J Trust Bank 500 Mangroves TORA Green Savings Report

CarbonEthics
24 November 2024

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Harapan Island
Kepulauan Seribu, DKI Jakarta

Harapan Island in Kepulauan Seribu is a breeding ground for mangroves and seaweed, home to endangered sea turtles. Ecotourism offers hands-on mangrove experiences and climate education.

- Established as **CarbonEthics' first site**
- The biotas cultivated includes **mangroves**, **seaweed**, and **seagrass**
- **Active approach through communication** with community and stakeholder to raise awareness of our intervention
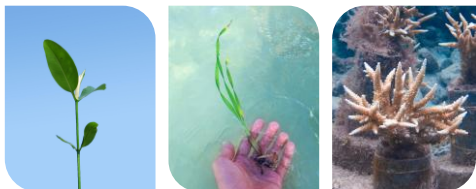
Site Overview

314K Trees	Cluster	33 kgCO2e/pohon
Capacity left	Planting Method	Sequestration CO₂*

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Blue carbon
can absorb up to 10x
more carbon than
terrestrial trees

Blue Carbon Ecosystem consists of coastal and marine habitats such as **mangroves and seagrass. Coral reefs,** another key component, play a crucial role in protecting biodiversity.

(Source: (Wylie et al., 2016)

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Indonesia has *Blue Carbon* Potential as a Solution to the Climate Crisis

Indonesia's mangrove forests

covers 3.4 million hectares and capable of storing 3.1 billion tons of carbon.
(World Bank, 2023)

Yet, they are **degrading with 40% lost** over three decades due to land conversion and damage. (CIFOR, 2015)

Blue Carbon conservation is crucial

as climate change threatens 60% Indonesian population with rising sea levels, floods, and erosion.

Mangrove Tree Planting

Delivering an end-to-end solution for holistic social and climate impact!

Mangrove Planting Inclusion

- **1 Mangrove Seedlings**
- **33 kg CO2e / 20 years** of potential sequestration
- **Supporting Community Development** to increase coastal communities livelihood
- **3 year digital monitoring** Updates on 6th, 12th, 24th, and 36th month

End-to-end Planting Stage

1. Cultivation
3 months cultivation to ensure high survival rate

2. Plantation
Planting method: **Cluster** Planting method adjusted to the site

3. Monitoring
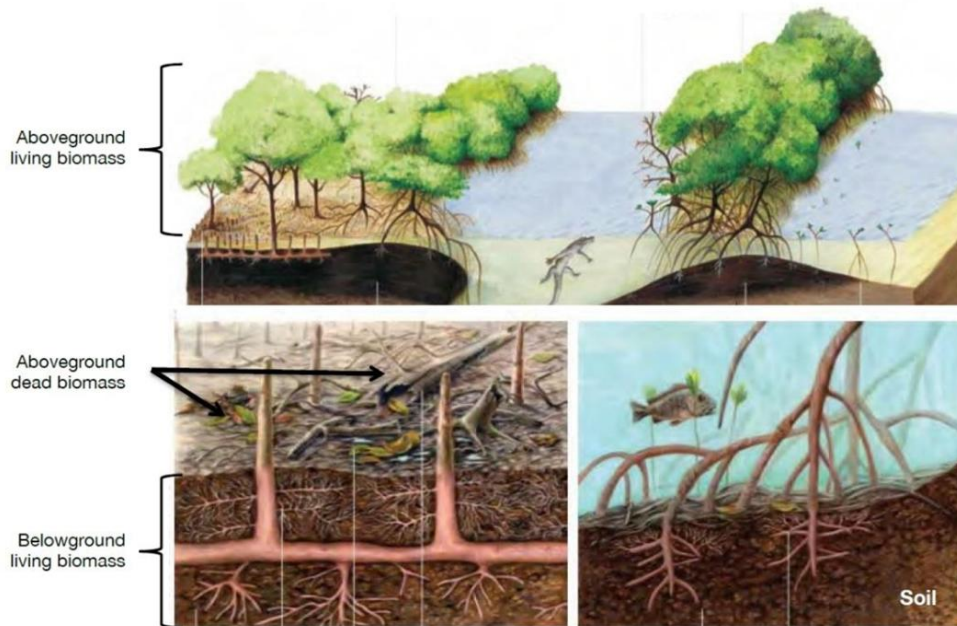3 year of monitoring Keep you updated with the mangrove you plant

Planting Location

Mangroves

Pulau Harapan,
Kepulauan Seribu, Indonesia

Carbon Sequestration in Mangroves

Exploring Effective Carbon Sequestration in Harapan Island, Kepulauan Harapan!

Illustration Carbon Sequestration

Source: J.A Castillo (2017)

Carbon Modeling Factors:

- Species
- Annual stem diameter growth rate
- Tree density per hectare
- Mortality rate

Considered Carbon Pools:

- Aboveground biomass (e.g. trunks, branches, leaves)
- Belowground biomass (e.g. roots)
- Deadwood
- Soil organic carbon

The data employed references secondary data for similar planting methods and species, as well as allometric equations calculated using formulas developed from secondary data. However, we conduct annual carbon data collection to monitor actual developments.

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Mangrove Update: Initial Planting

New Milestone Achieved: Batch I - 500 mangroves have been successfully planted!

Overview

Pict per Cluster

500 Mangroves Trees
Rhizophora Stylosa
Planting method: Cluster

Location
Pulau Harapan,
Kepulauan Seribu

Coordinate
-5.654257,106.574645

Planting Time
24 November 2024

Carbon Sequestered
16500 kg CO2e/20 years

Documentation