Development Account Project
Country Action Plan

Integrated Geospatial Information Framework | Integrated Geospatial Information Management

4 November 2019
8th PLENARY MEETING UNGGIM – ASIA PACIFIC
Canberra, Australia

“Strengthening Geospatial Information Management in Developing Countries towards Implementing the 2030 Agenda for Sustainable Development”.
Integrated Geospatial Information Framework
What is Integrated Geospatial Information Framework (IGIF)?

A National integrated geospatial information management systems through the formulation of appropriate frameworks, guidelines and methodologies that can be piloted and implemented within and across countries and regions.

“Strengthening Geospatial Information Management in Developing Countries towards Implementing the 2030 Agenda for Sustainable Development”.

Burkina Faso | Ethiopia | Fiji | Mongolia | Nepal | Kingdom of Tonga
Integrated Geospatial Information Framework Parts

**Overarching Strategic Framework**
- Provide overarching direction for the six target countries

**Why?**
- Part 1

**Implementation Guide**
- Used to develop individual Country Action Plans.
- Identifies key activities that countries can implement to increase awareness, understanding and develop national capacities to strengthen the national technical capabilities in IGIM

**What?**
- Part 2

**Country-level Action Plans**
- Specific guidance to operationalized activities to improve and strengthen their national geospatial information management, systems and infrastructures.

**How, when, who?**
- Part 3

Ministry of Lands & Natural Resources
Kingdom of Tonga
Integrated Geospatial Information Framework (IGIF)

Vision:
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.
### Integrated Geospatial Information Framework

#### 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 on 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
- Transparent and Accountable
- Information Accessible and Easily Used
- Strategic Enablement
- Collaboration and Cooperation
- Integrative Solution
- Sustainable and Valued
- Leadership and Commitment

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

### STRATEGIC PATHWAYS

<table>
<thead>
<tr>
<th>Governance and Institutions</th>
<th>Legal and Policy</th>
<th>Financial</th>
<th>Data</th>
<th>Innovation</th>
<th>Standards</th>
<th>Partnerships</th>
<th>Capacity and Education</th>
<th>Communication and Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Protection and Privacy</td>
<td>Data Sharing and Accessibility</td>
<td>Benefits Realization</td>
<td>Development and Administration</td>
<td>Process and Efficiency</td>
<td>Technology and Innovation</td>
<td>Data Interoperability</td>
<td>Professional Development and Workforce Training</td>
<td>Integrated Collaboration and Partnership</td>
</tr>
</tbody>
</table>

**7-UPs**

**8-Gs**

**9-SPs**

Knowledge | Decisions | Development | Society | Economy | Environment | Users | Citizens | Access | Technology | Applications | Value
<table>
<thead>
<tr>
<th>UNDERPINNING PRINCIPLES</th>
<th>GOALS</th>
<th>STRATEGIC PATHWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparent and Accountable</td>
<td>Effective Geospatial Information Management</td>
<td>Governance and Institutions</td>
</tr>
<tr>
<td>Information Accessible and Easily Used</td>
<td>Increased Capacity, Capability, and Knowledge Transfer</td>
<td>Legal and Policy</td>
</tr>
<tr>
<td>Strategic Enablement</td>
<td>Integrated Geospatial Information Systems and Services</td>
<td>Financial</td>
</tr>
<tr>
<td>Collaboration and Cooperation</td>
<td>Economic Return on Investment</td>
<td>Data</td>
</tr>
<tr>
<td>Integrative Solution</td>
<td>Enhanced Stakeholder Engagement and Communication</td>
<td>Innovation</td>
</tr>
<tr>
<td>Sustainable and Valued</td>
<td>Enriched Societal Value and Benefits</td>
<td>Standards</td>
</tr>
<tr>
<td>Leadership and Commitment</td>
<td></td>
<td>Partnerships</td>
</tr>
</tbody>
</table>

7-UPs

8-Gs

9-SPs
Development Account Project Plan

TOWARDS STRENGTHENING ARRANGEMENTS IN NATIONAL GEOSPATIAL INFORMATION MANAGEMENT

United Nations 11th Tranche Development Account
Project 1819D “Strengthening Geospatial Information Management in Developing Countries towards Implementing the 2030 Agenda for Sustainable Development”
What is the Development Account Project Plan?

• A capacity development programme of the United Nations Secretariat – Global Geospatial Information Management Section (UN-GGIM)

• Aims at enhancing capacities of developing countries in the priority areas of the United Nations Development Agenda.

“Strengthening geospatial information management in developing countries towards implementing the 2030 Agenda for Sustainable Development.”

Burkina Faso| Ethiopia| Fiji| Mongolia| Nepal| Kingdom of Tonga
DAP Parts - Integrated Documents

- **Overarching Strategic Framework**
  - Part 1: Why?

- **Implementation Guide**
  - Part 2: What?

- **Assessment and Analysis**
  - Part 3: How, When, Who?

- **Country-level Action Plans**
  - National (sub-national) Plans
### Component One: Project Execution Plan

<table>
<thead>
<tr>
<th>Activity</th>
<th>Estimated Date</th>
<th>Addendum</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project Initiation Meeting</td>
<td>November 2018</td>
<td>A</td>
<td>November 2018</td>
</tr>
<tr>
<td>2. Pre-needs Assessment Information Sharing</td>
<td>December 2018</td>
<td>B</td>
<td>December 2018</td>
</tr>
<tr>
<td>3. Project Scoping and Schedule (Project Execution Plan)</td>
<td>February 2019</td>
<td>C</td>
<td>February 2019</td>
</tr>
</tbody>
</table>

### Component Two: Needs Assessment and Gap Analysis

<table>
<thead>
<tr>
<th>Activity</th>
<th>Estimated Date</th>
<th>Addendum</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Current and Desired Performance</td>
<td>March 2019</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>5. Baseline Survey</td>
<td>March 2019</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>6. Environmental Scanning</td>
<td>March 2019</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>7. Stakeholder Identification and Analysis</td>
<td>April 2019</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>8. Stakeholder Engagement Workshop (To be held in conjunction with Palm council)</td>
<td>April 2019</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>9. Strategic Alignment (and Benefits)</td>
<td>April 2019</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td>10. Vision, Mission and Goals</td>
<td>April 2019</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>11. Gap Analysis Matrix</td>
<td>May, June 2019</td>
<td>J</td>
<td></td>
</tr>
</tbody>
</table>

### Component Three: Country Action Plan

<table>
<thead>
<tr>
<th>Activity</th>
<th>Estimated Date</th>
<th>Addendum</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Strategic Pathway Activities</td>
<td>July 2019</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>15. Populate Country Action Plan (with Activities)</td>
<td>August 2019</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>16. Implementation Schedule</td>
<td>September 2019</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>17. Budget Estimations</td>
<td>October 2019</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>18. Develop Success Indicators</td>
<td>November 2019</td>
<td>P</td>
<td></td>
</tr>
</tbody>
</table>
Component 2 – Assessment and Analysis

From Component 1
1. Project Initiation
2. Pre-needs Assessment
3. Project Scoping and Scheduling

Information Gathering Activities
4. Current and Desired Performance
5. Baseline Survey
6. Environmental Scanning

Analytical Exercises
7. Stakeholder Identification and Analysis
8. Stakeholder Engagement Workshop
9. Strategic Alignment (and Benefits)
10. Vision, Mission and Goals

Current Situation Understood

11. Gap Analysis Matrix


Desired Performance Understood
## Addendum C

### GOAL 1: Effective Geospatial Information Management

Enabling geospatial information governance, policy and institutional arrangements that ensure effective geospatial information management, accommodate instead institutional requirements and arrangements, and that are aligned to national and global policy frameworks.

<table>
<thead>
<tr>
<th>Current Performance</th>
<th>Statement</th>
<th>Desired Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress</td>
<td></td>
<td>Priority</td>
</tr>
<tr>
<td>1 = Not started; 2 = Minimal; 3 = Moderate; 4 = Extensive; 5 = Achieved</td>
<td>The extent to which our governance arrangements for geospatial information management bring together a broad range of institutions to share and provide access to data.</td>
<td>1 = Low and 5 = High</td>
</tr>
</tbody>
</table>

Comment:

<table>
<thead>
<tr>
<th>Current Performance</th>
<th>Statement</th>
<th>Desired Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress</td>
<td></td>
<td>Priority</td>
</tr>
<tr>
<td>1 = Not started; 2 = Minimal; 3 = Moderate; 4 = Extensive; 5 = Achieved</td>
<td>The extent to which our geospatial policies and laws stimulate data sharing, innovation and use of geospatial information.</td>
<td>1 = Low and 5 = High</td>
</tr>
</tbody>
</table>

Comment:

<table>
<thead>
<tr>
<th>Current Performance</th>
<th>Statement</th>
<th>Desired Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress</td>
<td></td>
<td>Priority</td>
</tr>
<tr>
<td>1 = Not started; 2 = Minimal; 3 = Moderate; 4 = Extensive; 5 = Achieved</td>
<td>The extent to which our technologies and processes enable geospatial information to be easily shared with the broader community of users.</td>
<td>1 = Low and 5 = High</td>
</tr>
</tbody>
</table>

Comment:
### Governance and Institutions - Baseline

The following questions are designed to understand the governance and institutional arrangements, and political buy-in for integrated geospatial information management.

#### Question 1
1. Do you have a National Geospatial Strategy or equivalent?
   - [ ] Yes
   - [ ] No
   - [ ] Other

#### Question 2
2. Has the National Geospatial Strategy or equivalent been endorsed at a high level?
   - [ ] Yes
   - [ ] No
   - [ ] Other

#### Question 3
3. Do stakeholders resonate with the strategic vision?

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Yes</th>
<th>No</th>
<th>Some</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government geospatial data suppliers</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Government geospatial data users</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Businesses</td>
<td></td>
<td></td>
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<tr>
<td>Geospatial Industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Academic Institutions</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Citizens</td>
<td></td>
<td></td>
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</tbody>
</table>

### Financial - Baseline

The following questions are designed to understand the financial arrangements, business model and investment needs for integrated geospatial information management.

#### Question 1
1. Is there an overall business model for the development, implementation, maintenance and exploitation of the National Geospatial Information Management framework?
   - [ ] No
   - [ ] Yes

#### Question 2
2. Is there a clear understanding by decision-makers of the societal and economic benefits of geospatial data?
   - [ ] No
   - [ ] Yes

#### Question 3
3. Which sectors are most positively affected now, and which sectors could see significant growth in the future?

<table>
<thead>
<tr>
<th>Sector</th>
<th>Considerable Growth</th>
<th>Some Growth</th>
<th>Potential Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Protection</td>
<td></td>
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<tr>
<td>Transportation</td>
<td></td>
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<tr>
<td>Agriculture and Farming</td>
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<tr>
<td>Aquaculture</td>
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<tr>
<td>Health</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Biosecurity</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Urban Development Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Services</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Emergency Response</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Disaster Preparedness</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Location-based Services</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mining and Minerals</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Utilities (water, electricity, telecom etc)</td>
<td></td>
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<tr>
<td>Natural Resource Monitoring</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Research and Innovation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Finance, Banking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance/Risk Management</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Activity 6: Environmental Scanning

1. PEST – Political, Environmental, Social and Technological factors:
   • Significant issues influencing integrated geospatial information management.
   • Assessment of the internal and external factors having a positive/negative impact on the implementation of geospatial information management.

2. SWOT – Strength, Weaknesses, Opportunities, Threats
   • S – characteristic of gov’t that are an advantage to the IGIF Project
   • W – characteristics that place IGIF Project at an advantage
   • O – elements that the IGIF could exploit to its advantage
   • T – elements ‘out of people’s control’/environment that could cause trouble for the IGIF during and after the implementation
## Activity 7: Stakeholder Identification

- **Addendum F2 & F3**

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Contact Person</th>
<th>Impact</th>
<th>Influence</th>
<th>Importance</th>
<th>Collaboration Potential</th>
<th>Potential Blockers</th>
<th>Communication Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLNR</td>
<td>Lynette Sifa - GIS Analyst <a href="mailto:lynettesifa@gmail.com">lynettesifa@gmail.com</a> 7401320</td>
<td>High</td>
<td>High</td>
<td>The collection and management of high quality geospatial data</td>
<td>Agree to abide by the recommended policies, standards and guidelines for managing and sharing information</td>
<td>Do not make confidential data accessible potentially due to perceived risks</td>
<td>Monthly round table discussion</td>
</tr>
</tbody>
</table>

**Ministry of Lands & Natural Resources**
**Kingdom of Tonga**
Activity 9: Strategic Alignment

**Purpose:** Link integrated geospatial information management to the achievement of the government’s sustainable development goals and national strategies as well as the organizational structure and resources

<table>
<thead>
<tr>
<th>Strategic Drivers</th>
<th>Evidence of Government Strategic Priority</th>
<th>Geospatial Theme</th>
<th>Benefit of Geospatial Information</th>
<th>Current Situation</th>
<th>Investment Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Knowledge-based economy</td>
<td><strong>Tonga Strategic Development Framework (2015 – 2025) - Organizational Outcome A</strong>&lt;br&gt;More inclusive, sustainable and dynamic knowledge-based economy.</td>
<td>Accessing and analysis of information and services</td>
<td>The application of geospatial information to new knowledge and technologies has the potential to increase the value-added of our productive sectors. Access to Geospatial Information allows users to complete an interaction with government without the need to visit individual agencies. This fosters transparent government.</td>
<td>No linkages of information to spatial data. Utilise GI to develop innovation and application to develop production/services. No data standards, sharing policy and lack of readily available data. Geospatial information is currently not accessible. There is no mandated policy on data sharing.</td>
<td>High</td>
</tr>
<tr>
<td>Urban and Rural Development</td>
<td><strong>Tonga Strategic Development Framework (2015 – 2025) - Organizational Outcome B</strong>&lt;br&gt;More inclusive, sustainable and balanced urban and rural development across island groups. Nuku’alofa Development Plan (ONSPA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human development and gender equality</td>
<td><strong>Tonga Strategic Development Framework (2015 – 2025) - Organizational Outcome C</strong>&lt;br&gt;A progressive Tonga for a higher quality of life. More inclusive, sustainable and empowering human development with gender equality.</td>
<td></td>
<td>Expand education and research into GIS, surveying, geodesy etc. Education/Literacy small area estimation mapping and projection. It provides</td>
<td>No existing policy on geospatial information, learning quality assessment was conducted via a project</td>
<td>High</td>
</tr>
</tbody>
</table>
Alignment of Strategic Goals

**LOCAL**
Tonga National Infrastructure Investment Plan 2013-2023

**NATIONAL**
GOVERNMENT OF TONGA
Joint National Action Plan 2 on Climate Change and Disaster Risk Management (SNAP 2) 2018-2028

**REGIONAL**
The Framework for Pacific Regionalism 2014

**INTERNATIONAL**
Integrated Geospatial Information Framework 2017-2030

The 2018-2023 Tonga Digital Government Strategic Plan “Building A More Progressive Tonga Supporting Higher Quality of Life for All”

National Biodiversity Strategy & Action Plan August 2018 Kingdom of Tonga
Activity 10: Vision, Mission, Goals

- **Vision**
  - Purpose
  - Inspiration

- **Mission**
  - Core values
  - How to achieve vision

- **Goals**
  - Desired outcomes
  - S-M-A-R-T

Ministry of Lands & Natural Resources
Kingdom of Tonga
VISION

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

Promote and support robust coordination and collaboration to achieve a integrated geospatial information management and leverage IGIM as a decision-based mechanism and provide sustainable solutions to local and national needs and opportunities.
Strategic Goals

1. To establish leadership and coordination necessary to deliver and manage an effective integrated geospatial information by 2020.

2. To develop geospatial guidelines and policy framework by 2020 to promote data standards, sharing and accessibility.

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

4. To increase the value of Land Administration, Marine and Natural Resources geospatial information progressively each year to attain sustainable development objectives.

5. To develop a sustainable national economic return benefit plan by 2020 to create opportunities that enhances higher socio-economic quality of life for all.

6. Increase and sustain inclusive collaboration and cooperation of geospatial information users biannual to build awareness, strengthen relationships and support geospatial information benefits.

7. To expand capacity development, initiate research and innovation of GIS application every year with a focus on advancing emergency management, disaster risk reduction, and environmental monitoring.
Component 3: Country Action Plan

From Component 2

11. Gap Analysis Matrix

Component 3 Activities

13. Review Country Action Plan Template
14. Describe Activities and Sub-tasks
15. Populate Country Action Plan
16. Implementation Schedule
17. Budget Estimations
18. Develop Success Indicators
19. Country Action Plan (Final)
## Project Timelines

<table>
<thead>
<tr>
<th>Component</th>
<th>Start Date</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project Execution Plan</td>
<td>December 2018</td>
<td>February 2019</td>
</tr>
<tr>
<td>2. Assessment and Analysis</td>
<td>March 2018</td>
<td>August 2019</td>
</tr>
<tr>
<td>4. Implementation Guidance</td>
<td>May 2020</td>
<td>(according to national circumstances)</td>
</tr>
</tbody>
</table>
MALO ‘AUPITO
Lands Geographical Information Services Division (LGIS),
Ministry of Lands & Natural Resources (MLNR),
Vuna Road, Nuku’alofa, Tonga.
Phone No: +676-7401320| PO.Box 5|lynettesifa@gmail.com