

Planting in the Mahabana estuary 180 km west of Mahajanga near Cape Saint Andre.



# North-West of Madagascar Restoring the mangroves

## Unique wildlife coupled with extreme poverty

### Summary

Forty years ago, the west coast of Madagascar – occupying a stretch of coastline of approximately 1000 km – was still a healthy mangrove, capturing sediments that threaten coral reefs, sheltering highly diverse mollusk and crustacean communities for the biggest benefit of birds, sea turtles, dugongs as well as the Malagasy people themselves. In the last decades, development of urban areas, overfishing, rice farming, salt production and erosion caused by tree-cutting in the highlands threaten this unique ecosystem. This trend can be reverted by planting during low tide millions of seeds which fall off the trees and enable the restoration of the original wildlife and the quality of fishing for local communities.

*Millions of trees can revert the trend*



“Bleeding Madagascar”  
The impression caused by soil erosion

### Why this project?

With its rivers running ‘blood red’ and staining the surrounding Indian Ocean, astronauts had remarked in 1983 already that it looked as if Madagascar was bleeding to death. This insightful observation highlights one of Madagascar’s greatest environmental problems – soil erosion. For Madagascar, a country that relies on agricultural production for the foundation of its economy, the loss of this soil is especially costly<sup>1</sup>.

*Bleeding Madagascar*

<sup>1</sup> <http://www.wildmadagascar.org/conservation/erosion.html>

18.6 million trees

### What is our objective?

In the last three years, after planting 18.6 million trees, our local partner (Eden Reforestation Projects) has been pleased to see that on top of restoring the local ecosystem, the workers employed are more self-sufficient as a result of our involvement. They are now able to repair their homes after the cyclone season, send their children to school, experience a balanced diet, pay for medical services, and even purchase comfortable clothing. "Moving whole villages away from the edge of extreme poverty has been incredibly rewarding, our plan is to see hundreds of additional villages continue to be transformed in this manner" says Steve Fitch, the founder of ERP.

### How do we work?

#### 1. Collecting seeds

*A unique way of working*

The seeds, or propagules, fall from the tree like arrows when they are mature and stick into the soft mud where they quickly sprout. Working in the muddy estuaries is a very challenging physical task, but with perseverance once the seeds are harvested from the forest, the propagules are sorted by species and put into jute bags in preparation for transport to the reforestation sites.

#### 2. Clearing the Reforestation Sites

Before planting, the previously deforested areas need to be cleared from all debris caused by illegal loggers only interested by the valuable trunks, leaving behind a considerable amount of debris.

*Nothing is wasted*

It is our role to ensure that this debris is not wasted: some can be used for cooking fuel, but the majority is helpful for building a protective wall around the area to be replanted.



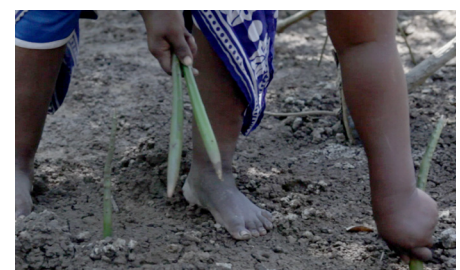
#### 3. Planting the Propagules

*Very hard work*

Finally, leveraging the neap tide, the workers begin planting the ripe propagules. This task involves the entire team getting into their canoes with the jute bags, filled with thousands of propagules. Within a matter of hours tens of thousands of propagules are being planted. This is not always easy: after sinking in the mud up to their waist, several of our workers have often needed help from their coworkers.



Sorting Propagules



Sorting Propagules

6 types of Mangroves

### Mangrove species

Although up to nine mangrove tree species have been recorded, most of the Madagascar mangrove stands contain six species in four families:

#### 1. *Rhizophoraceae*

a. *Rhizophora mucronata*, represent about 25% of the forest.

Recently, they have been targeted for commercial use as people turn to the mangroves to make charcoal

b. *Bruguiera gymnorrhiza* (Large leafed mangrove) means "Hard to Climb", and is given because their dark, rough bark is thorny-like

c. *Ceriops tagal*, are the most depleted tree species in the forest, having been used for construction thanks to their strength and straightness.

They are also resistant to termites and rotting

#### 2. *Avicenniaceae* (*Avicennia marina*)

#### 3. *Sonneratiaceae* (*Sonneratia alba*)

#### 4. *Combretaceae* (*Lumnitzera racemosa*) .

### What are the direct benefits for the local communities?

Creating a cash economy

**Income:** 100,000 new mangrove trees provide work for 10 workers (who in parallel continue to fish when tide conditions do not enable to plant), providing a cash economy for to be sent to school, eat healthier food and get medical care.

**Training:** mangrove forests are needed for construction and will continue to be harvested. People are being trained on how to do this in a sustainable manner, ensuring there will be enough for all, and for the future.



In the North-West of the island

### Where do we plant?

Our local partner, **Eden Reforestation Projects (ERP)** plants for us in the Mahabana estuary 180 km west of Mahajanga near Cape Saint Andre.

### When can we plant?

Our planting cycle is as follows:

- Gathering & Sorting propagules happens all year long.  
September, when the long rainy season starts, is when most ripe propagules can be collected.
- Planting around the tides, which only permits 2 six-day planting sessions each month.



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