipment and personnel availability • Public-Private Partnerships	• Institutional Culture • Community needs • Intergenerational issues • Geographic and geospatial education capacity • Computer literacy • Community safety	• Data quality • Legislation • Technology level • Power (utilities) availability • Broadband capacity • Standards, Metadata etc. • Innovation

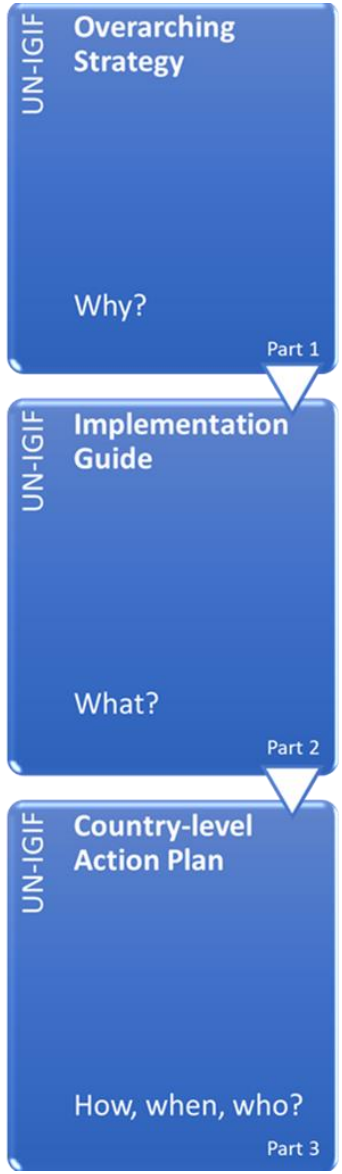
https://ggim.un.org/UN-IGIF/part3.cshtml

Elements of a Country-level Action Plan



UN·IGIF
INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK

Three interconnected parts



Part 1: Overarching Strategy
https://ggim.un.org/UN-IGIF/part1.cshtml

Part 2: Implementation Guide
https://ggim.un.org/UN-IGIF/part2.cshtml
https://ggim.un.org/UN-IGIF/documents/Solving_the_Puzzle_FINAL_17Mar2023.pdf

Part 3: Country-level Action Plan
https://ggim.un.org/UN-IGIF/part3.cshtml

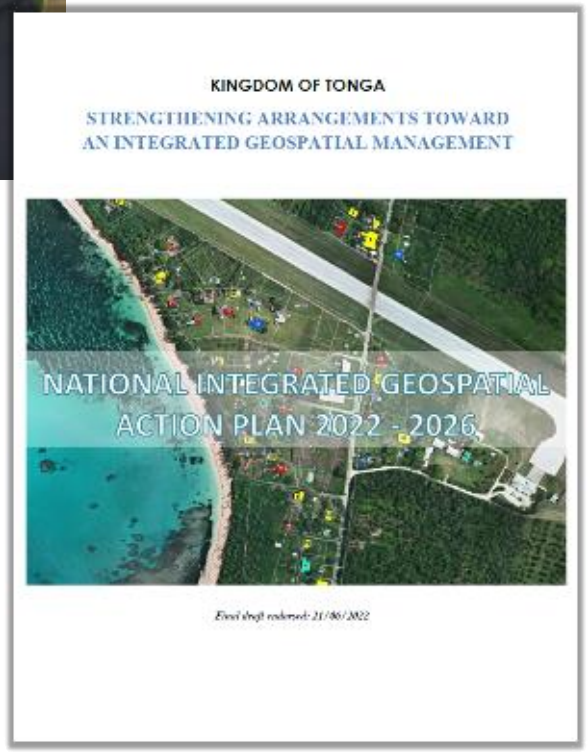
https://ggim.un.org/UN-IGIF/

"We need **geospatial data** to build a roadmap to a safer, more secure future for Mali and its people."

Ministry of Transport
Mali
September 2022

"Today is a digital era; **geospatial information** is a digital fuel for government and services. Data from many sources. We need to **act with knowledge and evidence**."

Hon. Samiu Vaipulu
Deputy Prime Minister
Kingdom of Tonga
September 2023



"The implementation of this **Action Plan** will provide Tonga with a truly **national** collaborative approach to improving the management and **use of this valuable digital asset**. Strengthen government at all levels and strengthen industry."

"[**Geospatial information**] is crucial for planning, decision-making, and implementation across various sectors—health, education, agriculture, urban planning, and environmental management."

Steadroy Benjamin
Deputy Prime Minister
Attorney General
Antigua and Barbuda
October 2024

SIDS countries workshop on the UN Integrated Geospatial Information Framework in Antigua and Barbuda

A world **where** geospatial information solves local to global challenges