

Seagrass restoration in coastal communities of Fiji



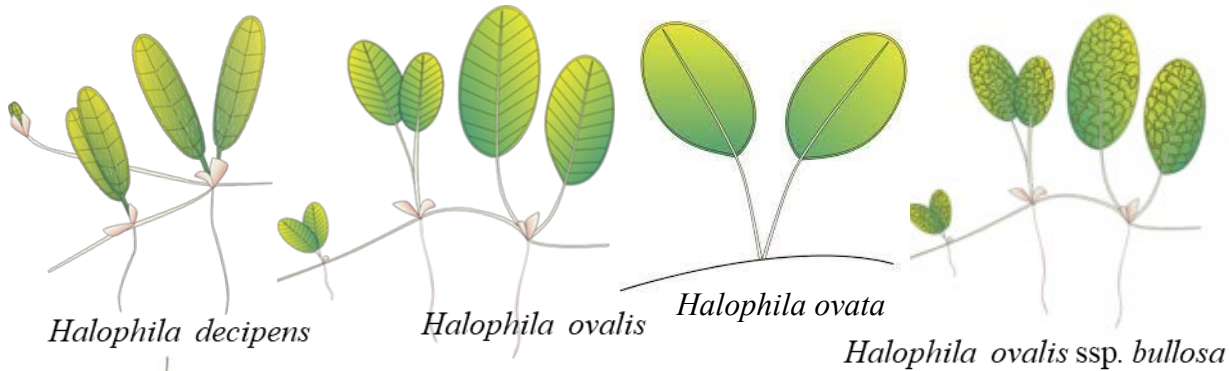
IPBC Dialogue

Session 6 - *Seagrass deep dive*

October 2nd, 2024

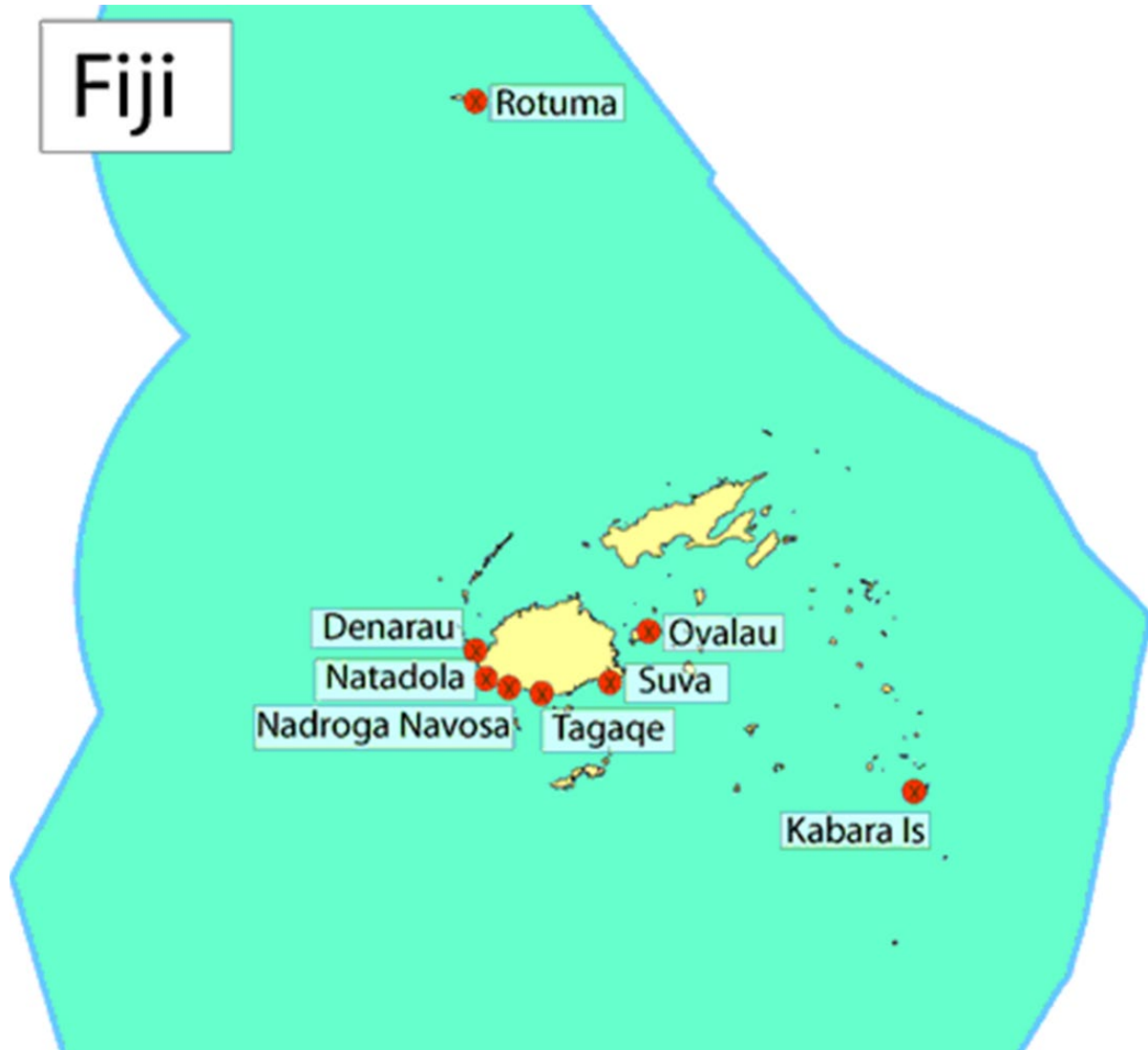
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Seagrasses of Fiji Islands



- Six seagrass species.
- Five species & one sub-species found only in Fiji, Tonga & Samoa.
- Seagrass flora has an Indo-West Pacific affiliation, except for *H. ovalis ssp. bullosa*.
- Molecular analysis confirm taxonomic status common identity to *H. ovalis*.

Local Seagrass distribution



- Geographic distribution of seagrass remains to be adequately documented.
- Estimated coverage area of 59.19 km²
- Few sites have been studied.
- Distribution maps are limited.

Fiji Seagrass Studies

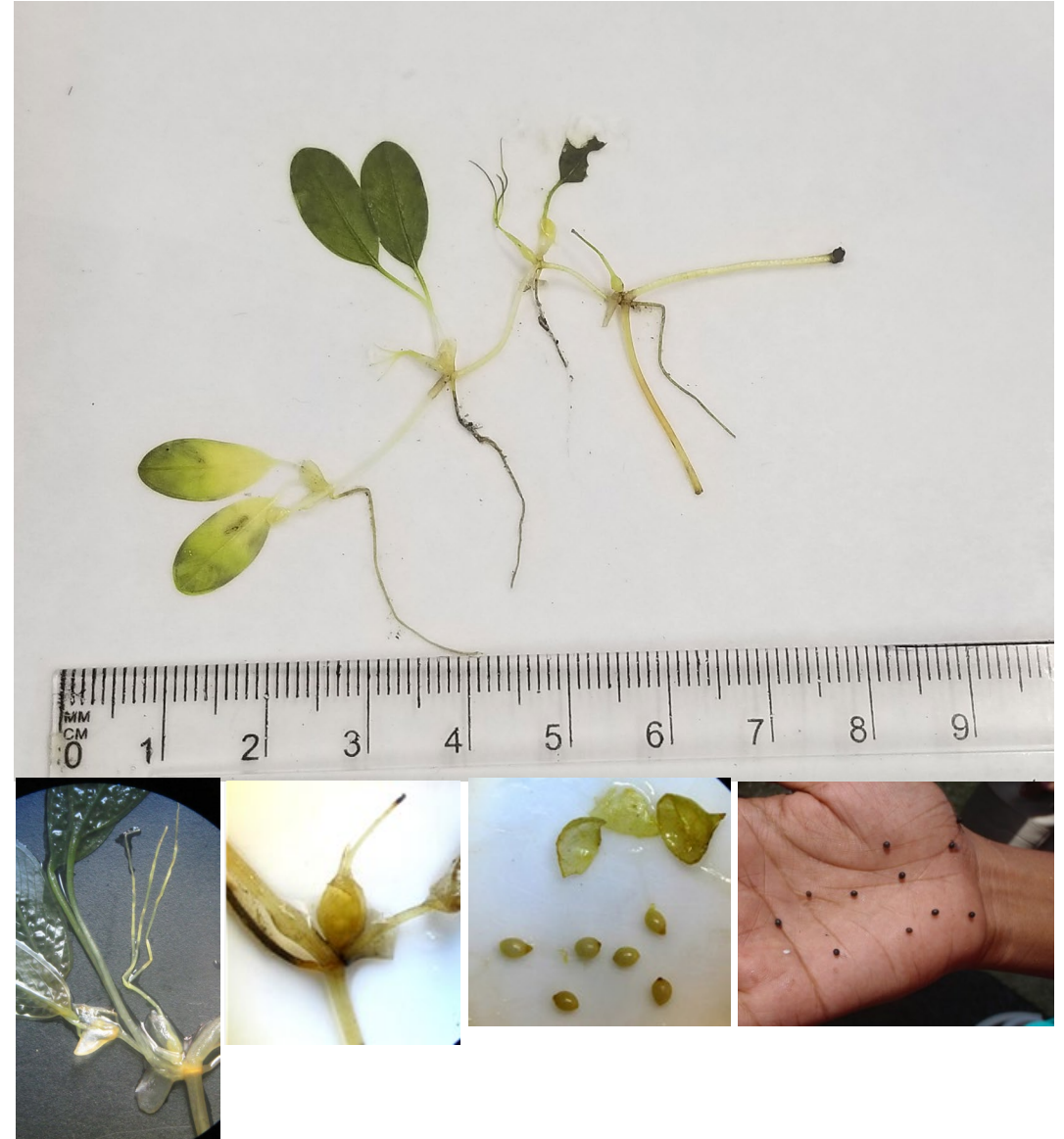
- Earliest account from 1970.
- Total number of 40 studies.
- Detailed studies of biological processes of seagrass meadows have been conducted by visiting scientists, University research students & staff.

Table 1. Seagrass Study Summary

Purpose	No. of studies	Methods
Biological/ fauna interaction	28	Various Standard
Seagrass distribution	8	Mapping tools e.g., multibeam echo sounders; geospatial autonomous; artificial intelligence; cameras for 3D digital map
Field & identification guide	1	Leaf Morphology
Current knowledge	3	Literature review

Baseline data

- Reproduction
- Genetic analysis
- Soil C_{org} contents
- Trace metal contents



Follow-up Step

- FNU & GIZ MACBLUE project is conducting a nine-months seagrass restoration pilot project in Natale-i-Ra village.
- The objectives are to gain a better understanding on the seagrass species in Fiji, their growth factors, reproduction cycles & threats.
- Project aims at trialling seagrass restoration approaches to re-establish degraded sites.
- The selected pilot project site lies in the foreshore area of Natale-i-Ra & Silana villages in Tailevu, Fiji.

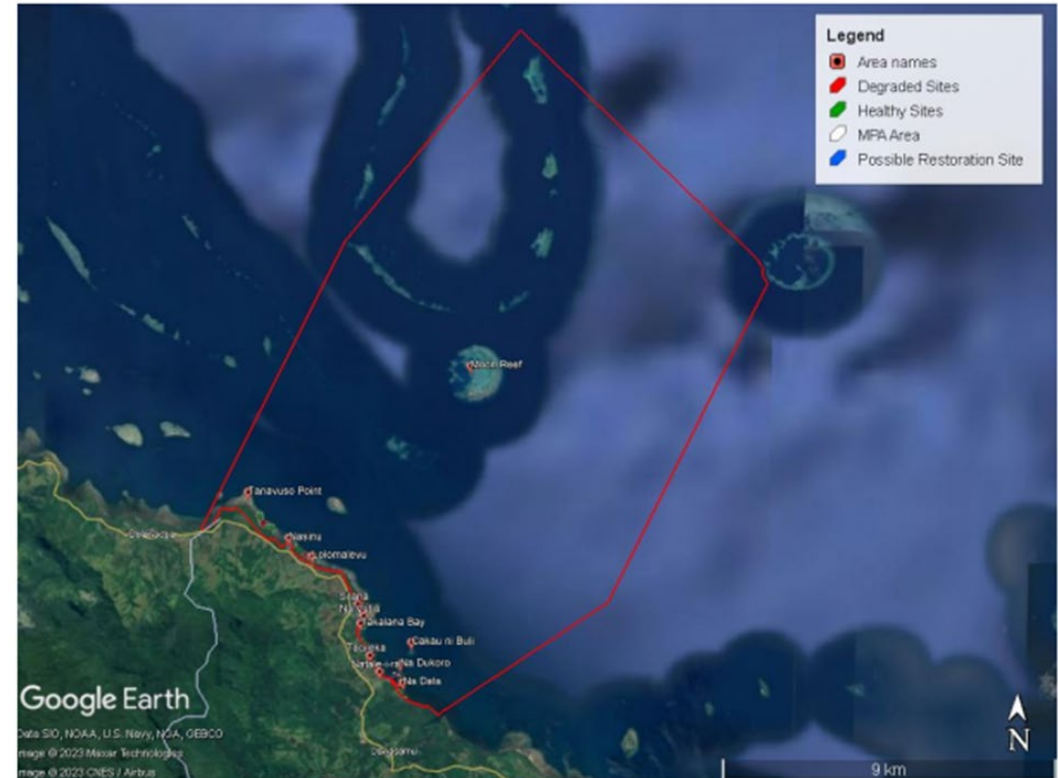


Figure 1 Map showing the full extent of the Marine Protected Area (MPA) within the Dawasamu district in Tailevu province.

Replanting area

Donor meadow (Top green)

- Next to Silana Village

Replanting areas (blue)

- 1: in front of Natale-i-Ra village (sandy sediment)
- 2: further out towards the reef (rocky sandy sediment)

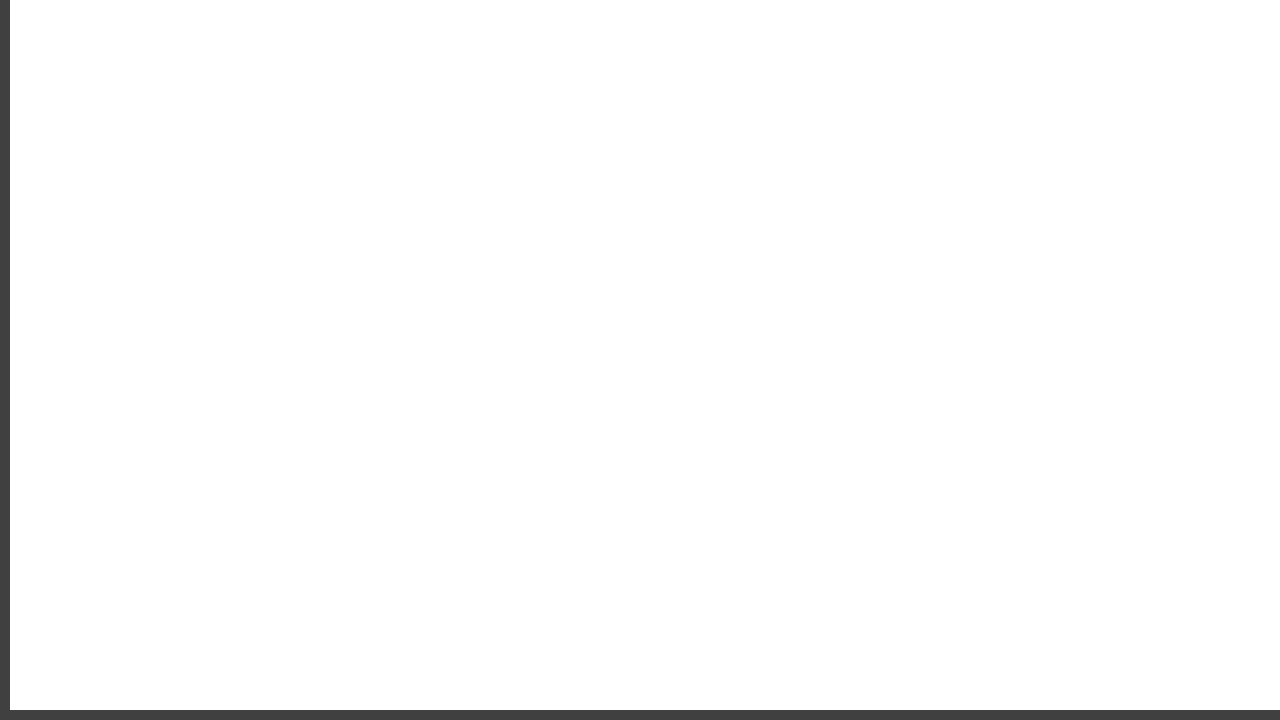


Project work carried out to-date

- A community engagement & exchange meeting with all four villages that have traditional rights over the *iQoliqoli* in question, Natale-i-Ra, Silana, Driti & Nasinu.
- Tested 3 methods of replanting seagrasses
- Planted using Sods method in September



Natale-i-ra village consultation workshop on seagrass restoration project 5 July 2023 with MACBLUE project team, SPC, FLMMA, CAFF-FNU, Tailevu Provincial Council representative.



Natale-i-ra & Silana villages seagrass restoration project 17 August 2023 for MACBLUE with Fisheries department staff & students, GIZ team & village group.



Restoration techniques



Biodegradable mesh fabric method



Wire Frame method



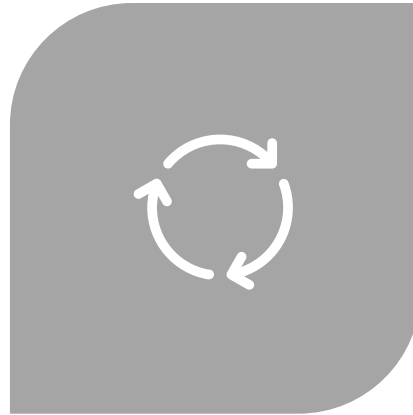
Sods/turf method

Tested with *Syringodium isoetifolium* & *Halodule uninervis*

Monitoring of success



REGULAR MONITORING OF PILOT SITE
TO ASSESS THE SUCCESS &
EFFECTIVENESS OF THE RESTORATION



INTERVALS OF 3 WEEKS FOR 7
INTERVALS IN TOTAL (21 WEEKS).



ASSESSMENT OF SEAGRASS
GROWTH (COVERAGE)
COLONIZATION OF NEW AREAS &
ESTABLISHMENT OF HEALTHY
SEAGRASS BEDS.



2 days stakeholder workshop @ FNU

- Addressing the impacts of riverbank erosion
- Salt intrusion on livelihoods due to climate change
- Seagrass planting along the shores contributing to carbon sequestration & ocean ecosystem restoration
- Developing micro credentials in these areas for communities & industries



VINAKA!



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