

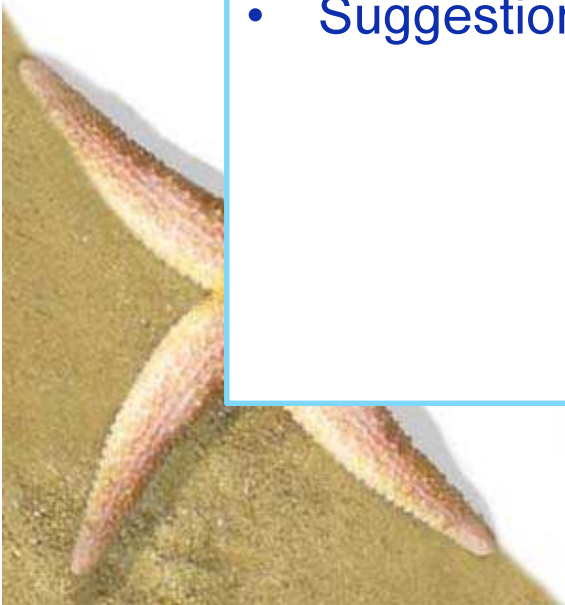


Ministry of Fisheries and Marine
Resources Development

**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

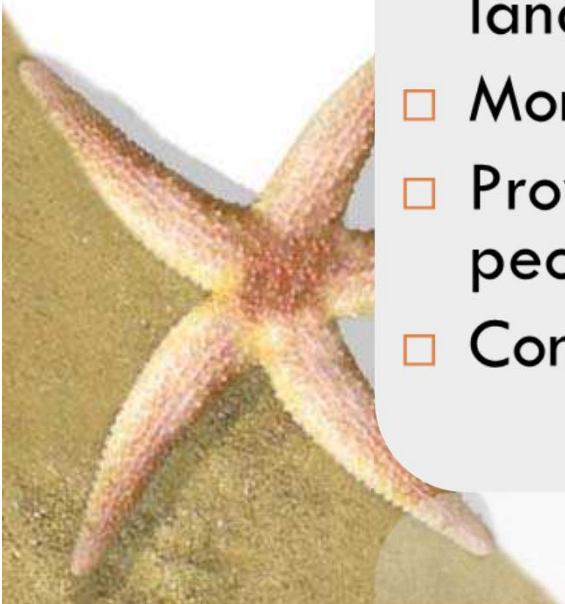
Coastal Mineral Resources

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



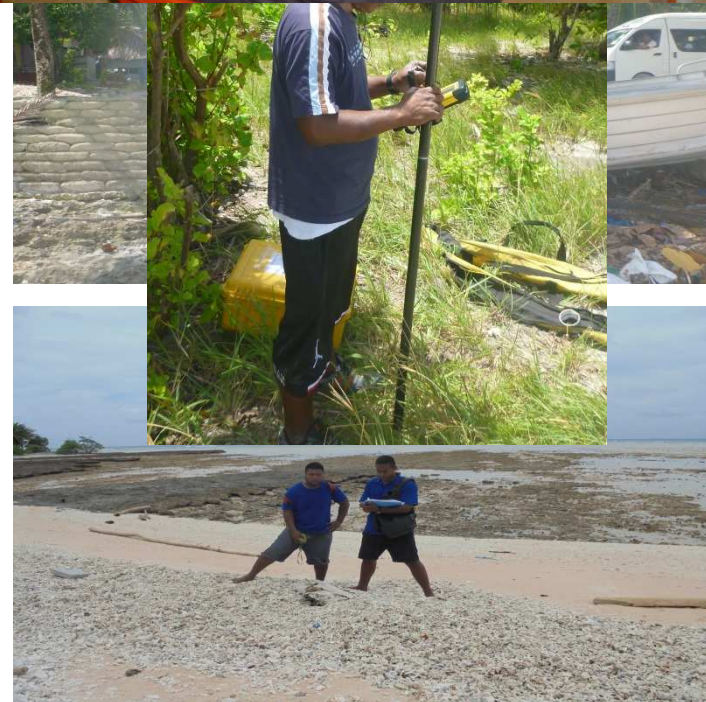
What does our work involve?

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

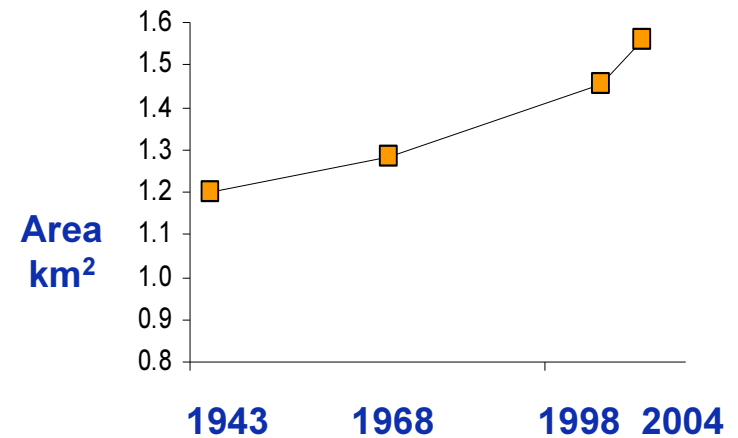


Example



Betio area 1943 – 1.201 km²
area 2004 – 1.557 km²

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

RIISING SEAS. DROWNING ISLANDS

TCCC/UNFCCC

SAVE THESE ISLANDS! YES WE CAN.



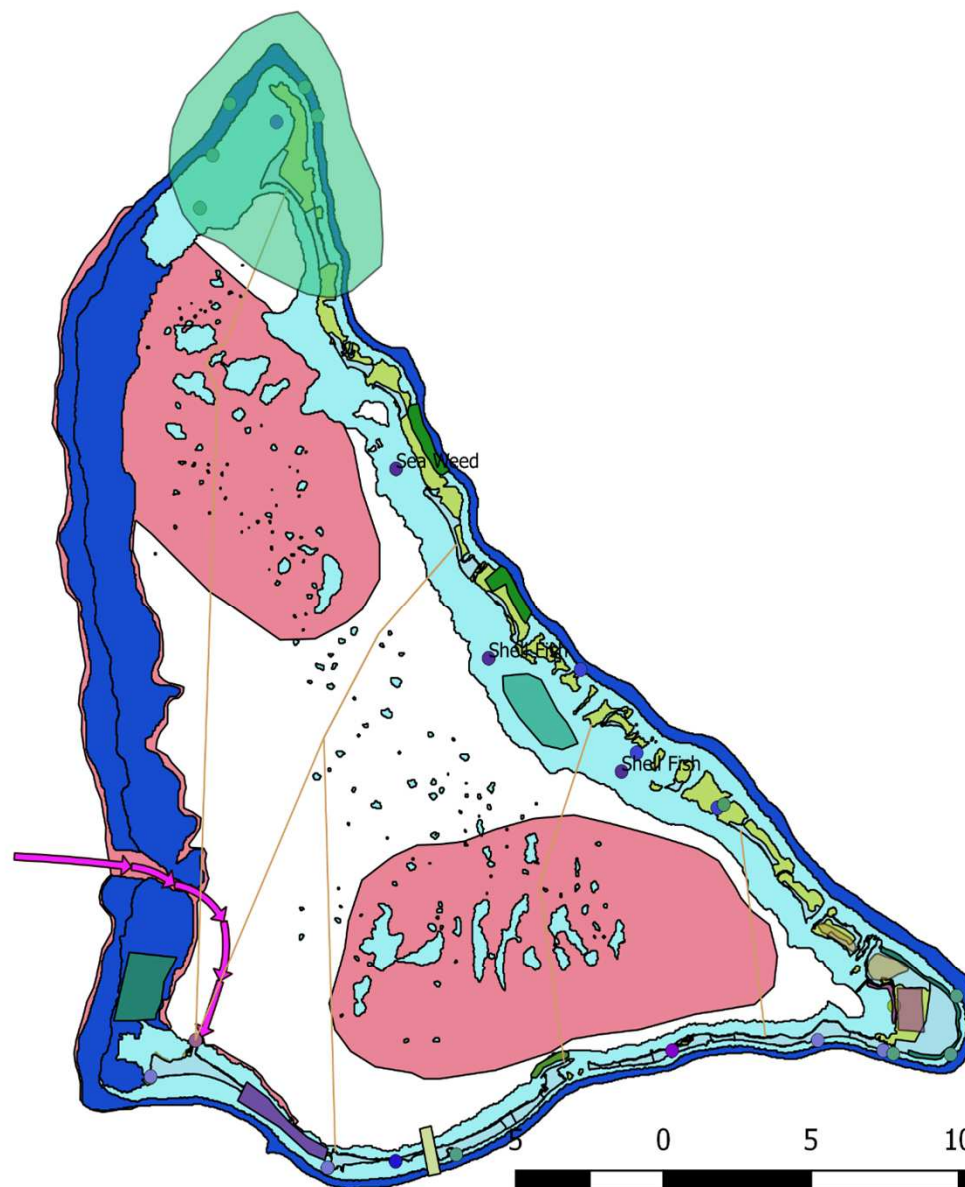
Achievement and Lesson Learned



Legend

- Spawning Site
- Aquaculture
- Culture & Heritage Site
- Fairy Routes
- Fishing Traps
- Giant Clam Farm
- Mangrove
- Marine Protected Area
- Outfall
- Port
- Recreational Area
- Sand Fish Pan
- Sand Mining
- Seaweed Nursery Site
- Ship Repair Yard
- Silver Biddy Site
- Submarine Cable Landing Station
- Turtle Nesting Sites
- Water Reserves
- Tarawa outfall point
- Tarawa outfall polygon
- coast_council
- Tarawa Gleaning Spots
- Tarawa Passage
- Tarawa Village
- Millenium_Reefs_Tarawa
- land
- shallow_reef
- variable_depth_reef
- Fishing Grounds

Tarawa Marine Spatial Planning



Legend

Bird Site (Polygon)

Kakai Scheme

kiribati_vector

Coconut Plantation

KPA Anchorage

Local Fishing Grounds

Mining Sites

No Kill Zone Points

No Kill Zone

Places

Proposed Tabakea Channel site

Roads

residential

secondary

track

unclassified

Turtle Nesting Site

Fish Type Final

Blue Tang

Flame Angel

Gold Plates

High Biodiversity Area

Sea Bass

Manta Ray Site

Land Crab Site

Coconut Crab Site

Coast & Reef Type

land

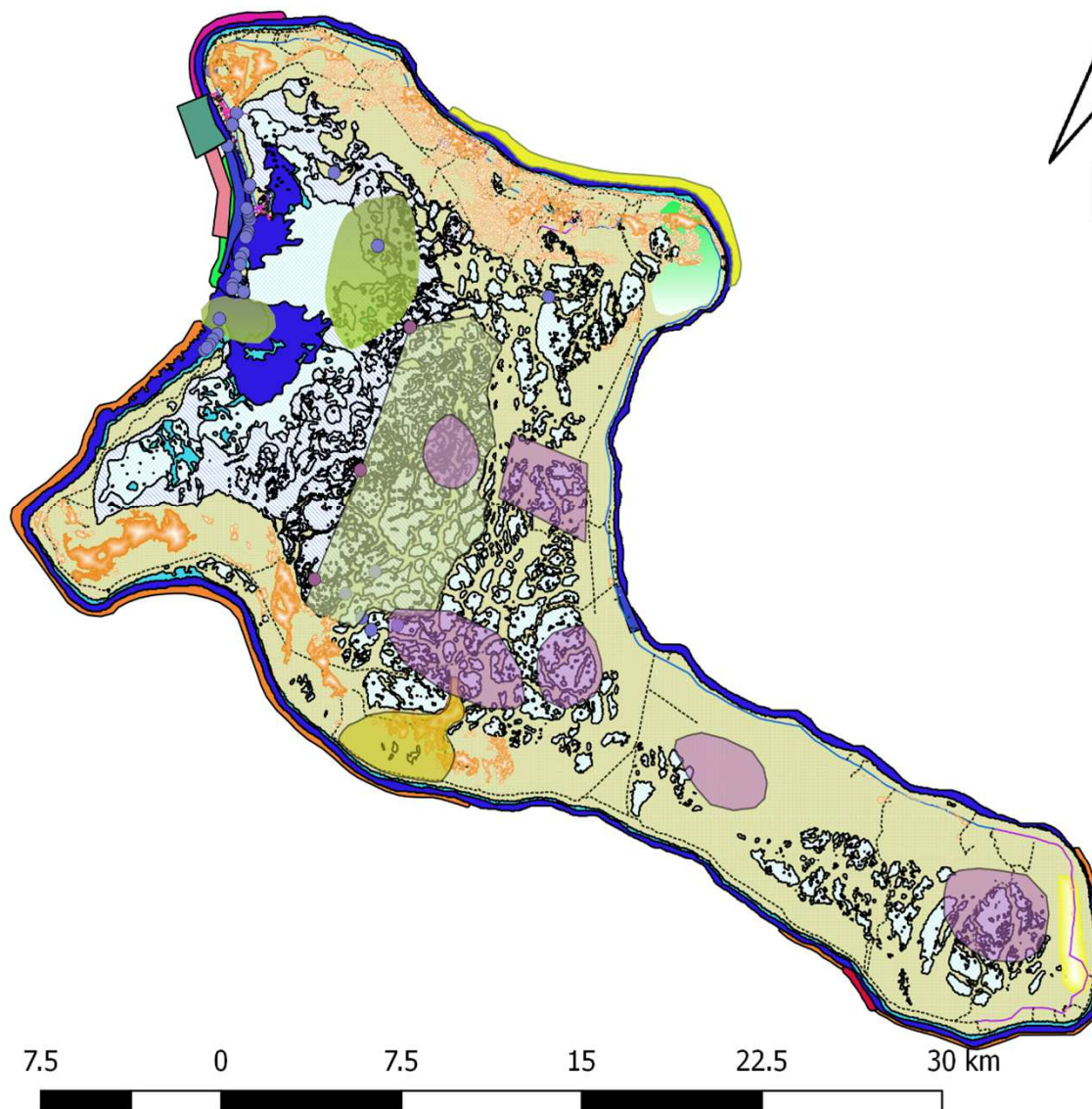
shallow_non_reef

shallow_reef

variable_depth_non_reef

variable_depth_reef

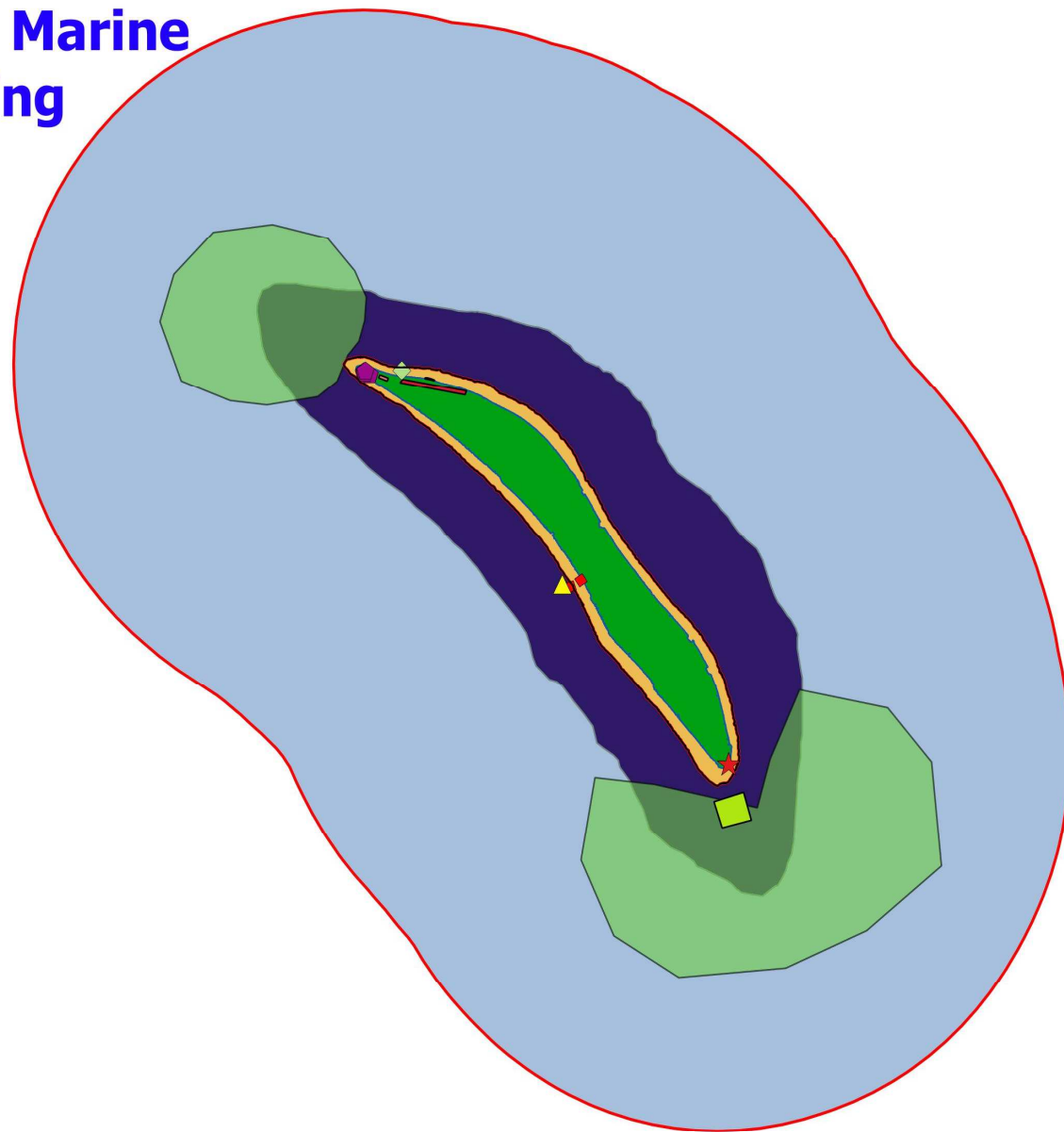
Christmas Island Marine Spatial Planning



Arorae Island Marine Spatial Planning

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



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

