Ministry of Fisheries and Marine Resources Development

Regional Workshop Strengthening Multi-Hazard Risk Assessment and Early Warnig System with Application of Space and GIS in Pacific Island Countries

Outline

- Introduction
- The work we do
- What does our work involve?
- Examples
- Why do we do our work?
- Achievement & Lesson Learned
- Suggestions

INTRODUCTION

Minerals Division has two units

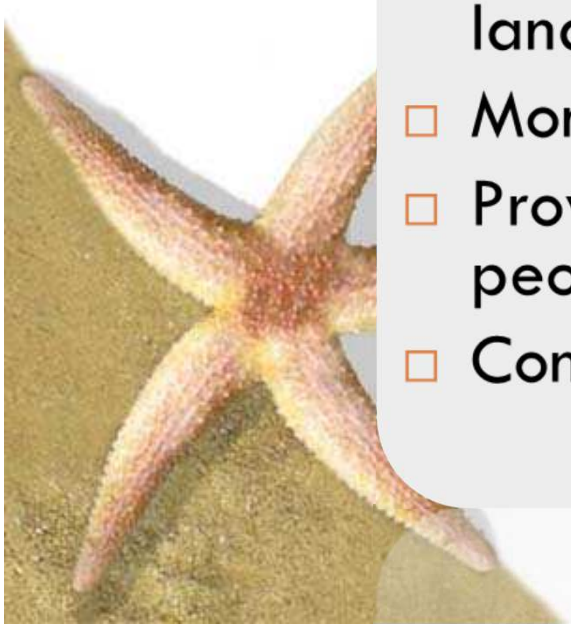
MINERAL DIVISION

Offshore Mineral Resources
Manage Deep Sea Minerals

Coastal Mineral Resources
Assess coastal Developments & manage coastal resources(sand & gravel)

The work we do

- Monitor changes along our coastal area and assess how these changes may affect us and our environment
- Find alternative means or sources of aggregates
- Conduct assessments of coastal developments such as seawalls, land reclamations
- Monitor beach mining activities
- Provide advice to Government and people
- Conduct awareness programs



What does our work involve?

Field Work

- ❖ Data collection
  - Ground truthing Exercise
  - Site Visit
  - Environmental Licensing

Office Work

- ❖ Administrative
  - Coastal development application
  - Sand & gravel mining application
- ❖ Data Analysis & Mapping
  - Rec. & Digitize satellite images with aerial photograph
  - Overlay survey data with mapped images
  - Plot fisheries data over the map

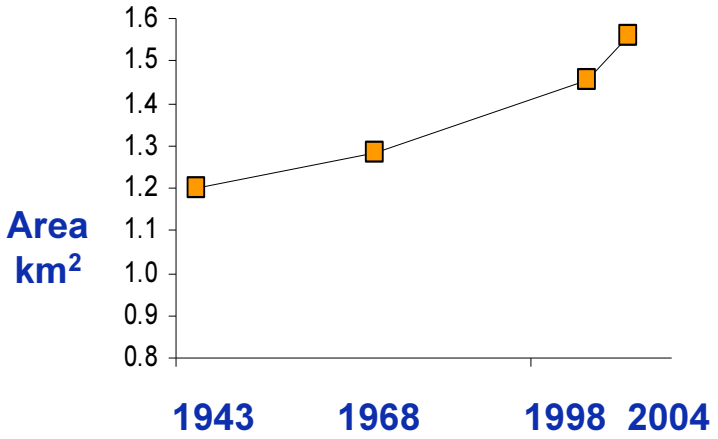
Example

(Webb & Atauea, 2007)

Betio area 1943 – 1.201 km^2

area 2004 – 1.557 km^2

This is a about a 30% increase in land area over the last 60 years.



Why do we do our work?

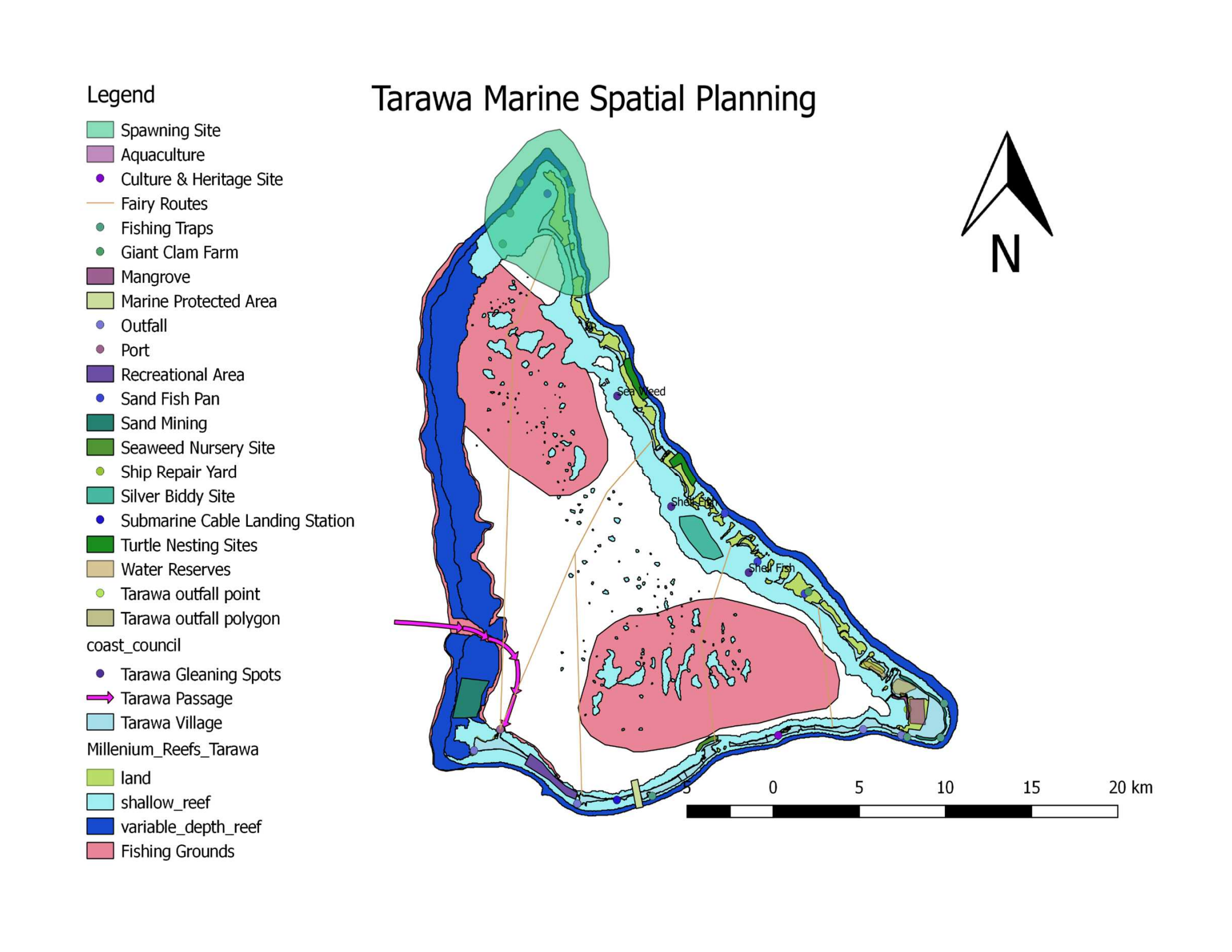
We live on a small low lying islands that presents many challenges

- Limited land space has prompted people to reclaim land & build seawall
- Limited land resources has made people to extract material from the beach for construction
- Our island are easily affected by drought, severe storms and rising sea level

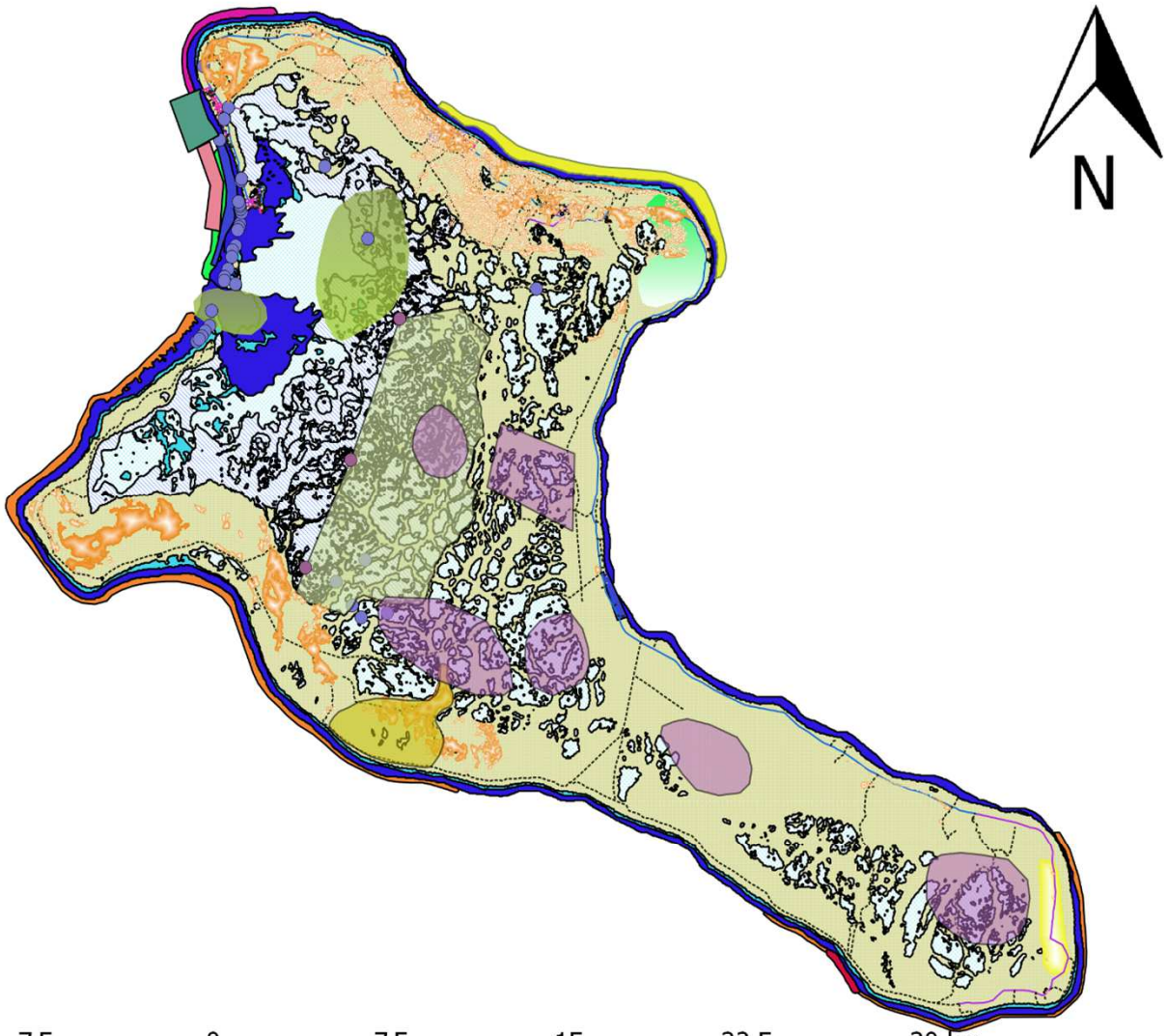

THE HIGHEST POINT ON SOUTH
TARAWA 3metres
E/TA
RISING SEAS. DROWNING ISLANDS
TCCC/UNFCCC
SAVE THESE ISLANDS! YES WE CAN

Achievement and Lesson Learned

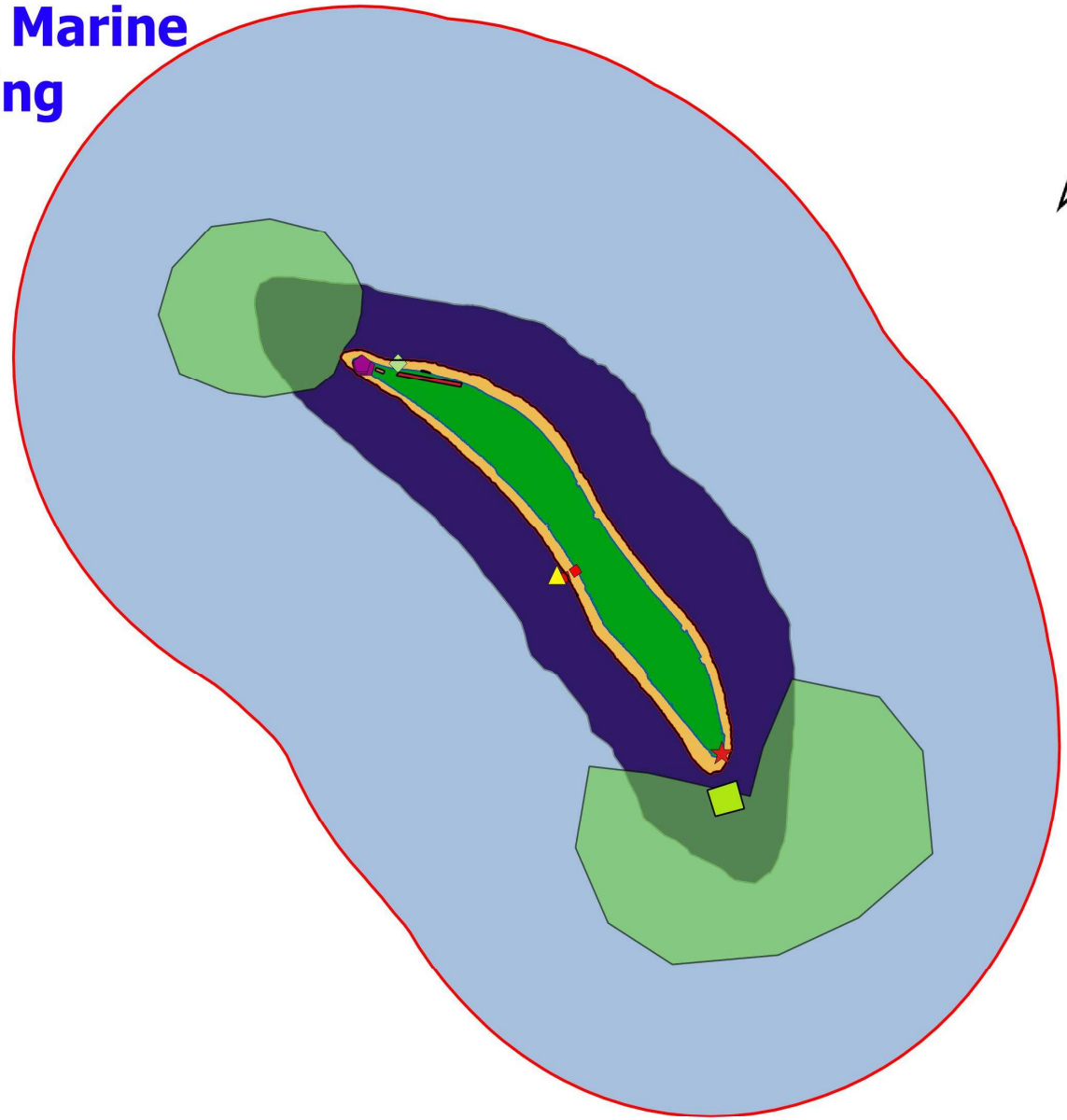
Tarawa Marine Spatial Planning



Christmas Island Marine Spatial Planning



Arorae Island Marine Spatial Planning



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Legend

- Ruan Takoto
- Navigation stones
- Te waa fishing zone
- Grave yard
- Te rua ni benu
- Roreti Eitei feeding ground
- Ship wreck
- Turtle nesting ground
- Airport
- Fish trap
- ARE_boun-baseline
- 2011Shoreline
- Fishing Grounds
- base_poly
- Te waa fishing zone
- 2011_polygon
- 2011
- polygon
- Arorae_3nm

2.5 0 2.5 5 7.5 10 km

Suggestions…

- Spatial repository
  - Developing a system that can store much of Kiribati data
- Adopt modern methods in collecting data such as using Unmanned Aerial Vehicles

Thank you