Fiji Bureau of Statistics

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"Session 4: Achieving SDGs in a time of COVID-19"

Compiling Fiji's Experimental Land Cover Account

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Overview

- Environmental Concern
- Addressing SDGs
- Land Data Sources & Stakeholders
- Underlying Challenges
- The Approach
- The Process
- Way Forward

Environmental Concerns

- The Green Growth Framework is a national document which contains the country's socio-economic and environmental concerns as well short term and long term strategies to help address these concerns.
- The premise for preparing Land Cover Accounts arose from the need to address sustainable land and ocean resource issues raised in the Green Growth Framework
- Green Growth Framework issues:

- The inability to effectively manage the competing demands for land from different segments
- Impacts of sea level rise on agriculture i.e salt water inundation/intrusion
- Impact of climate change on weather patterns indirectly leading to changes in land use activities

Addressing SDGs

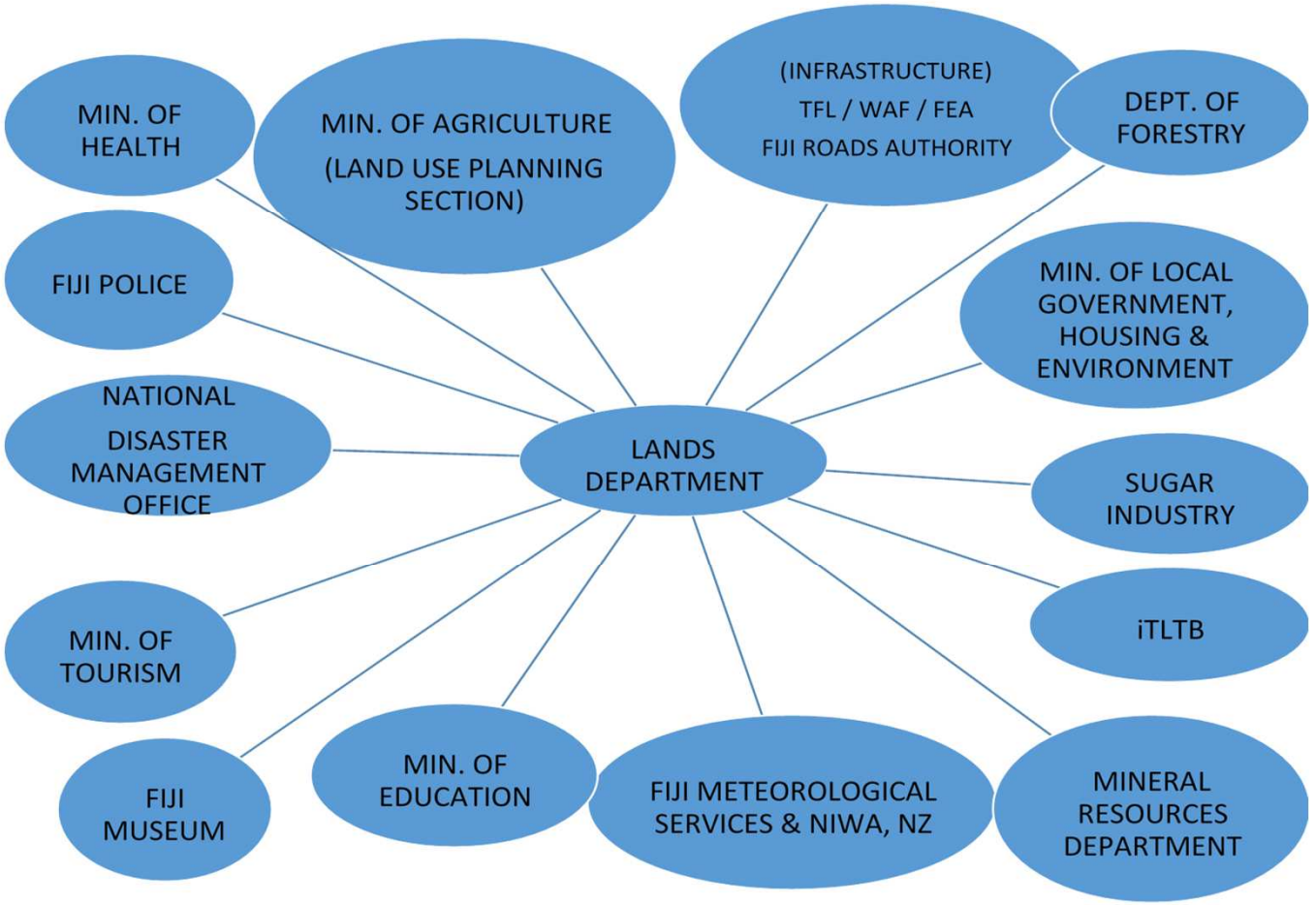
- **Experimental Land Cover Account for Fiji indicators** → **SDG**

  - Rate of change for Forest Cover — Targets and indicators for Goal 15
  - Rate of Change for Urban Areas Cover — Targets and indicators for Goal 11
  - Rate of Change for Agricultural Land Cover — Targets and indicators for Goal 2

  - Establish a good base for possible Experimental Ecosystems Accounting

  - Establish good ground work for possible Oceans Account in future

Land Data Sources & Stakeholders



Underlying Challenges

- Communication and Data Sharing – from “working in silos” to “increased integration”
- Lack of data - appropriate data required in the format required for comparability and analysis
- Historical records are not digitalized and have to be extracted separately from the various data sources and validated e.g. forestry, agriculture
- Disaggregating and aggregating data into context relevant categories.
- Increasing demand and use for Land data by policy makers
- Standardizing software used by Ministry of Lands & Mineral Resource and all relevant secondary sources, for consistency, and mitigating interpretational challenges when trying to convert data from various sources.

The Approach

- Practical approach i.e. Work with what you have
- Data used: publicly sourced data - medium resolution (300 x 300) ESA database 2000-2015
- Software: QGIS
- Analysis: Non Parametric Regression – Sen regression Analysis – Finnish Institute Template
- Validation of results – consultation with respective data custodians i.e. Ministry of Forestry, Ministry of Lands & Mineral Resources and Ministry of Agriculture
- Consultant review
- Internal review
- Publication
- Frequency of Publication

The Process

- **Step 1:** Downloading QGIS
- **Step 2:** Downloading and Extracting Raster and Vector files from relevant databases
- **Step 3:** Reading in the Data
- **Step 4:** Clipping the data to Administral boundaries map
- **Step 5:** Producing *''r.report''* for each year
- **Step 6:** Downloading ESA Land Cover Data Sets 2016-2018 (different format from previous years)
- **Step 7:** Extracting 2016-2018 Land Cover Data Sets and Clipping the Raster layers to Administrative boundary maps and generating r.reports for each year
- **Step 8:** Moving report data (land cover information – categories and cell counts) that was saved previously in csv format to Excel by year
- **Step 9:** Running the analysis by agreed upon categories using trend analysis template by Finish Institute
- **Step 10:** Producing the change matrix

Working in Isolation

- Lessons learnt during this pandemic:
- Communication
- Persistence
- Technology
- Peer Support

Way forward

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Vinaka Valevu!

Any questions?