ADRESSING GLOBAL AGENDA, LOCALLY

My role as a young female surveyor in SIDS - Tonga

Siotasia Malolo
Geodetic Survey Services (MLNR, Tonga)
Content

• General background
• Vision
• Scope of focus
  – Addressing Climate Change (from a female geodetic surveyor’s perspective)
  – Geodetic role contributes to SDGs
Pacific Region
**Tonga**

**Geography:**
- 21°S, 174° W
- Coral & volcanic formation
- 760 sqkm land area
- 172 islands
- ~700,000 sqkm ocean

**Population:**
- ~110,000
- 70% reside in the main island

**Income:**
- Agriculture
- Fishery
- Tourism
- Remittance
Vision

**National Outcome**
- Effective land administration, environment management and resilience to climate and risk.

**Organization Outcome**
- Effective NRM and increase resilience to natural hazard and CC impacts to ensure and enhance protection Tonga’s inheritance and provision of benefits to future generation.

**Division’s Mission**
- Efficient and effective system of survey, mapping and subdivisional design of land to facilitate socio-economic development based on global updated and accurate geodetic.

**Geodetic Objectives**
- Survey land according legislate and standards
- Maintenance and monitoring geodetic control network to ensure accuracy
- Execute topographic and engineering survey request effectively and efficiently.
- Use geodetic survey with GIS application to support disaster risk reduction, environmental and climate change analysis.
FOCUS

➢ Addressing Climate Change

➢ Contribution toward Sustainable Development Goals
CLIMATE CHANGE - TONGA

i) Sea Level Rise

- risen by about 6mm/ yr (above global average 2.8- 3.6 /yr)
- threatens agriculture and settled areas
- coastal erosion

![Image of coastal erosion and agricultural area]

![Graph showing sea level rise projections]

Source: Ministry of Lands, Tonga
Digital Elevation Model of Tongatapu (main island)
ii) Changing Weather Patterns and Temperature

- increasingly extreme rainfall
- threatens agriculture and settled areas
- severe drought

Figure 1: Seasonal rainfall and temperature at Nuku’alofa.
iii) Less Frequent but more Intense Tropical Cyclones
Addressing Climate Change
PARTNERSHIP FOR THE GOALS
Challenges

• Capacity building
• Human resources

Way Forward

• Modern Geodetic Reference Framework
• Improving technology under pining Geospatial System
• Recognize and enhance connection of GIS and Geodetic but also to other technical fields.
**Challenges**

- Capacity building
- Human resources
- Natural disaster management

**Way Forward**

- Modern Geodetic Reference Framework
- Improving technology under pining Geospatial System
- Recognize and enhance connection of GIS and Geodetic but also to other technical fields.
Malo ‘aupito
Thank you