

Geodetic Modernisation Through Integrated Geospatial Information Framework (IGIF)



Rosamond Bing
co-chair of UN-GGIM

Viliani Folau
Member of UN-GGIM SCoG

Kingdom of Tonga

Contents



- ❧ Much needed geodetic infrastructures and systems
- ❧ Integrated Geospatial Information Framework (IGIF)
- ❧ National Action Plan Towards Strengthening Arrangements in National Geospatial Information Management Using IGIF
- ❧ Why IGIF?
- ❧ Timeline for launching of National Action Plan

Current Geodetic Infrastructures

Much Needed infrastructures:

- ❧ Modern height system for the whole of Tonga
 - ❧ Geoid Model for Tonga
 - ❧ CORS Network
 - ❧ Update of national geodetic reference frame
- ❧ These are the fundamental infrastructures that Tonga needs in order to provide accurate positions for Tonga. It will make future upgrade and modernisation easy with less cost. And it will support disaster management, from preparedness, recovery and reconstructions and also address adverse impacts of climate through informing decision makers.

Integrated Geospatial Information Framework

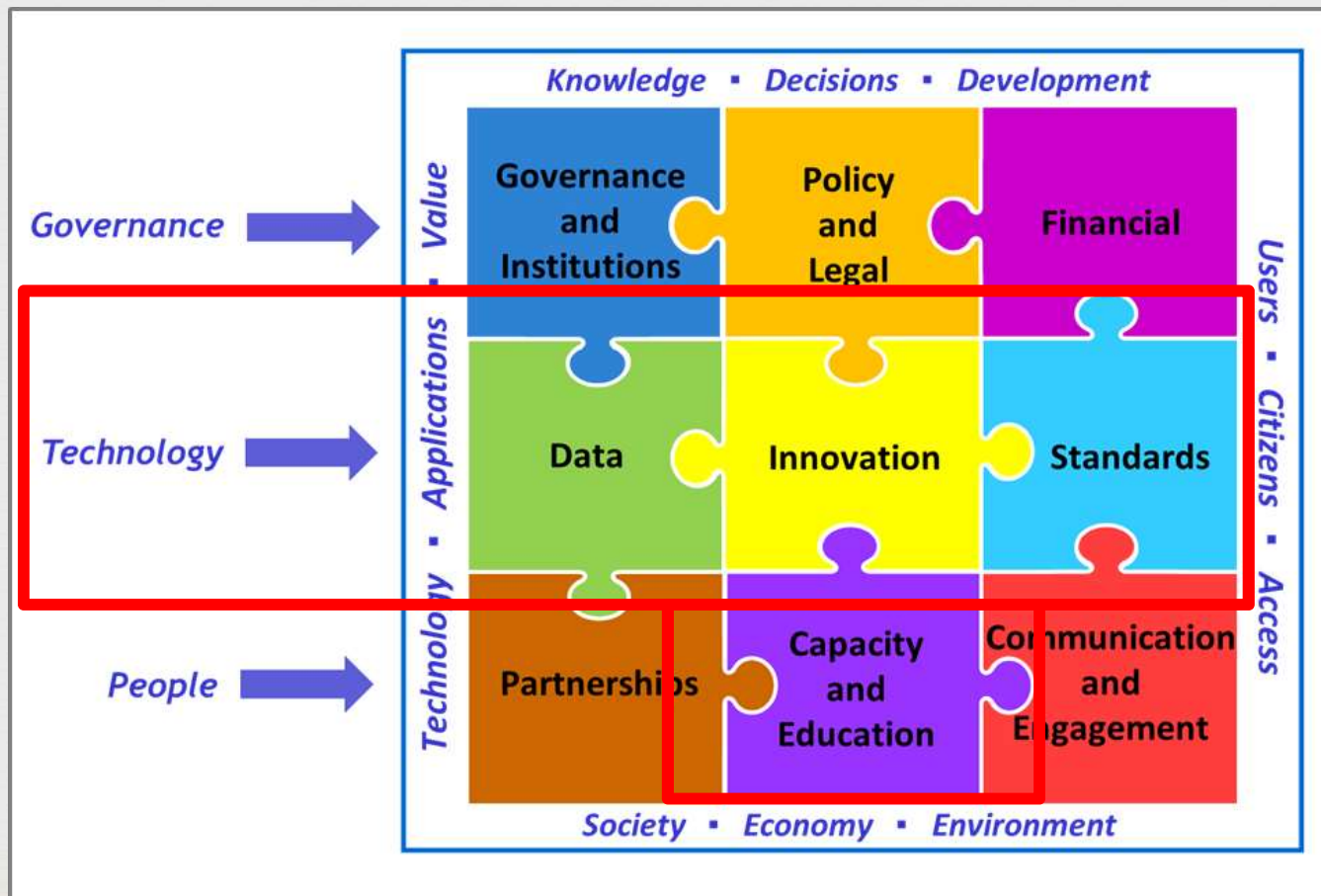


Part 1: Overarching Strategic Framework presents a forward-looking Framework built on national needs and circumstances,

Part 2: Implementation Guide provides the 'what', the specific guidance and actions to be taken in implementing the Framework

Part 3: Country-level Action Plans will provide the 'how, when and who'. Assist countries to prepare and implement their own country-level Action Plans taking into consideration national circumstances and priorities.

IGIF 9 Strategic Pathways



National Action Plan Towards Strengthening Arrangements in National Geospatial Information Management

☞ Tonga, together with Burkina-Faso, Ethiopia, Fiji, Nepal, Mongolia were chosen to Develop their National Action Plan for strengthening geospatial information under the 11th Tranche Development Account Project.



11TH TRANCHE DEVELOPMENT ACCOUNT PROJECT

STRENGTHENING GEOSPATIAL INFORMATION MANAGEMENT IN DEVELOPING COUNTRIES

TOWARDS IMPLEMENTING THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

(PROJECT 1819D)

Tonga National Action Plan



❧ Vision:

❧ *A higher quality of life for all Tongans supported by accessible, accurate and reliable integrated geospatial information.*

❧ Geodetic Modernisation Goal:

❧ To develop and modernise geodetic infrastructures and systems to ensure the quality, alignment, interoperability and management of national geospatial information.

❧ Action Items, Activities & Implementation Plan already drafted with assistance of Geoscience Australia.

Part 3: Country Action Plans



- ❧ Use the advice from Part 2: Implementation Guide and the Thematic Layers to develop a Country Action Plan
- ❧ A way of articulating a country's spatial data infrastructure now, future aspirations and a description of 'how' they plan to get there.
- ❧ Importantly, it is using standardised descriptions of spatial data infrastructure which makes requests to World Bank (or other donors) simpler when critical gaps are identified.
- ❧ Pick and choose elements from other countries Action Plans to improve your own
- ❧ Country Action Plans are 'fit for purpose'

Country Action Plan – height determination



Goal	Action
1. Physical height determination using GNSS with 20 cm accuracy	1a. Enable efficient access to a global gravity model (e.g. EGM2020)
2. Physical height determination using GNSS with 10 cm accuracy	2a. Observe terrestrial and airborne gravity data
	2b. Development of a regional gravity model

Strategy Pathways for Geodetic Goal

STRATEGIC PATHWAY 4

Data

This strategic pathway establishes a geospatial data framework and custodianship guidelines for best practice collection and management of integrated geospatial information that is appropriate to cross sector and multidisciplinary collaboration.

The objective is to 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, integrating, managing, maintaining, curating, publishing and archiving geospatial information.



STRATEGIC PATHWAY 6

Standards

This strategic pathway establishes, and ensures the adoption of, best practice standards and compliance mechanisms that enable legal, data, semantic and technical interoperability, which are fundamental to delivering integrated geospatial information and knowledge creation.

The objective is to enable different information systems to communicate and exchange data, enable knowledge discovery and inferencing between systems using unambiguous meaning, and provide users with lawful access to and reuse of geospatial information.



STRATEGIC PATHWAY 5

Innovation

This strategic pathway recognizes that technology and processes are continuously evolving; creating enhanced opportunities for innovation and creativity that enable governments to quickly bridge the digital divide.

The objective is to stimulate the use of the latest cost-effective technologies, process improvements and innovations so that governments, no matter what their current situation is, may leapfrog to state-of-the-art geospatial information management systems and practices.



STRATEGIC PATHWAY 8

Capacity and Education

This strategic pathway establishes enduring capacity building programs and education systems so that geospatial information management and entrepreneurship can be sustained in the longer term.

The objective is to increase the awareness and level of understanding of geospatial information science. This includes developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities require to utilize geospatial information for decision-making.



VISION

A higher quality of life for all Tongans supported by accessible, accurate and reliable integrated geospatial information.

MISSION

Promote and support coordination and collaboration to achieve an integrated geospatial information management and leverage it as a decision and sustainable solutions to national needs and opportunities.

STRATEGIC DRIVERS

International

- * Sustainable Development Goals - 2030
- * Integrated Geospatial Information Framework

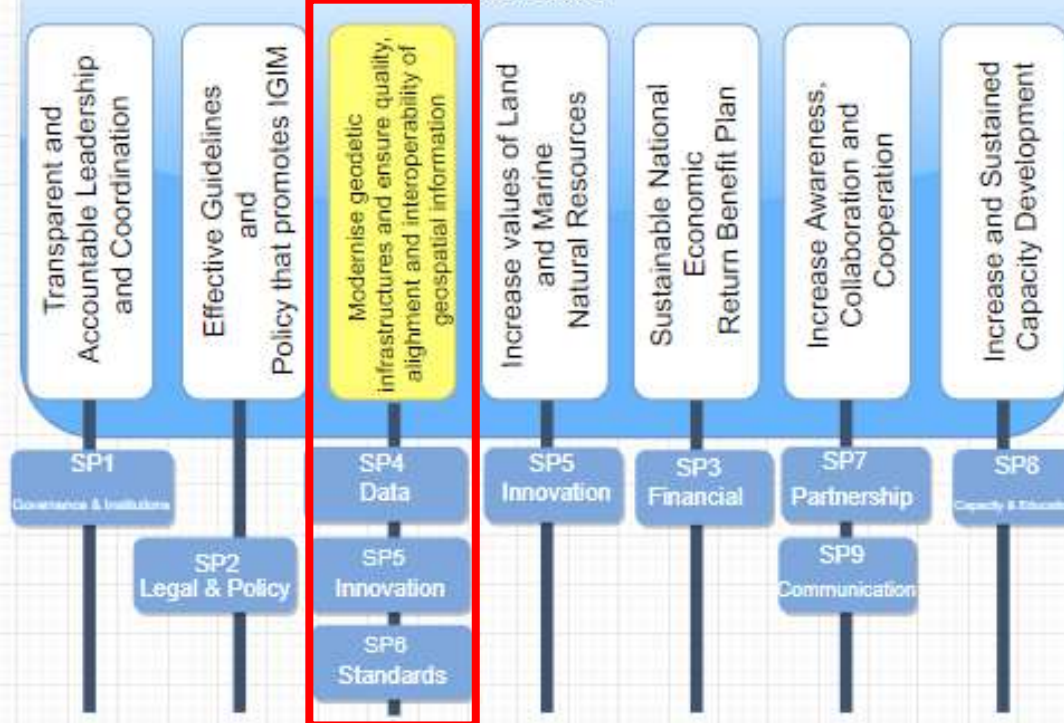
Regional

- * Pacific Geospatial and Surveying Council Framework
- * The Framework for Pacific Regionalism 2014
- * Framework for Resilient Development in the Pacific 2017 - 2030

National

- * TSDP II 2015 - 2025
- * TDSP 2018 - 2023
- * JNAP 2 - 2018 - 2028
- * TNIP 2013 - 2023
- * CDP 2015 - 2017
- * CGD - NBSAP 2015 - 2019
- * MLNR - CP 2019 - 2022
- * TESP 2010 - 2020
- * CUBP 2018 - 2022
- * TEPF 2004 - 2009
- * TASP/ TFSP 2016 - 2020

GOALS 2020 - 2025



National Action Plan Towards Strengthening Arrangements in National Geospatial Information Management

Strategic Priorities for Geodetic Goal:

SP 4: Data

SP 5: Innovation

SP 7: Standards

*SP 8: Capacity &
Education*

Why IGIF?



- ❧ The Framework provides the strategic guidance that enables country specific action plans to be prepared and implemented including:
 - ❧ moving towards e-economies, e-service and e-commerce to improve services to citizens,
 - ❧ build capacity for using geospatial technology,
 - ❧ enhance informed government decision making processes, facilitate private sector development,
 - ❧ ensure practical actions to achieve a digital transformation, and to bridge the geospatial digital divide
- ❧ Modern Geodetic Infrastructures and Systems underpins all of the above

Timeline for launching of National Action Plan

∞ Action Plan to complete end of 2019

∞ Launch April 2020

Thank you for your attention