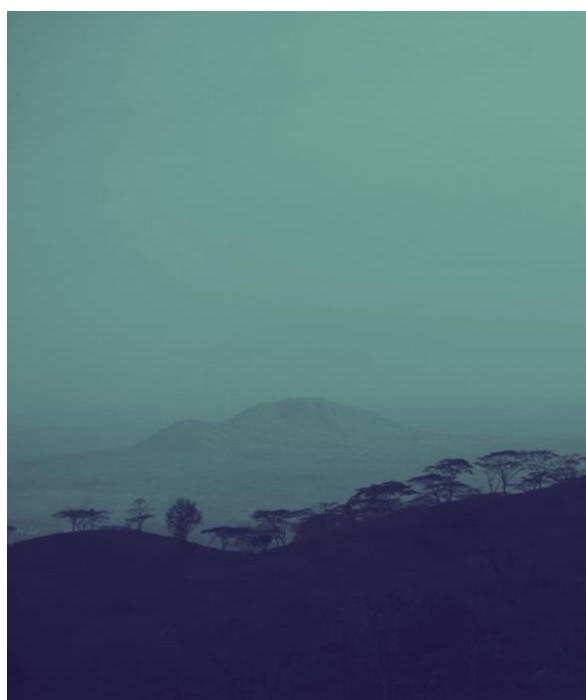


Namuli Initiative Progress Report – January 2020



Context

This progress report presents the activities jointly implemented by Legado, Nitidæ, and Lupa on Mount Namuli with the support of Cool Earth from May 1 – January 31, 2020. The main activities are the following:

- Conservation Agriculture Training and Support
- Continuation of Sustainable Honey Production Activities, in partnership with the Mozambican Company Agri-Mel Ltd.
- Launch of Land Delimitation
- Landscape Analysis, GIS Data Collection and Structuration of the Monitoring & Evaluation Plan
- Awareness Building Activities
- Legacy Leadership

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1_ Context of Intervention

1.1. Location of Areas of Intervention

The activities realized during the second semester of 2019 were implemented in the four key target communities of Mucunha, Murrabue (Cellulas of Curuca, Chipe) Murrece, and Carico, as well as increasing work in Murrui and Nawitela with the start of the Land Tenure Project.

1.2. Project Team

Since October 2018 Nitidæ has joined Lupa and Legado to reinforce the partnership for the preservation of Mount Namuli and community development in Namuli's surrounding communities in the project Legado: Namuli. The table below presents the team involved in development and implementation of project activities.

Name	Institution	Role
Gálio Vieira	LUPA	Field team technician
Ricardina	LUPA	Field team technician
Tânia Nhantumbo	LUPA-Maputo	Administrative
Luís Dinis	LUPA-Maputo	Supervisor
Ivo Madeira	LUPA-Maputo	Technical Coordinator
Filimónio	NITIDAE	Field team technician
Dias Antonovo	NITIDAE	Field team technician
Reis dos Reis	NITIDAE	Field team Manager
Margaux Beringuier	NITIDAE	Conservation Agriculture Technical Assistant
Juliano Moller Rodrigues	NITIDAE	Honey production and value chain responsible
Aurelien Bisson	NITIDAE	Legado Namuli Project Manager
Palmira Gravata	NITIDAE-Maputo	Finance and administration
Jean-Baptiste Roelens	NITIDAE-Maputo	Country Director
Stephanie Mladinich	Legado	Program Manager
Majka Burhardt	Legado	Executive Director

Figure 1: Namuli initiative Nitidæ and Lupa teams

To note, the multidisciplinary team of Nitidæ in France (Frédérique Monfort – Landscape Analyst, Cédric Rabany – Director and Rural Development Expert, and Noémie Rullier – Agronomist) has provided technical guidance and support to the field team on conservation agriculture, landscape analysis and GIS.

2_ Agriculture

2.1. Agrarian Diagnostic

✓ Context:

Slash and burn itinerant agriculture is the main driver of forest and biodiversity loss in Namuli, and therefore, there remains an important need to better understand agricultural production systems and dynamics.

To further understand agrarian dynamics and the impact on forest resources, Nitidæ concluded an Agrarian Diagnostic in July 2019 and focused the work on the identification and implementation of concrete measures and technical interventions adapted to local producers' strategies regarding the deforestation problematic.

✓ **Main Agricultural Accompanying Measures Being Implemented**

Accompanying measures	Crops concerned	Problems/opportunities and needs identified	Lever(s) of action	Concrete activities implemented in the field
Managing Phytosanitary Risk	Tomato and cassava	<ul style="list-style-type: none"> - Risky use of pesticides - Performance problems linked to phytosanitary pressures - Informal market and local traffic of dangerous products 	<ul style="list-style-type: none"> - Improvement of existing practices to maximize the effectiveness of products already used by local farmers - Reduction of producers' dependence on chemicals - Awareness on health security 	<ul style="list-style-type: none"> - Forum theater to raise awareness about risks and transmit good security practices of chemicals - Training to know which product to use, when, where and how - Test of a local biopesticide formula for tomato - "Woodparks" for the reproduction of healthy cassava cuttings
Strengthen Household Food Autonomy	Cassava	No self-sufficiency (maize and cassava) of mountain producers → lean period for everyone between November and March.	<ul style="list-style-type: none"> - Management of biological material to fight against the African Cassava Mosaic Virus - Fertility of cassava plots 	<ul style="list-style-type: none"> - Realization / management of "woodparks" to promote the production of healthy cuttings and the renewal of plant material on infested plots - Integration of cassava into a crop rotation (with beans in particular) - Pilot tests to introduce Mozambican virus-resistant varieties in August 2020

Increase Access to Bean Seed	Common bean	Access to seed is one of the first factors limiting bean production in the area.	Farmers' ability to produce their own bean seeds	<ul style="list-style-type: none"> - Seed distribution at the start of the season - Monitoring and technical support to farmers - Participatory work to design innovative drying devices - Test of intermediary cycles during the off season - Work on improving seed storage conditions
Improve Farmers Organization and Market linkage	Tomato	Lack of producer confidence in the tomato sector due to the volatility of inter and intra-annual prices	Securing market linkages (financial and logistical traders' costs)	<ul style="list-style-type: none"> - Inform producers about the functioning of the local tomato market - Support producers organization to improve negotiation capacity and join sale
Support Producers to Spread Tomato Sales	Tomato	Agricultural calendars are constrained by the agroecological conditions specific to the plots of producers.	<ul style="list-style-type: none"> -Hydric constraints management on the plot -Thermal constraints management in the tomato nurseries 	<ul style="list-style-type: none"> - Design of "improved nurseries" (temperature, fertility and management of pests) - Creation of maps representing water constraints at plot scale (in progress) - Pilot test for better management of water resources in the plots to be developed
Diversify market gardening systems	Edible leaves and vegetables	<ul style="list-style-type: none"> - Singular climate and rain regime allowing seasoning - Dynamic local urban markets 	<ul style="list-style-type: none"> - Farmers' practices for the management of water resources (in excess or lack) at the scale of the cultivated plot - Seed autonomy of producers 	<ul style="list-style-type: none"> - Technical itineraries under development - Amendment of horticultural nurseries (home composting) - Pilot tests to facilitate the self-production of cabbage seeds:

Figure 2: Legado: Namuli Agricultural Accompanying Measures

2.2. Agricultural Supplies for Conservation Agriculture and Training—

- ✓ 125 beneficiaries in 7 communities (cellulas), 70 men and 55 women, received a total of 339 kg of Lichinga beans, as well as technical assistance for production and conservation of the seeds.
- ✓ 11 beneficiaries in 5 communities, 6 men and 5 women have received 49 kg of black beans to test the adaptation of this variety presenting a growing market demand in the local conditions of Namuli.
- ✓ 100 kg of Magno beans distributed to 10 individual farmers and establishment of 4 fields for seed multiplication managed by farmers association to test the production and adaptation of this variety presenting a growing market demand in the local conditions of Namuli.

Figure 1 : Namuli initiative Nitidae and Lupa teams

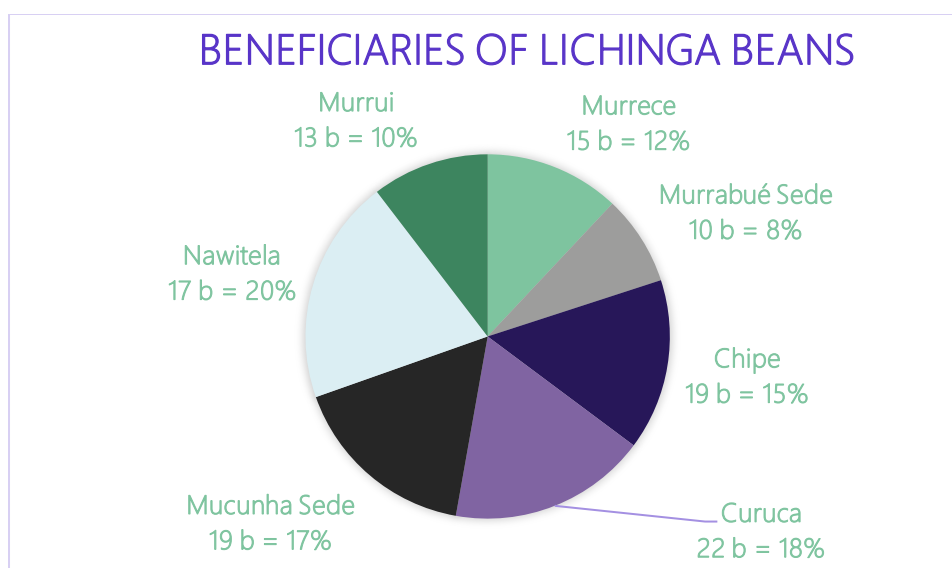


Figure 3: Chart of Lichinga Bean beneficiaries



3_Sustainable honey production

3.1. Progress and realization

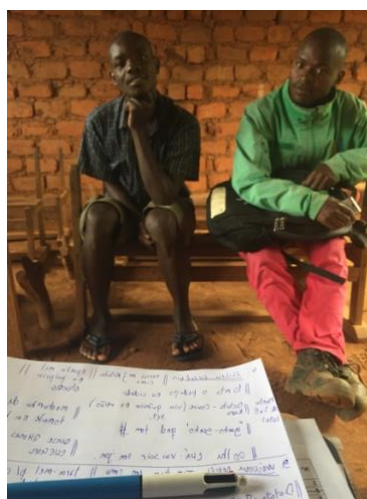
✓ Partnership with Agri-Mel

Since early 2019, Legado: Namuli, in partnership with the Mozambican company Agri-Mel, located in Gurué, has worked to train the Legado: Namuli field team and 20 local beekeepers, in addition to providing technical assistance for sustainable, high-quality honey production and harvesting. Agri-Mel will be responsible for arranging the harvest, collection and payment for raw honey from the individual community members.

Securing a market is a key step in the development of honey production in Namuli. By securing a viable market, Legado: Namuli aims to create alternative income opportunities for communities while incentivizing the control of wildfires, as well as the preservation of forests.

✓ Selection of Beneficiaries and Identification of Adequate Sites

Twenty traditional beekeepers were selected from the Namuli communities to be trained in sustainable honey production and harvesting techniques. These beekeepers traditionally practice unsustainable honey hunting practices to gather honey from wild bee colonies resulting in the physical destruction of the colony, as well as the trees, and potentially surrounding forest.

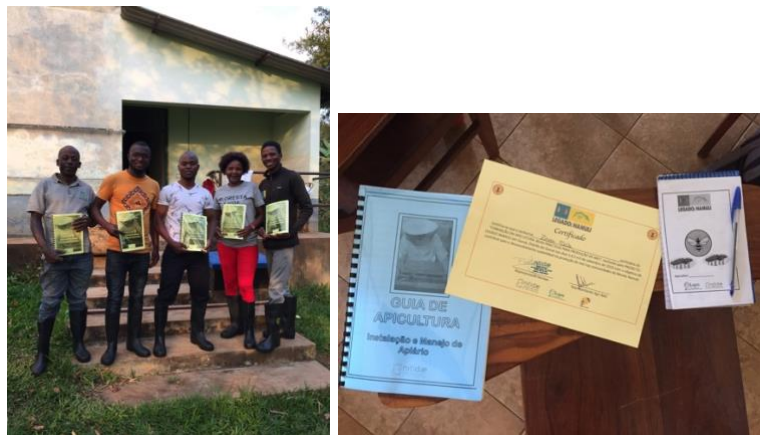


Between January and March 2019, Agri-Mel Ltd. and Nitidæ visited a variety of areas throughout the upland forest in order to identify adequate sites for honey production. The map below (Figure 4) details the different trails, forests and adequate sites where the first beehives are implemented.



✓ Elaboration of Technical Guide and Training Materials

A technical Beekeeping Guide was created and distributed to all beekeepers with the key principles from the technical training.



✓ Installation of Field Apiary School

A field apiary school was established at the site of beekeeping beneficiary, Ernesto Abílio. With 3 permanent hives, key local tree species and an on-going rotation of capture boxes, the apiary school serves as an easily accessible demonstration site for the honey production and harvesting activities



✓ Installation of Apiaries

Eighteen apiaries were installed across five of Namuli's priority communities, including Murrece (5), Murrabue Sede (3), Chipec (3), Curruca (3) and Mucunha (4).



✓ Installation of Capture Boxes

Twenty capture boxes were installed with the individual beneficiaries of each community for capture of wild swarms to initiate permanent colonies for honey production. Beneficiaries used the skills acquired in their training to identify important forested areas with high probability of mobile swarms for capture.



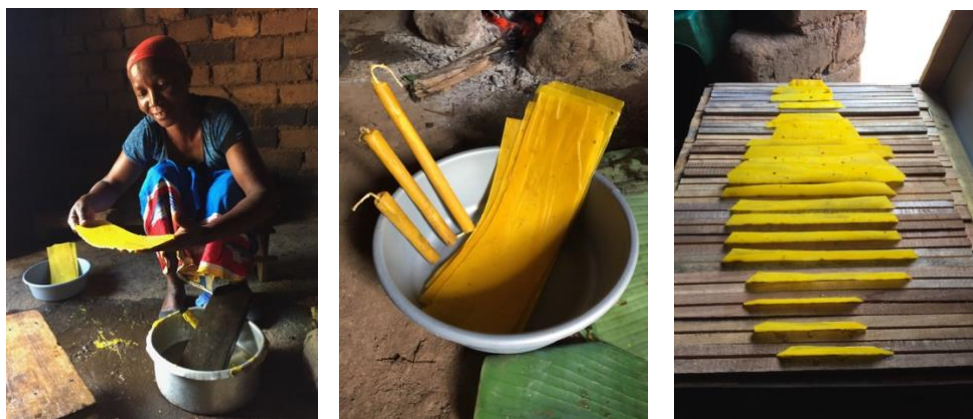
✓ Capture and Transfer into Standard Beehives

A total of fourteen wild swarms were successfully captured and transferred into permanent Kenyan Top Bar beehives for honey production.



✓ Wax Candles and Sheets

The beekeeping beneficiaries were trained how to produce wax candles and wax sheets from beeswax to facilitate the bees' installation into permanent hives and use local resource in the production process.



List of Beekeeper Beneficiaries:

Nº APIARIES	Name of the beneficiary	LOCALITY	Number of hives Installed	Swarns transfered	Number of occupied hives
API01	Ernesto Abílio	Murrece	3	3	3
API02	Arina Namahua	Murrabue-Sede	1	1	1
API03	Rosita Faustino	Murrabue-Sede	1	1	1
API04	Benito Costa	Murrabue-Sede	1	1	1
API05	Juliana Damião	Murrece			
API06	Basilio Rafael Mukite	Murrece	1		
API07	Zecas Vinte	Murrece	1	1	1
API08	Waisson	Murrece	1		
API09	Eliseo Eugênio	Murrece	1	1	1
API10	Álvaro	Mucunha	1	1	1
API11	Domingos Maita	Mucunha	1	1	1
API12	Ramussa Chicopera	Mucunha	1	1	1
API13	Mário Januário	Mucunha	1		
API14	Inácio Joseph	Curuca	1		
API15	Evaristo Joaquim	Curuca	1		
API16	Celestino Hilário	Curuca	1	1	1
API17	Juana Macaula	Chipe	1		
API18	Antonio Massanto	Chipe	1	1	Despovoamento
API19	Yoyane Januário	Chipe	1	1	1
		TOTAL	20	14	13

Figure 5: Beekeeper Beneficiaries

✓ Strategic vision for honey production in Namuli

- Awareness and communication with the communities about honey activities;
- Establish easily accessible school apiary for training and qualification of technicians and beneficiaries;
- Accelerate the establishment of a reference apiary with an engaged beekeeper;
- Train traditional beekeepers in sustainable beekeeping practices;
- Installation of apiaries close to threatened forests;
- Encourage planting of plants and tree species that support honey production near the apiary;
- Encourage the protection of apiaries against uncontrolled fires;

✓ **Future Strategic Vision**

- Establish a community apiary (Land Use Plan) close to Namuli Forest, threatened by uncontrolled fires
- Approach leaders from complicated areas;
- Train a new group of traditional beekeepers from areas close to established apiaries to encourage association and cooperation between beekeepers;

✓ **Results**

- Trained beekeepers realized the role of bees in pollinating crops on their fields and the need to preserve forests to increase honey production;
- Beekeepers are collecting seeds species important for honey production and making seedlings and they are planting trees and honey plants near the apiaries;
- The area around the apiaries is being protected from uncontrolled fires;
- Involvement of beekeepers with traditional leaders to ask them to speak to the community to take care of the fires near the apiaries;
- Generated other communities' interest in honey activities;

4_ Land Delimitation

The Legado: Namuli Project successfully secured funding for a 30 month land tenure project funded by the Land Tenure Facility in consortium with Mozambican NGO ORAM and Terra Firma. The land delimitation work seeks to:

- Delimit the boundaries of 10 communities surrounding Mt. Namuli, including 2 communities new to the project
- Establish 10 Community-Based Natural Resource Management Committees (CGRN) and elaborate 10 land use plans
- Delimit 4000 individuals' household plots

The land delimitation initiative seeks to help clarify land community rights and limits, reinforce ongoing work with CGRN to build capacity and a community vision for the development of

integrated natural resource management land use plans. Specific attention will be given to the 4 key communities with primary access and impact on Namuli's high-altitude rainforest to work on the land use plan, building the foundation for the potential creation of a community conservation area, based on the new conservation law.

Beginning in October 2019, the main activities implemented so far include:

- ✓ Training of project staff: all Gurue field team, supervisors, and technical staff participated in a joint training for all partners from September 7 – 11, held in Gurue
- ✓ Introduction of project to provincial and district governments and community leaders from Namuli's communities
- ✓ Establishment of on-line data systems and baseline data collection to document community and individual information, as well as community boundaries and maps
- ✓ The work is currently focused on 4 priority communities with primary access to Namuli uplands, including Murruí, Nawitela, Murrabue and Mucunha

5_Landscape Analysis and Monitoring and Evaluation

5.1. Monitoring and Evaluation Plan

With the support of [Nitidæ Lab Team](#) based in France, a Monitoring & Evaluation plan will be progressively developed and implemented.

The monitoring of the project can be divided in two main approaches:

- Monitoring of project results, consisting of monitoring the advancement of the project and verification that objectives are being reached;
- Monitoring of the environmental and socio-economic conditions to assess the states of the ecological and agricultural systems and the impacts of the project on those conditions in the long-term. The results of this monitoring can help to redirect project activities, if necessary.

In December 2019, the Nitidæ Lab and field team elaborated a workplan that is currently being finalized, and includes the main activities to be developed in 2020. It does notably include monitoring of forest cover (based on the 201 updated Land Use and Land Cover map see below), detection of wild fire occurrence, mapping and analysis of threatened forests in the potential conservation area, as well as soil hydromorphic analyses to map adequate fields for agriculture.

These products from the Nitidæ Lab, completed with other tools such as MODIS for the detection of wild fire occurrence, are key tools to understand landscape dynamics, monitor land use change and land degradation, as well as shape the strategic intervention of the project through the identification of priority sites for specific activities that could be developed on the short, medium or long-terms, such as restoration activities, firewall construction, etc.

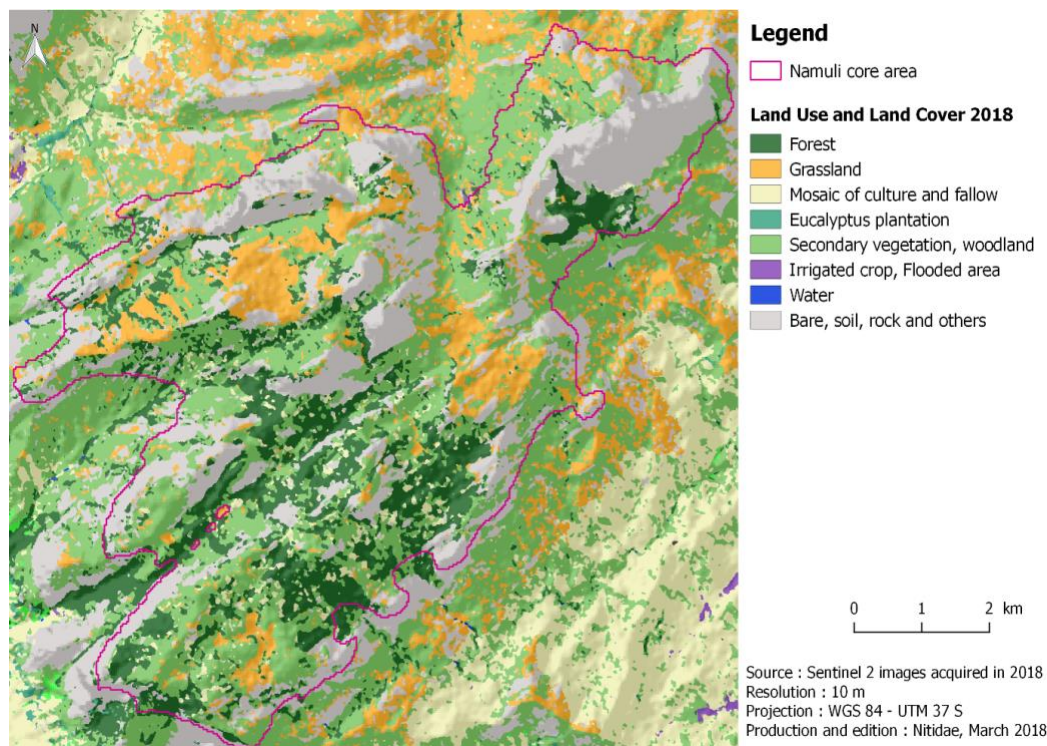


Figure 6: Land Use and Land Cover map of Namuli core area (2018)

Another product of Nitidae Lab, elaborated in 2019, is a map of the land productivity trend from 2001-2016 (Figure 8). It helps identify areas that are on a trajectory of degradation (decrease of land productivity, red pixel) or restoration (increase of productivity, green pixel).

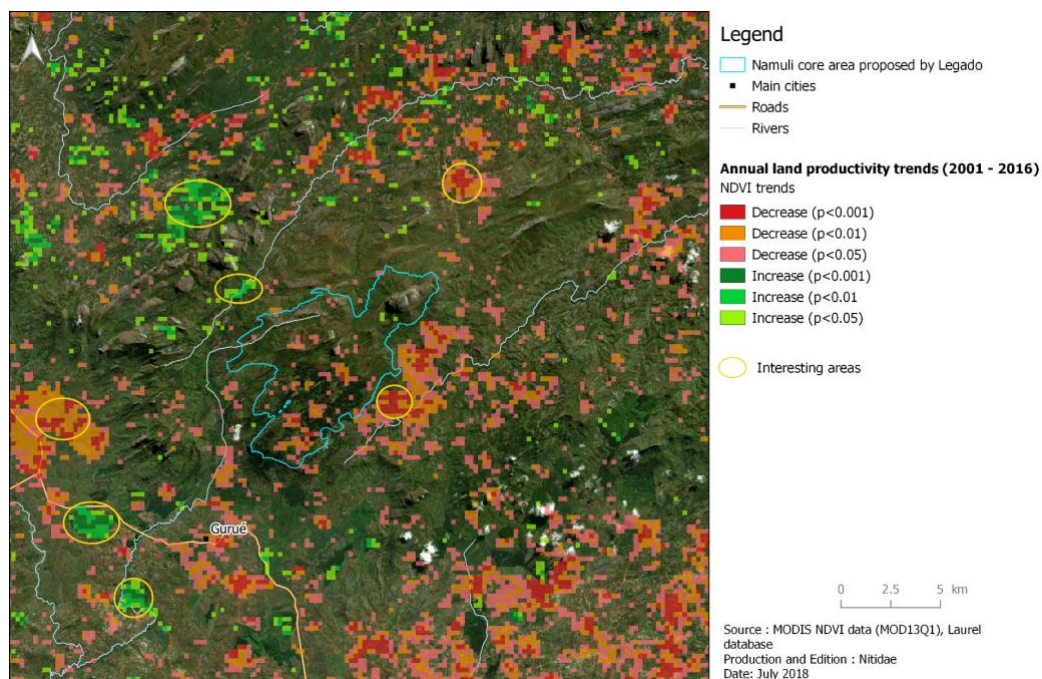


Figure 7: Annual Land productivity trends (2001-2016) in Namuli and surroundings

5.2. Spatial Data Collection and Land Delimitation Project

All geographic information collected by Legado: Namuli has been shared to Terra Firma (see part XX) to be included in the geographic system used for the land delimitation process to feed and ease participatory mapping and delimitation work by using points of interests (schools, church, community leader home, bridge, river, etc.) identified by local community members.

These data (hydro, slope, land use, land productivity, forest dynamic) will be used to prepare the land use plan discussions, especially in the 4 target communities for the establishment of a community conservation area.

6_ Legacy Leadership: Behavior Change for Conservation

The Legacy Leadership program is being integrated and implemented across all Legado: Namuli programs to accelerate project ownership, build leadership and promote environmental awareness and capacity building among community members and project beneficiaries to achieve positive behavior change for conservation. This is being done by activating legacy-based vision and goal discussions and using alternative methodologies to teach. Beyond integration, Legacy Leadership programming is working through the following modalities to support behavior change:

✓ Environmental Education Modules

Environmental Education Training Manual is being developed and currently has three completed modules on important themes locally adapted and relevant to the problems and their solutions in Mt. Namuli's surrounding communities, including:

- Trees are Alive! Trees and Their Importance for Our Communities
- The Ecosystem of Mt. Namuli
- The History of Degradation

These modules include educational presentation materials, interactive games, films, and discussions appropriate for large groups and diverse age groups, providing a forum for learning and discussion of relevant environmental topics at the community level.

✓ Community Tree Planting Day

In November 2019, a community tree planting event was held in the community of Murrece as a pilot of the Trees Are Alive! Environmental Education Module. The event was developed and executed with community leaders and was advertised community-wide resulting in the participation of ~50 individuals. The event consisted of drawings to engage all participants, a presentation on trees and ecosystem services, an interactive game focused on actions and impacts on the forest as well as a community discussion. The presentation was followed by the planting of

23 acacia trees along the roadside, the installation of a community sign to mark the initiative, and a soccer game.



✓ Natural Resource Management Committees and Land Delimitation

As a key component of the land delimitation work, the Legado: Namuli team is working to restructure and revitalize existing Community-based Natural Resource Management Committees (CGRN) by encouraging equal participation of women, redefining leadership roles, and building capacity among leaders.

As part of Legacy Leadership, training materials were developed on the Sustainable Use of Natural Resources with key elements of Land Use, Conservation, Water, and Forest/Wildlife Laws to build environmental awareness among leaders and members of the CGRN. These materials will be used as a foundation to train and build capacity of CGRN leaders, increasing ownership and promoting communication around sustainable natural resource use

Future application of Legacy Leadership's legacy-based approach will be implemented in the development of community visions and goals for the achievement of land use management plans potentially including sustainable use zones, community plantation areas and community nurseries for important species for reforestation and timber production.

✓ **Future Strategic Vision:**

- Continued implementation of environmental education modules
- Continued integration of Legacy Leadership principles across all programming
- Capacity building and empowerment of core group of environmental leaders
- Community vision and goal development in land use management plans