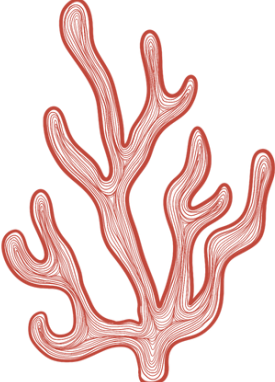




**NAIDIRI**   
MARINE BIODIVERSITY PARK



# OUTLINE

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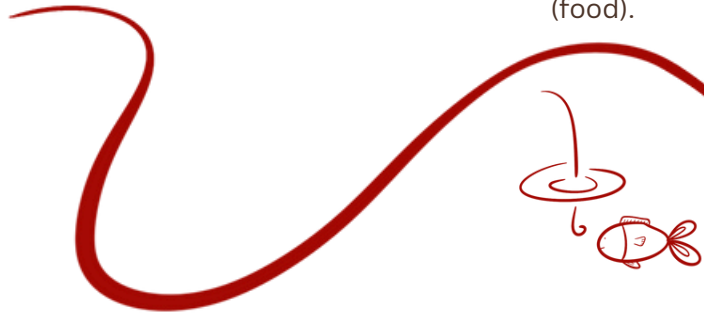


# NAIDIRI'S STORY:



The village of Naidiri is located on the **coral coast** of Fiji's largest island, Viti Levu.

In this way, the sea is a **very important** source of *kana* (food).

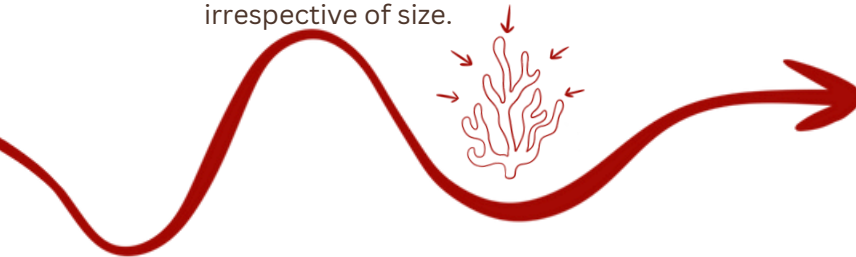


The community has a close **relationship** to the **coral reef**, many people practicing traditional *iTaukei* (Indigenous Fijian) livelihoods. Women catch octopus and handline fish, while men spearfish.



© Yanik Rozon

This included the **mining** and **selling** of corals, and the use of the toxic plant root **duva** for fishing. The root was pounded and put into the reef, killing fish and other marine species, irrespective of size.



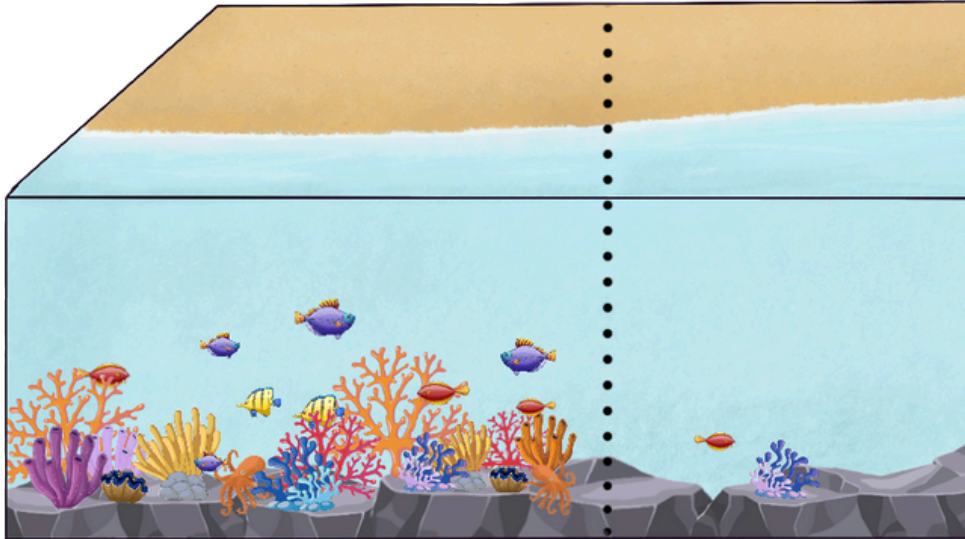
In the mid 1990s, Naidiri's reef started to experience many **stressors** occurring at the same time.

While duva and coral mining are **no longer practiced**, their impacts continue today, and **new stressors** are now prevalent.

This booklet reviews the **timeline of biodiversity change** observed on the reef, and how the community of Naidiri has responded through **conservation** and **restoration** efforts.

# TIMELINE OF CHANGE





The following graphic displays a timeline of the changes observed on Naidiri's



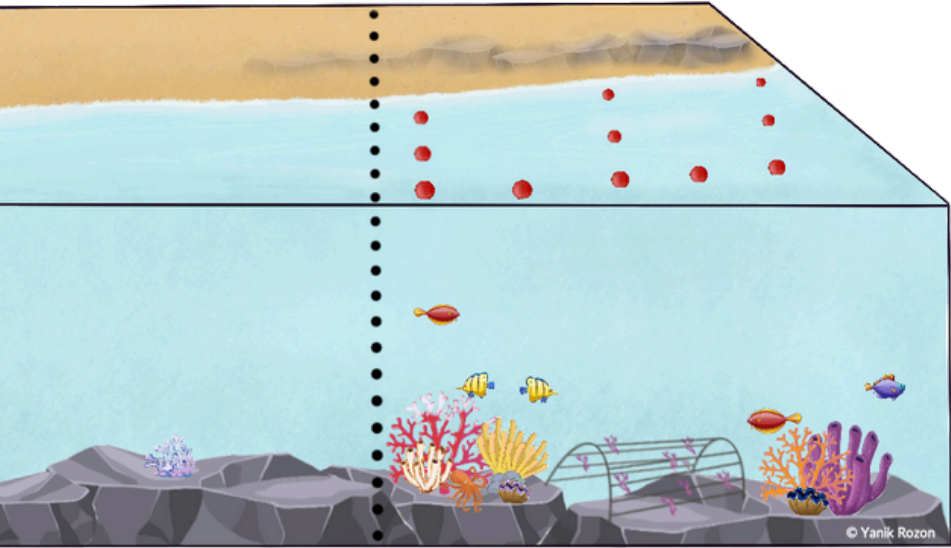
**1970s**

**1990s**

## LEGEND

 <p><b>WATER LEVELS</b> Water levels have changed from the 1970s to 2024. Water levels are now higher due to sea level rise.</p>	 <p><b>SAND COVER</b> Sand cover was once plentiful on the waterfront. Now, sand has washed away into the reef, exposing the rock layer beneath.</p>
 <p><b>CORAL</b> 1970s-1990s: coral was plentiful and varied in colours in the reef. 1990s-2007: a significant decline in coral cover was observed. Those that remained were often brown or white in colour. 2007-2024: Significant increase in coral cover, as well as different coral species returning to the reef. Coral bleaching events are now more frequent.</p>	 <p><b>FISH</b> 1970s to 1990s: fish were plentiful in the reef and there were many different kinds, often large in size. 1990s-2007: significant decline in fish species, abundance and size. 2007-2024: abundance and size of fish have increased and certain species have returned to the reef.</p>

reef from the 1970s to 2024.



2007

2024



**OCTOPUS**

From the 1970s to 1990s, octopus were large in size and common in the reef. Since the 1990s to 2024, there are less octopus, and those caught are often smaller in size.



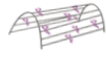
**MARINE PROTECTED AREA**

The permanent MPA was implemented in 2007. In 2021, a temporary MPA was implemented, which restricts fishing but permits women to hunt octopus and is open for special occasions. In total, the two MPAs cover an area of 1.4km<sup>2</sup>.



**GIANT CLAM**

The giant clam was plentiful in the reef from 1970s to 1990s. In the 1990s, the giant clam disappeared from the region. It was re-introduced in 2007, and are now growing in size and abundance.



**A-FRAME**

Coral restoration has been ongoing since 2007. Different methods have been used, including the 'A-frame' method which plants 'super corals'. From 2007-2024, a total of 14 A-frames have been planted.

# YOUTH TAKE ACTION

After observing a **big decline** in the amount and size of fish caught, youth from Naidiri started to talk about what they could do to help the reef return to the state it once was.

“We need to think about our **future generations**”, said MPA founder Manoa Duwai.

And so the **Naidiri Youth Group** was created, and set out to **take action** to conserve and restore their reef.





“When we were having our kana (food), I was telling him, boy. In 10 years, this place there’s going to be no fish. That is when we came up with this idea to do the tabu.”

-MANOA DUWAI





Traditional Fijian *bure* in the village of Naidiri

© Gauri Salunkhe

The **chief** granted the Youth Group permission to implement a *tabu* in the *qoliqoli* (traditional fishing grounds).

A **tabu** (no-take area), also referred to as a **Marine Protected Area (MPA)**, is a form of **marine conservation** which impose restrictions on fishing and the extraction of other marine life within it's boundaries.

While many people in Naidiri were happy about the *tabu*, its location in front of the village was also on **prime octopus habitat**. As many women in Naidiri pursue traditional livelihoods of hunting octopus, this impacted them negatively.

To mitigate these impacts, in 2021 the Youth Group implemented a second *tabu*, this one of **temporary status**.

This area restricts all fishing activities, with the exception of octopus hunting and harvesting fish for **special occasions** (example: weddings, village functions).

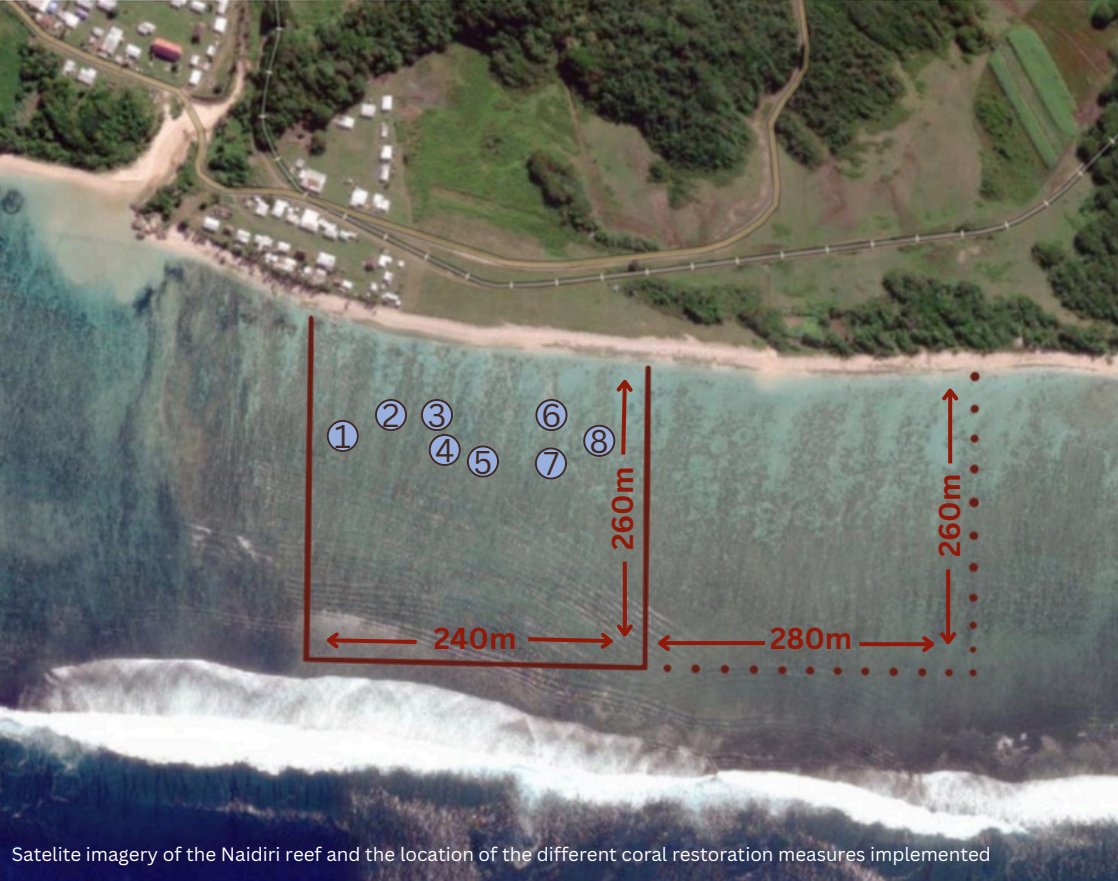
Naidiri village and the Youth Group have been **hard at work** managing their *tabu* ever since.

“This tabu, it’s good. We see a lot of new things. The new fish are coming. The tabu has brought plenty of fish. Now we see different types of corals, cucumbers, clams too.”

plenty of sea  
and giant

-INOKE  
BALAGITA





Satellite imagery of the Naidiri reef and the location of the different coral restoration measures implemented

- = permanently closed *tabu*
- .... = temporary *tabu*

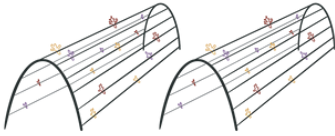
# CORAL REEF RESTORATION

The youth group and community of Naidiri have also begun **planting corals** using different restoration methods, and engaging in other forms of **adaptive management**.

Where these initiatives have taken place are numbered in the graphic above, and are described on the next page.

# LEGEND

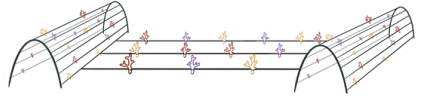
1



## A-FRAMES

Four A-frames were implemented in 2019.

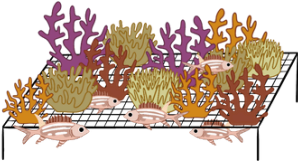
5



## A-FRAMES & NURSERY

Four A-frames and a coral nursery implemented in 2019.

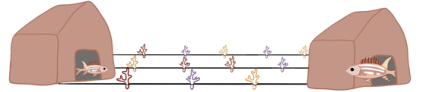
2



## FISH FEEDING

The old clam cage from 2012 is home to many squirrel fish.

6



## FISH HOUSE & NURSERY

Two fish houses and a coral nursery implemented in 2023.

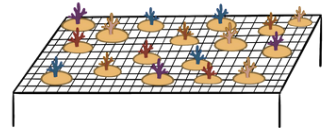
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## CLAM NURSERY

Giant clam nursery. Giant clams were re-introduced in 2019.

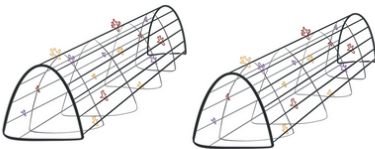
7



## CORAL COOKIE NURSERY

Coral 'cookies' planted in 2023.

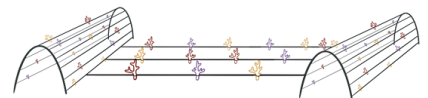
4



## TRIANGLE A-FRAMES

five triangle A-frames were implemented in 2024.

8



## A-FRAMES & NURSERY

Six A-frames and a coral nursery implemented in 2022.



2023




2024

# A-FRAME PROGRESSION

The photos above show the difference 1 year can make for coral growth on the A-frame structure.

The photo on the **left** shows members from the Youth Group **securing the A-frame** in the reef floor in May 2023.

The photo on the **right** was taken 1 year later, in May 2024. The **coral growth** and **presence of different fish species** shows how quick progress can occur when reef restoration is done properly, and by a **dedicated team!**

A photograph of an elderly woman with dark, curly hair, smiling warmly. She is wearing a bright blue short-sleeved shirt with a white and green floral pattern and a dark blue skirt. She is sitting on the ground, surrounded by large, green palm fronds that she appears to be working with. The background shows a concrete wall with a window that has a red frame and a metal grate. The ground is covered with green grass and some small plants.

“Before the degradation and gathering of octopus and all of the resources from the sea, I could fill up my basket. But now I see changes. There’s less octopus, less fish. But due to the tabu, now the fish are coming back.

-VARANESESE DUWAI

# CURRENT IMPACTS ON THE REEF

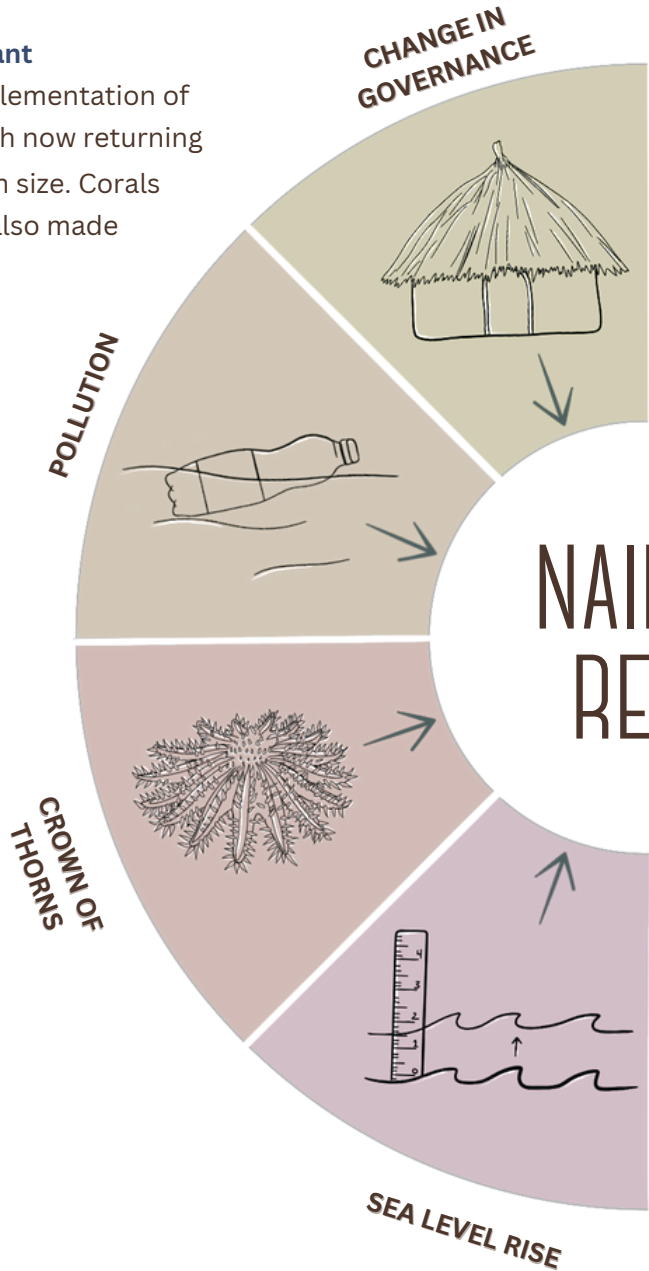
The reef has seen a **significant improvement** since the implementation of the *tabu* area, with many fish now returning to the reef, and increasing in size. Corals and other marine life have also made significant improvements.

However, many different **stressors** continue to be present today.

**Changes in governance** may alter *iTaukei* rights to locally manage their *qoliqoli*.

**Human pollution**, such as the presence of **plastic** in the reef, can pose a threat to the lives of marine life.

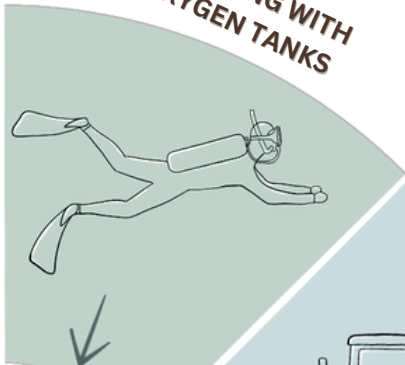
The **Crown-of-Thorns** starfish, which eats corals, is now commonly found in the reef and has to be removed.





REEF:

POACHING WITH  
OXYGEN TANKS



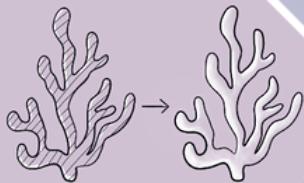
SAND MINING



DIRI  
EF



DEFORESTATION



CORAL BLEACHING

**Climate change** is **rising sea levels**, as well as increasing ocean temperatures, causing massive **coral bleaching** events.

The introduction of **oxygen tanks** in the early 2000s has been linked to increased **poaching** within and near the *tabu* area.

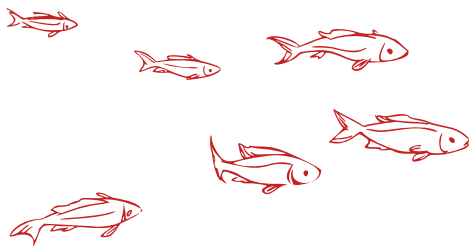
Practices of **sand mining** occurring 1-5km inland are thought to impact the reef by altering natural sand cycles.

Inland **deforestation** causes increasing sediment runoff into the sea, killing corals.

While these stressors may not have big impacts individually, they can **cumulate over time** to cause significant **harm** to the reef, its marine species, and the livelihoods of the people of Naidiri.



# A BETTER TOMORROW



The Youth Group in Naidiri continue to work hard to protect their reef, manage their *tabu*, and adapt to new stressors. They now welcome **tourist visitations** to snorkel and discover their *tabu*.

By sharing their story, they hope to secure a better tomorrow for **future generations**, and hope to inspire other youth throughout Fiji to get involved in **marine conservation**.





# ACKNOWLEDGMENTS

**This work was made possible by the hard work and dedication of the Naidiri Youth Group, Naidiri village, and others. A special thank you to:**

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