

Grow-For-It Update Report

Eden Reforestation Projects

Reporting Period: January 2019 - October 2020



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PLANT TREES | SAVE LIVES

Grow-For-It Update Report

Date: December 2, 2020

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Project Nation: Madagascar

Site Name: Antsanitia Mangrove 2

Sponsor: Grow-For-It

Project Period: January 2019 - February 2021

Summary

This report summarizes Eden Reforestation Projects' progress to restore mangroves and support local livelihoods at the Antsanitia Mangrove planting site designated to Grow-For-It in northwest Madagascar. It includes background on the planting project, an overview of the planting activities, and a discussion about social and environmental impacts attributed to the project from January 2019 to October 2020. With generous support from Grow-For-It, Eden Reforestation Projects planted 860,200 mangrove trees and employed 37 full-time staff resulting in a tremendous impact on local livelihoods and the environment.

Madagascar Reforestation Project

Deforestation has long been an issue for Madagascar as it is one of the world's top biodiversity conservation priorities because of its high concentration of endemic species and extreme rates of habitat loss. In the coastal zone, mangrove deforestation results in destabilizing the coastline and increasing the vulnerability of coastal communities to storms and other weather events that are becoming more frequent and intense as a result of human-induced climate change. In upland dry deciduous forests, deforestation threatens one of the most rare and diverse forest systems in the world.

In response to the large-scale loss of mangroves and upland forests in Madagascar, Eden Reforestation Projects initiated the Madagascar Reforestation Project in 2007 and has now successfully planted over 250 million mangrove and dry deciduous trees. Eden Reforestation Projects works collaboratively with many different communities with full support from national, local and tribal governments to reforest large areas of mangrove and dry deciduous forests along the coast and inland areas. Eden Reforestation Projects provides training and financial support to the local community to collect mangrove propagules and strategically plant millions of trees in coastal mangrove systems and upland dry deciduous forests that have been heavily degraded or deforested.

Antsanitia Mangrove Site Description

This is a vital mangrove estuary that is in need of long-term protection and restoration. The project site is located along the northwest coast of Madagascar 15 miles north of the regional capital of Mahajanga.

The project area has a deep-water mangrove estuary that opens to the sea surrounded by large swaths of mangrove forest. The estuary is a vital fish nursery for the surrounding ocean and barrier reefs and is an important fishing ground for local Malagasy. It is abundant in giant barracuda, mangrove snapper, jacks, trevally, grouper, stingrays and a variety of other fish. It is also an important fishery for shrimp, crab, and shellfish and provides habitat to a variety of bird life.

The mangrove channel and forest beyond have been targeted by charcoal producers and tree poachers. Over the last 10 years these threats have had a tremendous impact on the mangrove forest, and it is dwindling quickly. Eden Reforestation Projects Malagasy employees actively plant native mangrove species such as *Avicennia marina*, *Rhizophora mucronata*, *Ceriops tagal* and *Bruguiera gymnorhiza* to restore the estuary.

Both the government and local Malagasy communities are opposed to the charcoal production and illegal wood harvesting and support the long-term conservation and restoration of these sites. As a result of Eden Reforestation Projects' reforestation activities, they are empowered to protect what is left of the old growth mangrove forest and plant areas that have been illegally cleared.

With the support from Grow-For-It and the active participation from the local community, Eden Reforestation Projects Madagascar planted 860,200 mangrove trees at this site from January 2019 through October 2020. Table 1 highlights the mangrove species planted at this site. Through Eden Reforestation Projects' Employ to Plant methodology and the support from Grow-For-It, long-term employment is provided to local communities to restore and protect this vital habitat (Photos 1-4).

Forest Type: Mangrove

Coordinates: 15°34'58.14"S, 46°26'11.39"E

Planting capacity: 1,270,000 million trees

Area of reforestation site: 127 hectares

Planting density: 10,000 trees/hectare

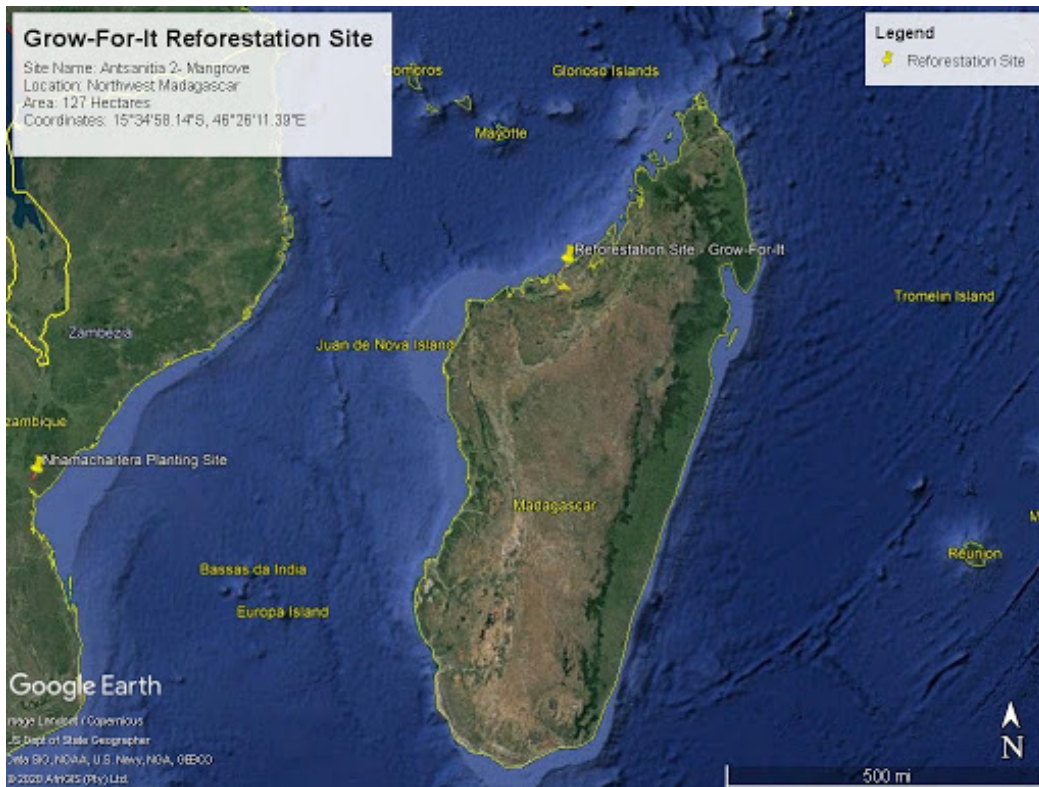






Figure 1: The location of the designated planting site in northwest Madagascar. The island nation of Madagascar is one of the world’s top conservation priorities because of its high concentration of endemic species and extreme rates of habitat loss.



Figure 2: The overall Madagascar project site boundary. Located 15 miles north of the regional capital of Mahajanga, the estuary is a vital fish nursery for the surrounding ocean and barrier reefs and an important fishing ground for local Malagasy.

Table 1: Native mangrove species planted by Eden Reforestation Projects in Madagascar.

| Species | Description | Photo |
|----------------------|---|--|
| Avicennia marina | Avicennia marina grows as a shrub or tree to a height of three to ten meters, or up to 14 meters in tropical regions. The habit is a gnarled arrangement of multiple branches. It has smooth light-grey bark made up of thin, stiff, brittle flakes. |  |
| Rhizophora mucronata | Rhizophora mucronata is a small to medium-size evergreen tree growing to a height of about 20 to 25 meters (66 to 82 ft) on the banks of rivers. On the sea's fringes, 10 or 15 meters (33 or 49 ft) is a more typical height. The tallest trees are closest to the water, and shorter trees are further inland. The tree has a large number of aerial stilt roots buttressing the trunk. |  |
| Ceriops tagal | Ceriops tagal is a medium-sized tree growing to a height of 25 meters (80 ft) with a trunk diameter of up to 45 cm (18 in). The growth habit is columnar or multi-stemmed, and the tree develops large buttress roots. The radiating anchor roots are sometimes exposed and may loop up in places. The bark is silvery-grey to orangish-brown, smooth with occasional pustular lenticels. |  |
| Bruguiera gymnorhiza | Bruguiera gymnorhiza is a small tree up to 10 meters (33 ft) high that belongs to the family Rhizophoraceae. It is found on the seaward side of mangrove swamps, often in the company of Rhizophora. Its bark is rough and reddish-brown. The tree develops short prop-roots rather than long stilt-roots. |  |

Site Photos:

Photo 1: The Malagasy people rely on fisheries provided by the mangrove forests to sustain their livelihoods and local economy, making reforestation efforts essential. The area was previously deforested and degraded due to the overuse of the forest to make charcoal.



Photo 2: The mangrove forests provide refuges for many animals including a wide variety of bird species, lemurs, and chameleons (below).



Site Photos:

Photos 3 and 4: Eden Reforestation Projects employs local teams to reforest their community managed lands to promote environmental stewardship, while contributing to the local economy by paying the local villagers a fair living wage.



Site Photos:

Photos 5 and 6: Mangroves planted for Grow-For-It thriving at the Antsanitia planting site.



Photo Album Link: <https://photos.app.goo.gl/9qNWdhXcwxNzqwxS8>

Tree Survivorship:

Based on careful observation and field studies, Eden Reforestation Projects' monitoring teams estimate that 84% of the trees planted have survived. The planting teams regularly assess the site and carry out replanting to bring the site to full capacity. After the mangrove trees become established, natural regeneration takes over and increases tree numbers by 2 or 3 times the original number planted.

Socio Economic Impact:

Through this project, Eden Reforestation Projects offers steady employment and income to 37 people who previously had little or no income and allows the local community's involvement in the reforestation of their community land. The jobs created include planters, forest guards, and site managers. Having a steady income allows Eden Reforestation Projects' workers to put savings aside, invest in their households, start microenterprises to diversify their income opportunities, and provide healthcare for their families. Some significant socioeconomic impacts include improved diets and health due to being able to purchase nutritious food, and the ability to pay for school fees and send their children to school. Additionally, they can buy simple items that significantly improve their quality of life, such as beds, mattresses, solar panels, and radios. This steady income empowers them to plan for the future and work towards purchasing land and building houses that will be a legacy for their children.

