



seed **madagascar**  
sustainable environment, education & development

Annual Progress Report  
2022

# PROJECT SEKOLY MAINTSO

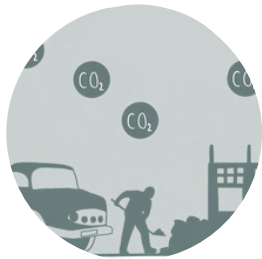
Carbon Offsetting School Infrastructure



# About Project Sekoly Maintso

Since 2005, SEED Madagascar (SEED) has been improving access to education for children in the rural Anosy region through the construction and repair of school infrastructure with the Sekoly Programme (Malagasy for 'school'). However, the production and transportation of building materials to school sites produces carbon dioxide emissions that negatively contribute to climate change. This disproportionately affects the communities we work with in southeast Madagascar, where there are increasingly unpredictable and adverse weather patterns, including cyclones, floods, and droughts.\*

Recognising our responsibility to reduce carbon emissions and protect the environment, SEED's Project Sekoly Maintso (Malagasy for 'Green Schools') aims to *reduce the carbon footprint of school constructions and repairs by offsetting the carbon emissions* of all recent and future school builds.



## Access to Quality Education

The Sekoly Programme improves the health and education outcomes for school-aged children in rural southeast Madagascar by constructing and repairing education and WASH infrastructure, supporting teachers' livelihoods, delivering complementary education sessions, and fostering parental and community engagement.



## Green Schools

Project Sekoly Maintso offsets the carbon emissions produced during the construction process in a Carbon Offset planting site. The community is also provided with Resource Use trees to meet local demand for wood and fruit trees are planted near to school.

## How Do We Offset Emissions?

The carbon emissions are calculated following [the Inventory of Carbon and Energy \(ICE database\)](#) for construction materials. The calculations include the used materials, transport of materials and project staff, and furniture for the schools. Next, the number of trees needed is calculated, dividing the total carbon emissions by the amount of carbon sequestered per tree. On average, *Acacia mangium* (*Acacia*) sequesters 20 kgCO<sub>2</sub> per tree per year, over a period ten years. During this time, the survival and growth rates of the trees will be monitored to calculate the sequestered carbon.

### WHY ACACIA TREES?

In the Carbon Offset planting site, *Acacia* seedlings, a fast-growing tree species that is able to withstand challenging circumstances, are planted. With Madagascar facing increasingly adverse weather conditions, the resilient *Acacia* tree is more likely to survive than other (native) species that require more shelter from the elements. In a few years time, when the *Acacia* trees are big enough to provide shelter for other tree species, Project Sekoly Maintso will plant native trees in the newly growing forest.

# Annual Overview

Project Sekoly Maintso launched in January 2022. During the first year, SEED identified the schools to be included in the project: the refurbishment of Sainte Luce Primary School; repairs on Mananara II & Vatambe Primary School following a cyclone; and, the construction of Tsagnoriha, Emagnevy I, and Mandiso Primary School. Planting sites for these schools were established in the communities of Emagnevy (offsetting the schools in Emagnevy and Tsagnoriha, and the repairs in Sainte Luce, Mananara II, and Vatambe) and Mandiso (offsetting the school in Mandiso). This 2022 Annual Progress Report provides a short overview of activities conducted in each planting site.

After the communities of Emagnevy and Mandiso decided on the location of the planting sites, a tree nursery was established in both locations, where seeds were grown into seedlings. Planting Site Assistants were recruited in both sites and trained to look after the seedlings and monitor survival and growth rates for years to come. Upon planting the trees, the communities of Emagnevy and Mandiso established a local law to safeguard the trees, preventing grazing of domestic animals, creating fires, and harvesting in the planting sites. To meet community demand for wood, a Resource Use planting site was established in both Emagnevy and Mandiso, where the communities will be able to rotationally harvest and replant trees in five years' time. Additionally, a variety of fruit trees were planted near the schools in Emagnevy and Mandiso for community use. Educational sessions were delivered to the students about the importance of trees to promote environmental stewardship. The communities decided themselves which species of Resource Use trees and fruit trees they wanted to plant.

Building on the successes of 2022, Project Sekoly Maintso is aiming to offset two additional school constructions in 2023.

## IN 2022, PROJECT SEKOLY MAINTSO PLANTED:

1443

Carbon Offset trees

675

Resource Use trees

244

Fruit trees



# Emagnevy

1093



## CARBON OFFSET TREES

Planted to offset the carbon footprint of the school builds

325



## RESOURCE USE TREES

Planted for sustainable community use in five years

144



## FRUIT TREES

Planted near the school for community use

## Activity Update

- Collected survival and growth data and replanted the dead seedlings after three months.
- Established a local law to protect the trees and constructed signboards near the planting sites.
- Planted a 'living fence' - made from regenerative plant and tree species - around the planting sites to prevent disturbance from domestic animals.
- Planted a variety of fruit trees near the school for community use, including papaya, mandarin, and custard apple trees.
- Delivered an educational session to the students of Emagnevy Primary School and created a mural together with the students, further promoting environmental awareness.

## Carbon Offsetting Calculations



### EMAGNEVY PRIMARY SCHOOL

68,229 kgCO<sub>2</sub> 341

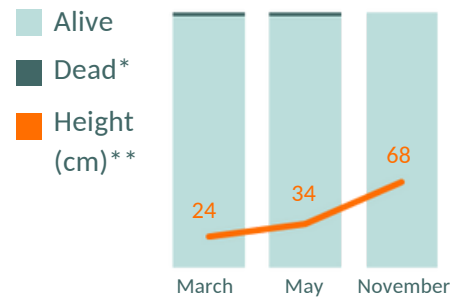
### SAINTE LUCE, MANANARA II & VATAMBE PRIMARY SCHOOLS

75,958 kgCO<sub>2</sub> 380

### TSAGNORIHA PRIMARY SCHOOL

74,403 kgCO<sub>2</sub> 372

## Survival & Growth



Students help painting the mural



Planting Site Assistant, Christian, at work in the tree nursery



The fence and signboard at the Carbon Offset planting site

\*Dead seedlings replanted after Month 3.

\*\*Average from a sample including 30 trees at each planting site.

# Mandiso

350



## CARBON OFFSET TREES

Planted to offset the carbon footprint of the school builds

350



## RESOURCE USE TREES

Planted for sustainable community use in five years

100



## FRUIT TREES

Planted near the school for community use

## Activity Update

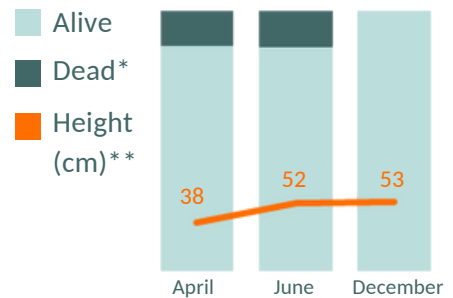
- Collected survival and growth data and replanted the dead seedlings after three months.
- Established a local law to protect the trees and constructed signboards near the planting sites.
- Planted a 'living fence'- made from regenerative plant and tree species - around the planting sites to prevent disturbance from domestic animals.
- Planted a variety of fruit trees near the school for community use, including mango, lychee, and custard apple trees.
- Delivered an educational session to the students of Mandiso Primary School and an educational session to the wider community of Mandiso, further promoting environmental awareness.

## Carbon Offsetting Calculations



MANDISO PRIMARY SCHOOL  
62,756 kgCO<sub>2</sub>  350

## Survival & Growth



Planting a mango tree



Students help unload the seedlings from the car



Measuring the growth of a seedling at the Carbon Offset planting site

\*Dead seedlings replanted after Month 3.

\*\*Average from a sample including 30 trees at each planting site.

# Key Learnings & Next Steps

## Emagnevy

In Emagnevy, planting activities to offset the five schools have been completed. In 2023, Emagnevy Primary School will be provided with fuel-efficient stoves to further reduce carbon emissions. The Planting Site Assistant will continue to monitor the trees in order to track the sequestered carbon over the next ten years.

## Esohihy

In 2023, Project Sekoly Maintso will begin to offset construction on Esohihy Primary School in the community of Esohihy. After establishing the Carbon Offset and Resource Use planting sites, 340 *Acacia* trees will be planted in each site. A variety of fruit trees will be planted near the school and the students will be involved in looking after the trees. Furthermore, Esohihy Primary School will be provided with fuel-efficient stoves to reduce carbon emissions. Educational sessions will be delivered and a mural will be created at the school to promote environmental awareness.

## Mandiso

In Mandiso, Project Sekoly Maintso will begin to offset the construction on Sarisambo Primary and Middle School in 2023, which includes planting 680 trees in the Carbon Offset planting site and 680 trees in the Resource Use planting site. Upon community request, half of the planted trees in the Resource Use planting site will be *Acacia* and half will be *Eucalyptus citriodora*.

Many fruit trees in the school grounds died as the area was used as a playground. Hence, 100 additional fruit trees will be planted in a more secure location and provided with improved protection, involving students in looking after the trees. Furthermore, a mural will be created at Mandiso Primary School to promote environmental awareness.

**"A tree is  
planted and  
harvested  
for the next  
generation"**

- Malagasy proverb written on the mural of Emagnevy Primary School.



## About SEED Madagascar

SEED is an award-winning, holistic international development charity that envisages a thriving, healthy, and sustainable Madagascar. Our central mission is to work together to build community and environmental resilience in the southeast. We achieve this by working across five departments to respond to the most critical and express needs of the country: community health, education infrastructure, water, sanitation, and hygiene (WASH), rural livelihoods, and environmental conservation.

Our approach is based on partnership, co-management, and skill-sharing with individuals, communities, local organisations, and governments. The programmes lead to lasting change, alleviation of poverty and supporting environmental conservation for some of the world's most vulnerable people in threatened and irreplaceable environments, contributing to the UN's Sustainable Development Goals

For more information about Project Sekoly Maintso or any of our other programmatic areas, please visit our [website](#) or contact us at [info@seedmadagascar.org](mailto:info@seedmadagascar.org)



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