

2019

Report Activity 2019 **Agricultural Feeling**

Sentimento Agricolo



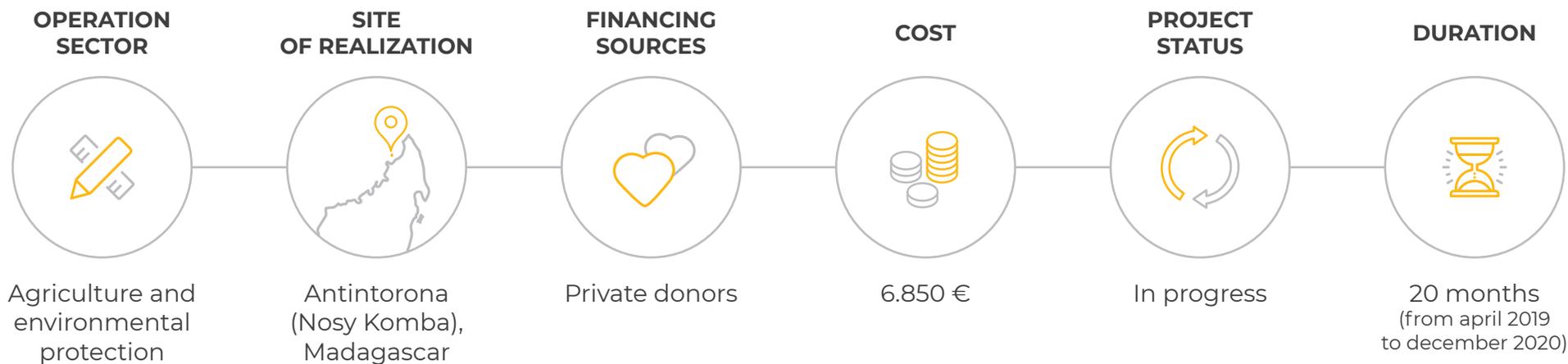
kukula
GROWING A SUSTAINABLE FUTURE



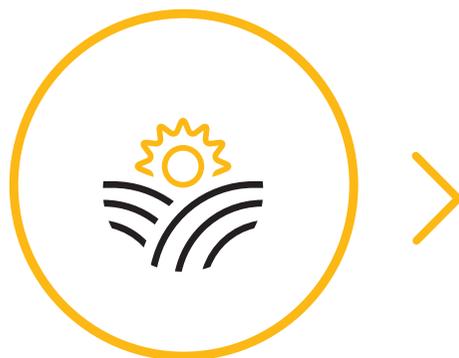
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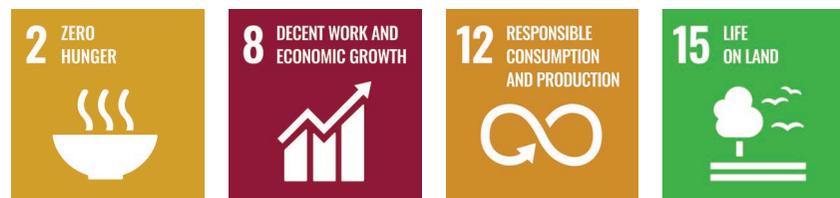
Intro



AGRICULTURAL FEELING



SUSTAINABLE DEVELOPMENT GOALS (SDGs):



Context of operation

Madagascar is one of the most unique places in the world in terms of **biodiversity and agriculture**. The country's economy is mainly agricultural: the sector employs 74.5% of the workforce, contributing 21.5% to the national GDP. However, only 5.1% of the land area is arable due to the roughness of the land, resulting in agricultural production being below subsistence level.

Among the agricultural practices used for generations in Madagascar, the **“slash-and-burn” method** has had the greatest negative impact on the environment: farmers deforest and burn large areas of primary forest to obtain plots of arable land, destroying entire ecosystems and seriously threatening the country's biodiversity. .

On the island of **Nosy Komba** the survival of the population depends predominantly on **farming and fishing**. However, agriculture is lagging behind due to a number of factors: lack of infrastructure (from water collection systems for irrigation to rural roads), inadequate provision of means of production (tools, seeds, etc.), low mainstreaming of 'good practices' (from cultivation to product conservation) and fragmentation of production units. All these elements translate into low unit yields and, therefore, the need for action to **ensure food security and a sustainable development of the area**.



Context of operation

As in most rural areas of Madagascar, agricultural practices in the village of Antintorona went hand in hand with traditional practices for decades. This changed in 2008, when the **“Pezilla Solidarité” Association** launched an action plan for the development of the village’s agricultural areas using **sustainable farming techniques**.

The work was carried out over several years and, despite numerous cultural and environmental obstacles, it yielded remarkable results: the area’s productivity increased, and farmers began to appreciate the positive effects of new farming methods.

In 2015, however, the lack of continuity in the work and the devastating effects of torrential rains on the harvest led to a setback of the project.

From June to September 2018, Kukula’s team (prior to the establishment of the association) worked with the men of the village to expand the agricultural area and introduce good farming practices.

Nosy Komba

13.4713° S, 48.3489° E



Project summary

Kukula began operating in the **village of Antintorona** in 2019 to enhance the island's food production system by introducing sustainable agricultural practices.

Kukula's agricultural development project is based on the **method of synergistic agriculture**, a technique that applies agronomic practices aimed at **improving soil fertility** and, consequently, the **health of the entire soil-micro-organism-plant system**.

Introducing new sustainable agricultural techniques can result in **healthier soils, reduced pathogen and insect infestations, stability of agricultural soils** and **optimization of water consumption**.

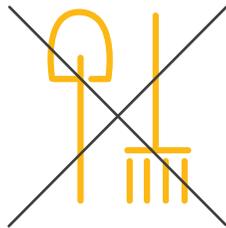
The project relies on a close collaboration between Kukula's team, the local population and all relevant stakeholders. The sharing of technical and theoretical knowledge contributed to creating a solid basis for a **sustainable and self-sufficient development model**.

This report describes the objectives, the activities and the results achieved during the first year of project implementation, including a context analysis and the design and development of the agricultural area of the village.



Project summary

THE FOUR FUNDAMENTAL PRINCIPLES OF SYNERGISTIC AGRICULTURE



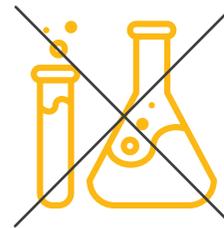
ZERO TILLAGE

Total absence of ploughing or any other type of soil disturbance. The root system of plants together with the fauna and microfauna in the subsoil ensure a stable nutrient balance.



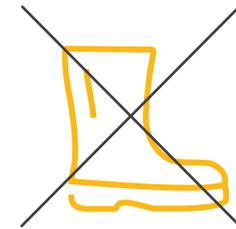
NO FERTILIZERS

Continuous fertilization of the soil thanks to the roots of the plants, which are never removed from the soil, and thanks to mulching, a permanent organic cover.



NO SYNTHETIC TREATMENT

No use of synthetic chemicals to protect soil fertility and recreate favorable and long-lasting natural conditions.



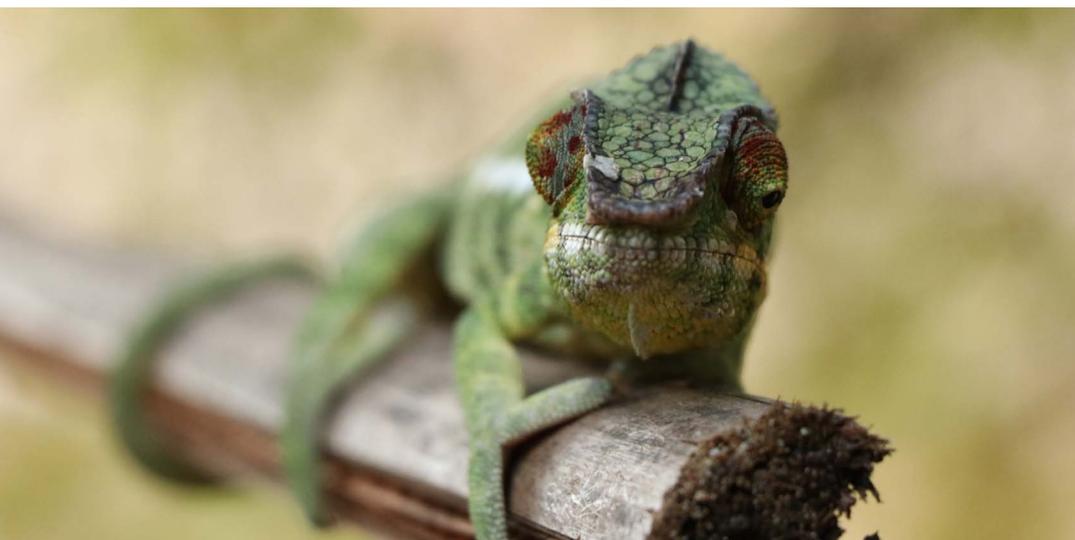
NO SOIL COMPACTION

Half of the volume of healthy soils consists of empty spaces, in which air can circulate and water is stored. Continuous aeration is a key element for the survival of all microecosystems in the subsoil.

Objectives

GENERAL OBJECTIVES

The main objectives of the project are (1) to promote **sustainable food production systems** through the introduction of resilient agricultural practices that increase productivity while preserving ecosystems, (2) strengthen the system's capacity to adapt to climate change and extreme climatic conditions (such as droughts and floods) and (3) progressively improve soil quality.



SPECIFIC OBJECTIVES



Train and raise awareness of the local population



Optimize the production and reuse of agricultural waste



Improve the efficiency of the water system



Enhance food security



Support economic development



Ensure the replicability of the project

Description of the activities

The activities foreseen within the “*Sentimento Agricolo*” project are aimed at implementing a sustainable agricultural development model that can be replicated in different environmental contexts.

In Antintorona, a crop plan was developed by an experienced local farmer and by the project coordinator, who also oversaw the progress of the activities and the management of expenses. Local managers were trained to manage the activities, ensure the replicability and sustainability of the project and train other specialized staff.

A team of 6 locals is currently in charge of both the maintenance of the fields (including harvesting activities), and the administrative and economic management of the project (including sales). In addition, young boys and girls from the village had the opportunity to learn the new agricultural techniques by working alongside staff during the different phases of project development.



Description of the activities

The following activities were implemented during 2019:

- ◆ **training of local people** on agricultural techniques that ensure food security while preserving local biodiversity;
- ◆ **expansion of the agricultural area** through the rehabilitation of land that was compromised by unsustainable agricultural practices, such as monocultures;
- ◆ **diversification of production** through the introduction of new crop varieties;
- ◆ **installation and monitoring** of different irrigation systems and comparison of their efficiency in terms of water consumption and agricultural productivity;
- ◆ introduction of **organic waste composting methods**, useful for soil fertility;
- ◆ **creation of a vegetable market** for the distribution of zero-mileage products in the village of Antintorona and establishment of partnerships for the sale of products in neighboring villages and islands;
- ◆ **planting of fruit trees** for the setting up of an agroforestry system;
- ◆ creation of a **nursery for germinating seeds**.

The **team of 6 young people** was also involved in the creation of a **synergistic agricultural garden of about 500 square meters** in the nearby village of Ampangorina; the intervention also included the optimization of the irrigation system.

The work was requested by an institution that gives shelter to about 20 boys; two of which were trained during the activities, so that they could manage the agricultural field independently, demonstrating that the project can be replicated in other contexts.

Beneficiaries

During 2019, the “Sentimento Agricolo” project supported more than 600 people between direct and indirect beneficiaries.

DIRECT BENEFICIARIES



21 local farmers (including permanent and seasonal ones) involved in activities in the agricultural area of the village



4 trainees from the Antintorona school trained on technical and management aspects to carry out support activities for local farmers

INDIRECT BENEFICIARIES



The families of the workers and students involved, thanks to the employment of a family member (about 120 people)



The villagers, who benefitted from increased agricultural production and availability of organic products at zero km (about 600 people)



Consumers in nearby villages (restaurants, private individuals), who found a greater supply of agricultural products on the market

Achievements

1

The synergistic method has made it possible to create a **permanent agro-forestry system with high biodiversity**, where perennial plants stand next to annual crops, resulting in:

- ◆ improved soil fertility;
- ◆ a healthier soil-microorganism-plant system;
- ◆ a reduction in the environmental impact of traditional agricultural practices;
- ◆ a greater variety, in terms of quality and quantity, of fruits and vegetables.

2

The project activities play a multifunctional role of socio-economic and environmental value, in the continuous search for a balance between production and environmental protection, resulting in:

- ◆ an improvement of the local economy;
- ◆ strengthened knowledge on environmental issues;
- ◆ an improvement in the management skills of local farmers;
- ◆ increased trade with surrounding villages and with the nearby island of Nosy Be.

3

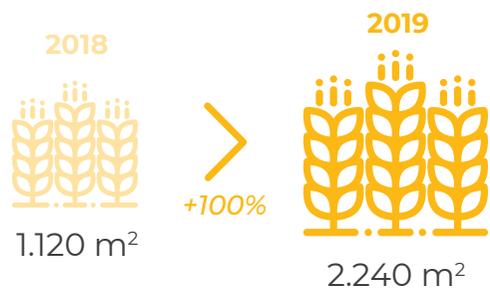
The project currently employs **6 local people (young men and women of the village)**, who work daily in the project area, planning the activities and strengthening trade with the surrounding villages and islands.

The income from the sale of the vegetables allows to cover the expenses for materials and equipment and part of the workers' salaries.

Achievements



Agricultural area



Increased biodiversity



Increased production for sale



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