

Regional Workshop on Strengthening Multi-Hazard Risk Assessment and Early Warning System with Applications of Space and Geographic Information Systems in Pacific Islands Countries

TANOA INTERNATIONAL HOTEL, NUKU'ALOFA, KINGDOM OF TONGA

Senior Officers Retreat

26-27 March 2018

House of Tonga

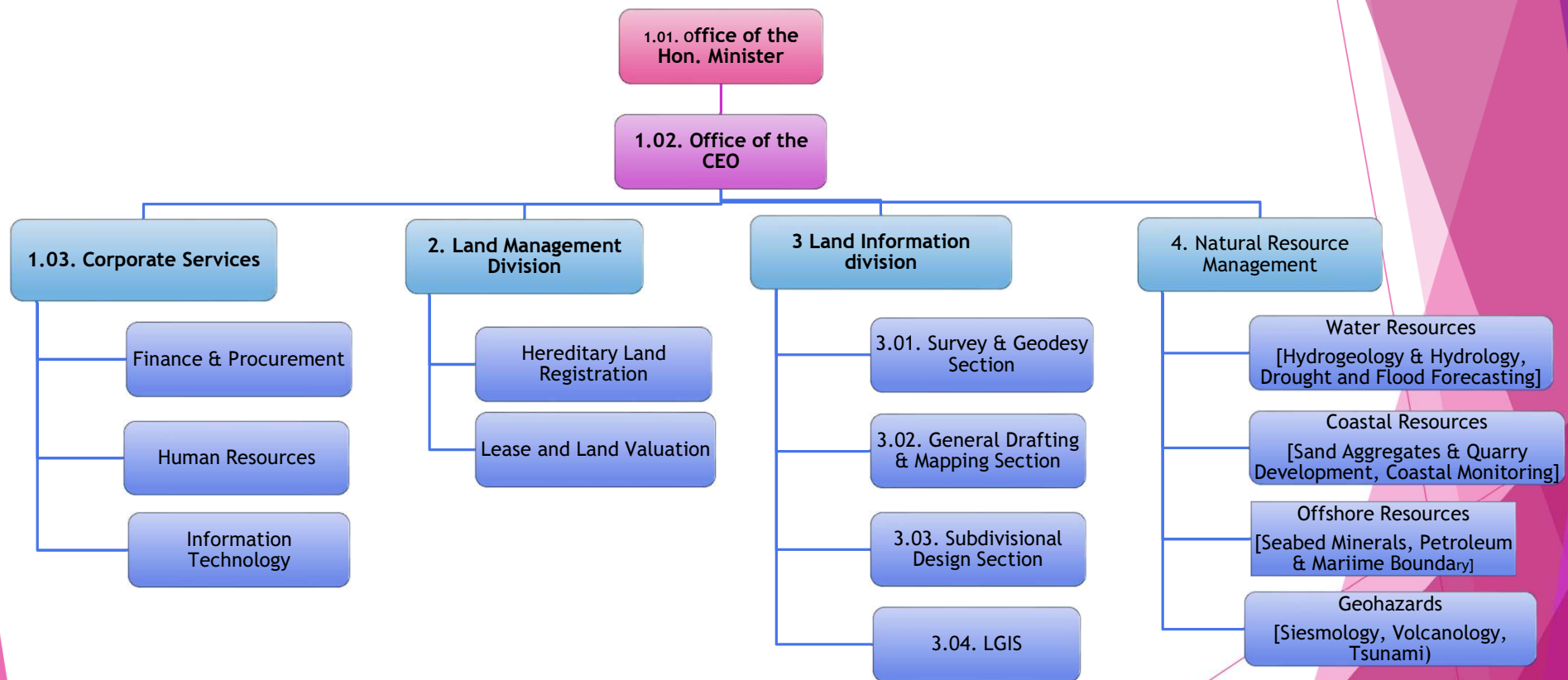


Outline

- ▶ Ministry of Lands & Natural Resources Organisational Mandates
- ▶ Multi-Hazards Services Deliverables
- ▶ Capacity Development Plans

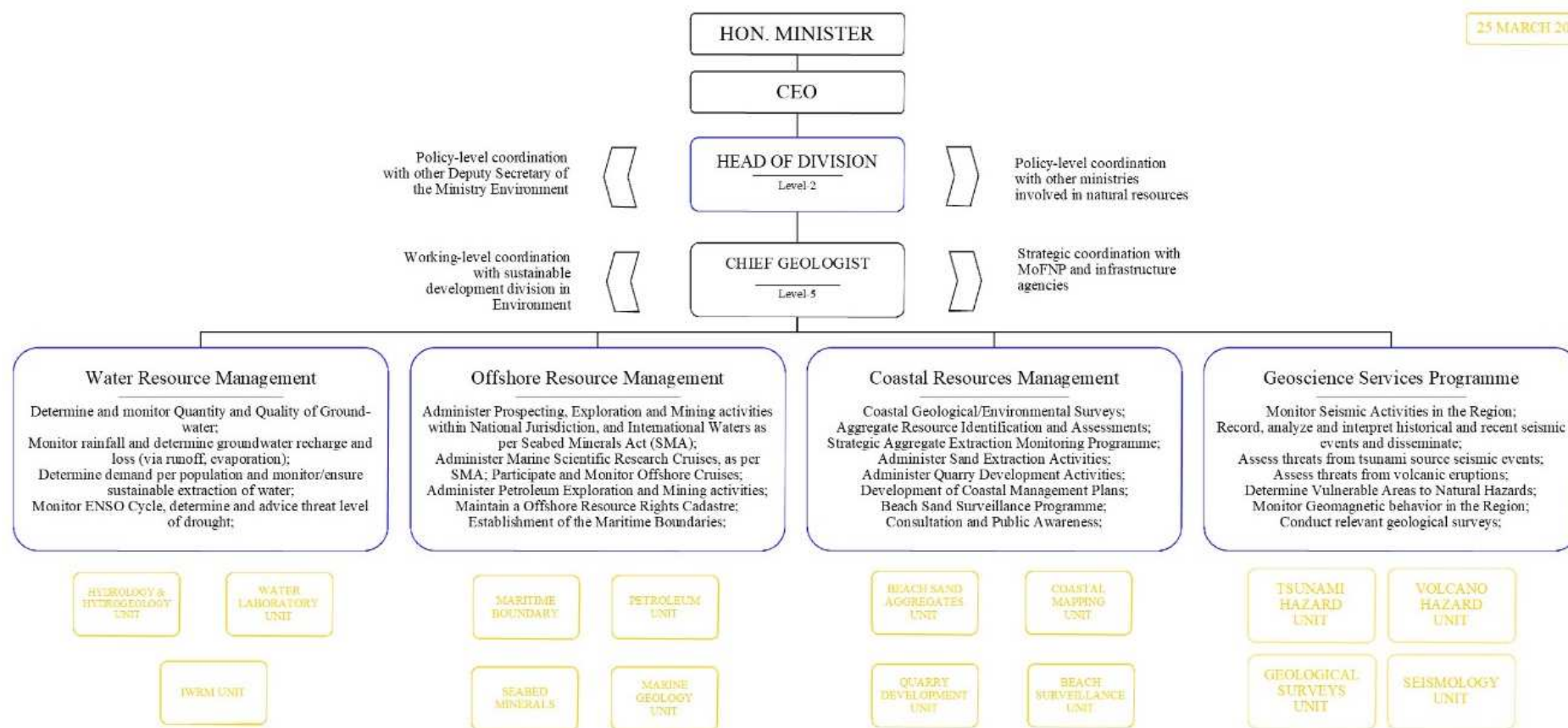


Organisational Structure



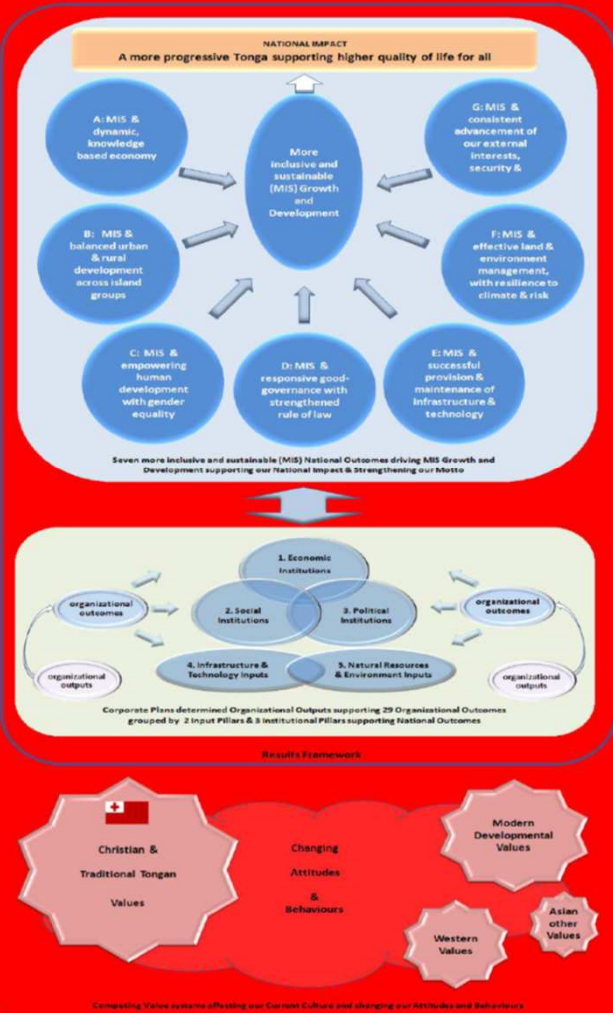
Organisational Structure

25 MARCH 2018



The TSDF Vision

God and Tonga are My Inheritance



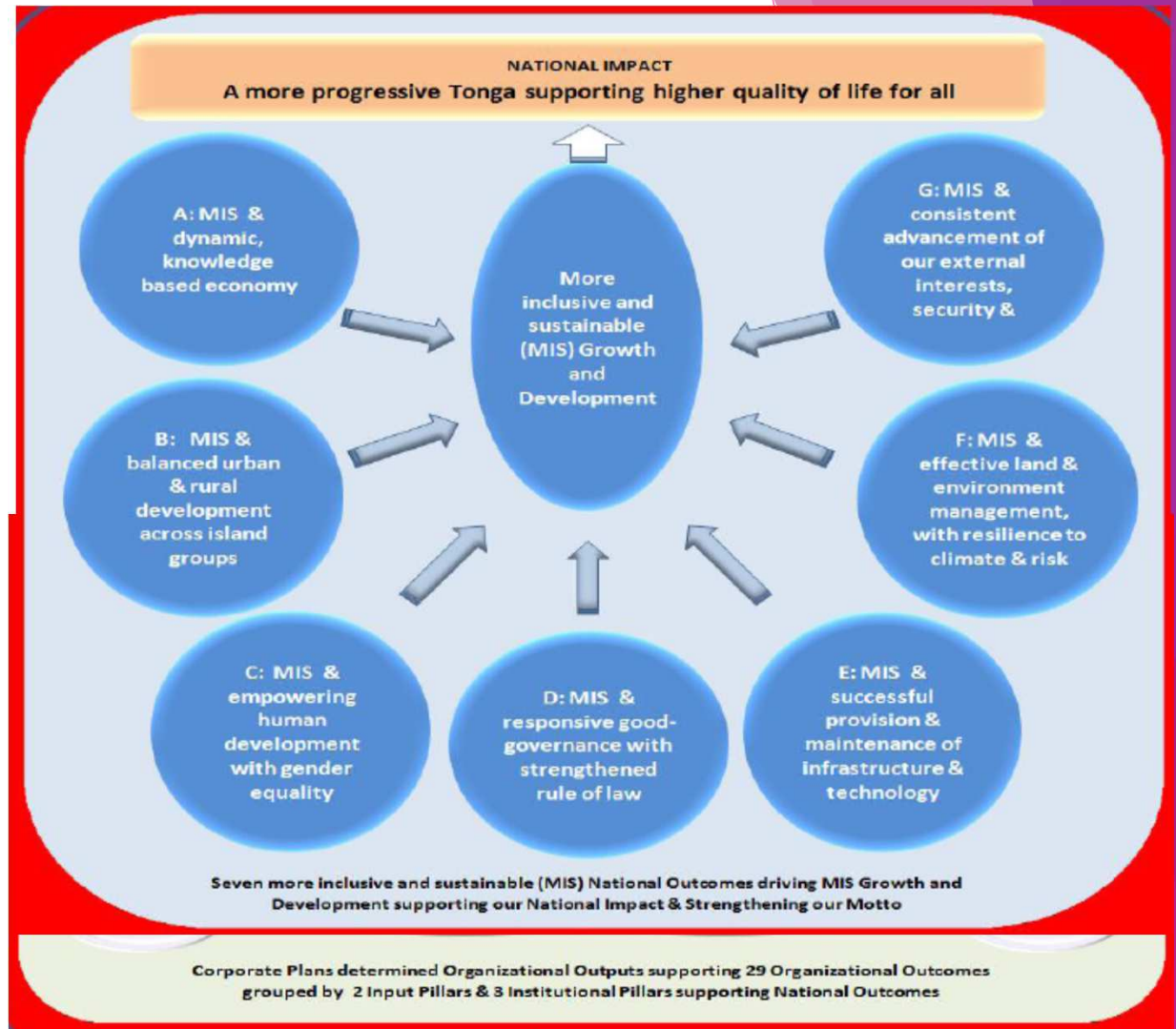
Monitor & Evaluation at All Levels

Warning System with Applications of

Space and Geographic Information Systems in Pacific Islands Countries

30/04/2018

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Objectives and Legislation

- ▶ Two main objectives which are:
 - ▶ (1) Sustainable management of Tonga's natural resources for the benefit of current and future generations; and
 - ▶ (2) research, monitor and advice the public on the causes and impact of natural hazards.
- ▶ Legislations: (1) Land Act; (2) Land (Quarry) Regulation; and (3) Land (Removal of Sand) Regulation of the Lands Act; (4) Minerals Act; (5) Minerals Mining Regulation; (6) Petroleum Mining Act; (7) Petroleum Mining Regulations; (8) Water Resource Management Bill 2016; (9) Seabed Minerals Act 2014; (10) Seabed Minerals Licensing Regulations; (11) Maritime Zones Act 2013.
- ▶ Two main outputs of the division.
 - ▶ First “that a system is in place to ensure sustainable management of Natural Resources and optimum benefits and equitable distribution of wealth to all citizens”; and
 - ▶ Secondly “Timely and effective advise of natural hazards to stakeholders and strengthen resilience to climate change and extreme weather events, strengthening resilience to climate change effects, ensuring safer, protected citizens and livelihood.”.
- ▶ All programmes have direct contributions to the **Organisational Outcomes (OO)** and the **National Outcomes (NO)** of the TSDF II.

Linkage to National Plans

All programmes have direct contributions to the **Organisational Outcomes (OO)** and the **National Outcomes (NO)** of the TSDF II.

- ▶ The (1) Water Resources Management programme links directly to **OO-5.2** (improved use of natural resources for long term flow of benefits) under **Pillar 5** (Natural Resources and Environment Inputs). This includes Water Investigations, Water Quality Testing and Integrated Management;
- ▶ The (2) Coastal Resource Management programme links directly to **OO-5.2** and **OO-5.4** under **Pillar 5** in terms of controlling the beach sand mining and quarry development. This programme also includes Integrated Coastal Area Management to enhance resilience to impacts of climate change & natural hazards with provision of coastal monitoring information and analysis;
- ▶ The (3) Offshore Resource Management (Seabed Mineral, Petroleum and Maritime Boundary) programme also are directly linked to **OO-5.2**; This programme includes the Tonga Maritime Boundary and extended Continental Shelf activity is being undertaken to ensure sovereignty proclaimed by Tupou I and Tupou IV prevails.
- ▶ The (4) Geohazard Services programme links directly to **OO-5.4** & **OO-5.2**. This programme focuses on activities that involve 24 hours monitoring including: The monitoring of Seismicity, Volcanology, Tsunami, and Geo-magnetic. It also includes Natural Hazard awareness programme.

Multi-Hazards Services

- ▶ Seismic and Earthquake Monitoring & Advisory
- ▶ Tsunami and Physical Impact Research & Advisory
- ▶ Flood and Drought Impact Assessment & Advisory
- ▶ Coastal Dynamics, Erosion and Inundation Study and Advisory
 - ▶ Mapping of coastal area for progression and regression (erosion) status of coastlines along coastal communities.
 - ▶ Advisory on protection mechanisms for coastal communities for Kolonga-Nukuleka Communities and 'Ahau-Kanokupolu and Ha'atafu Communities.
 - ▶ Develop vulnerability Index to climate change.

Capacity Development Plans

- ▶ Recruitment of Science Graduates
- ▶ Training in Geospatial Data Capturing (+underwater)
 - ▶ Drone Technology and GIS and Remote Sensing
- ▶ Stormwater Drainage and Flood Modelling for Disaster Risk Management
 - ▶ Flood Management Master Plan for the Nuku'alofa Greater Urban Area
- ▶ Coastal Hazard Management
 - ▶ Coastal Area Management for Hihifo and Hahake Areas
- ▶ Upgrade the Tonga Seismic Monitoring Network
- ▶ Analysing Seismic Data to Support Engineering Construction Developments
- ▶ Improve Volcanic Monitoring Activities using Drone Technology
- ▶ Natural Hazard Risk Assessments Training
- ▶ Central Data Centre for Geospatial Information (PGSC Strategy 2015-2030)



Malo 'Aupito

