MANOA®

Sustainable Forest Management

A fresh look at the

FUTURE

Forest Management / Environmental Actions / Society / Economy

A company of the Triângulo Group

Message from the President

Douglas Granemann
President.

Contrary to the perception that logging in the Amazon aims solely at financial return without considering the degree of environmental degradation, MANOA Florestal has chosen the sustainability of the resources offered by the forest.

After 47 years of history, we can affirm that it is possible to grow, innovate, and overcome barriers through a work policy that benefits both people and the environment.In this way, we at the Triângulo

Group seek the perpetuation of our enterprise through the conquest of new markets and technological development, always moving forward alongside the sustainability of our forests.

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Aerial view of the Manoa Forest.

"Preserving the forest means ensuring that future generations of Brazilians can be proud of their country and continue to benefit from everything it has to offer."

GET TO **KNOW MANOA**

História de Sucesso brasileiro

MANOA began in 1983, when Triângulo Pisos e Painéis acquired 74 thousand hectares of forest in Cujubim, Rondônia.

Years of research followed to develop appropriate methods for forest management.In 1994, the company's Sustainable Forest Management Plan was approved, incorporating innovative practices to reduce environmental impact.

Over the course of three years, local forest operators were selected and trained in practice under a new working methodology focused on sustainability.

Between the acquisition of the area in 1983 and the start of operations in 1997, 14 years were required to gain deeper knowledge of the forest and its impact on the local community.

In 2005, this effort was recognized by the Forest Stewardship Council® (FSC®), a certification that attests to sustainable forest management.

MANOA administrative headquarters
Cujubim, RO.

The company's voluntary initiative to adopt sustainable practices has proven that it is possible to combine economic development with environmental and social sustainability, encouraging other companies to follow the same path.

MANOA Waterfall

About Us

Mission

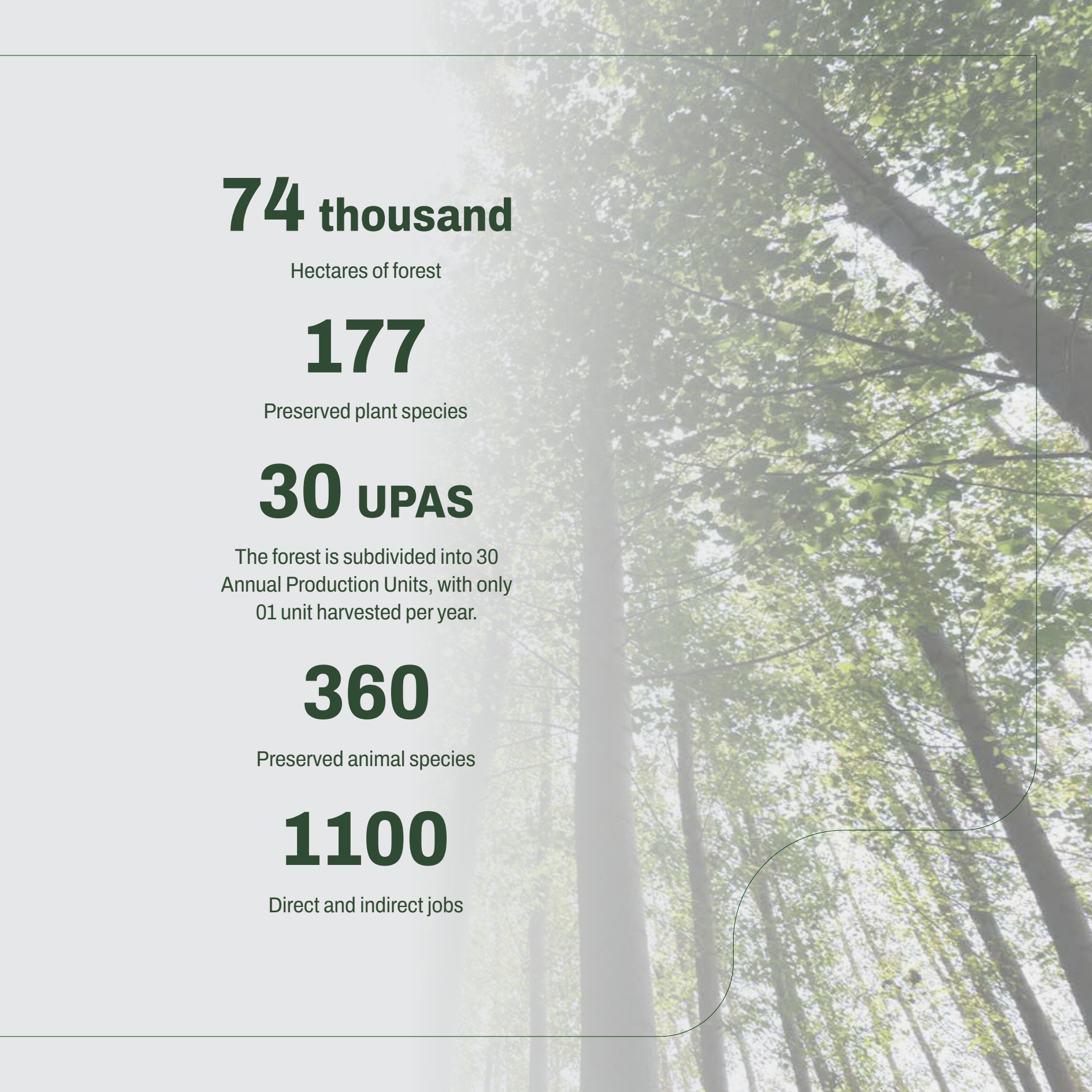
To develop, produce, and market products in harmony with the environment, aiming to ensure the full satisfaction of our customers.

Vision

To be a leader in the production of sustainable forest products.

Values

Transparency in operations, allowing the community to perceive the environmental benefits.Ethical business practices, respecting customers, society, and the environment.



74 thousand

Hectares of forest

177

Preserved plant species

30 UPAS

The forest is subdivided into 30 Annual Production Units, with only 01 unit harvested per year.

360

Preserved animal species

1100

Direct and indirect jobs

1972

FOUNDATION OF TRIÂNGULO FLOORING AND PANELS.

1983

ACQUISITION OF THE AREAFOR FOREST MANAGEMENTIN RONDÔNIA.

1994

APPROVAL OF THE MANOA FOREST MANAGEMENT PLAN.

1996

FIRST INDUSTRIAL FACILITIESIN CUJUBIM – RONDÔNIA.

1997

START OF MANOA'S FORESTRY ACTIVITIES.

2002

START OF ADAPTATION ACTIVITIESFOR CERTIFICATION.

2005

ACHIEVEMENT OF FSC® CERTIFICATION FOR THE FOREST MANAGEMENT PLAN AND CHAIN OF CUSTODY.

2007

ACHIEVEMENT OF CERFLOR AND FSC CERTIFICATIONS FOR TRIÂNGULO'S CHAIN OF CUSTODY.

2009

ACHIEVEMENT OF PFS CERTIFICATION (INDUSTRIAL PROCESSES OF WOOD PRODUCTS) FOR THE TRIÂNGULO PRODUCTION LINE.

2010

RECOGNITION BY FAO (UN)AS A SUCCESSFUL MODEL OF ASUSTAINABLE FOREST MANAGEMENT PLAN.

2011

START OF ADAPTATION ACTIVITIES FOR THE IMPLEMENTATION OF THE CARBON PROJECT.

2016

APPROVAL OF THE CARBON PROJECT.

2022

VALID FSC® CERTIFICATION FOR LOG MANAGEMENT – C018650.

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30 years

This is the length of each cycle required for the full recovery of the harvested forest. Respecting this period is essential for regeneration. Under low-impact management, only 4.7% to 6.8% of the forest is removed.

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The Amazon

The initial occupation of the Amazon adopted rudimentary practices for the exploitation of timber resources, which generated significant impacts.

These techniques did not respect environmental or social criteria, contributing significantly to forest loss, deterioration of air and water quality, as well as inhumane working conditions.

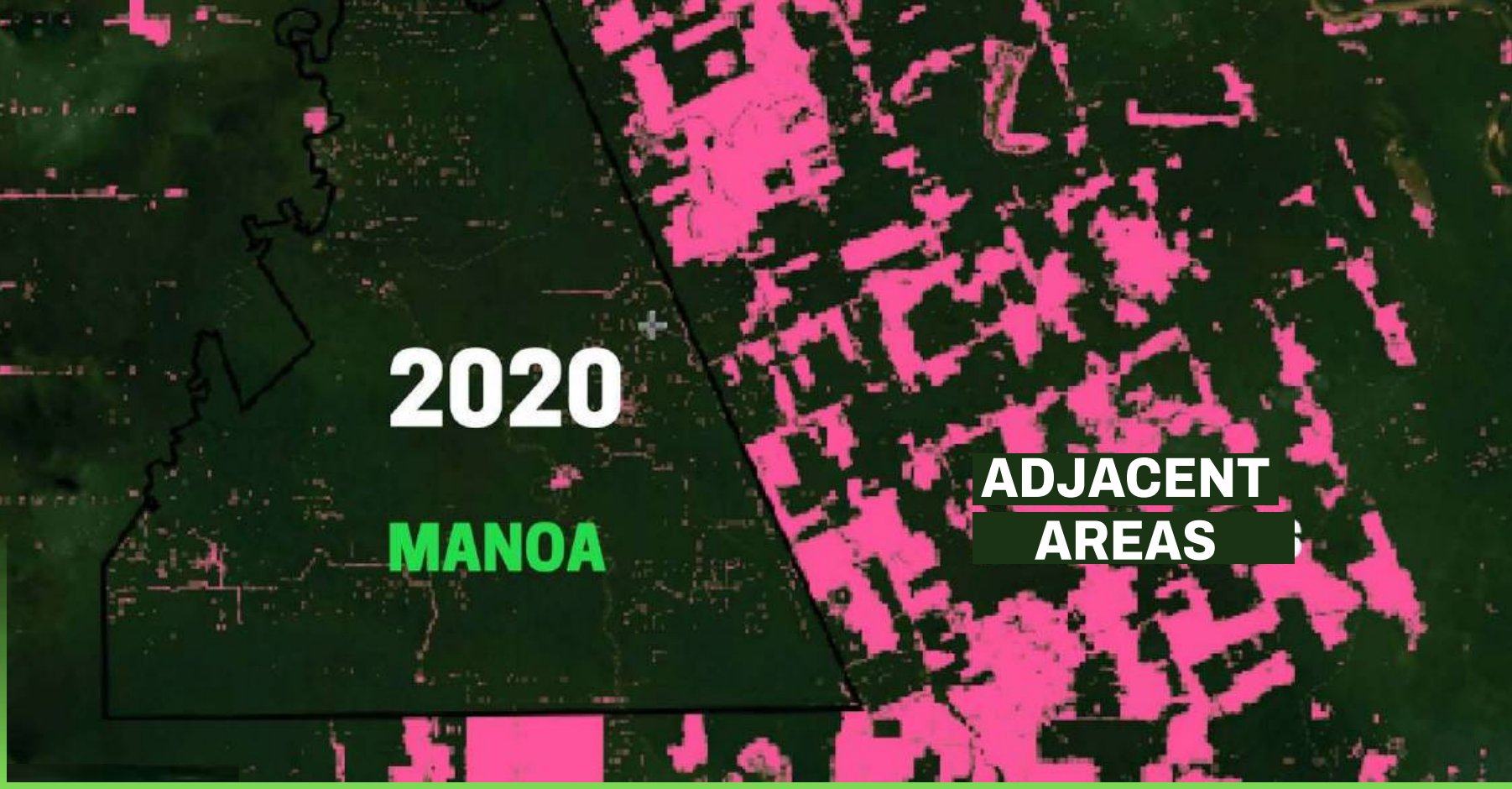
Aiming for sustainable economic growth, while respecting the environment, its employees, and local communities, MANOA Florestal was one of the first companies to adopt reduced-impact forest management in Brazil.

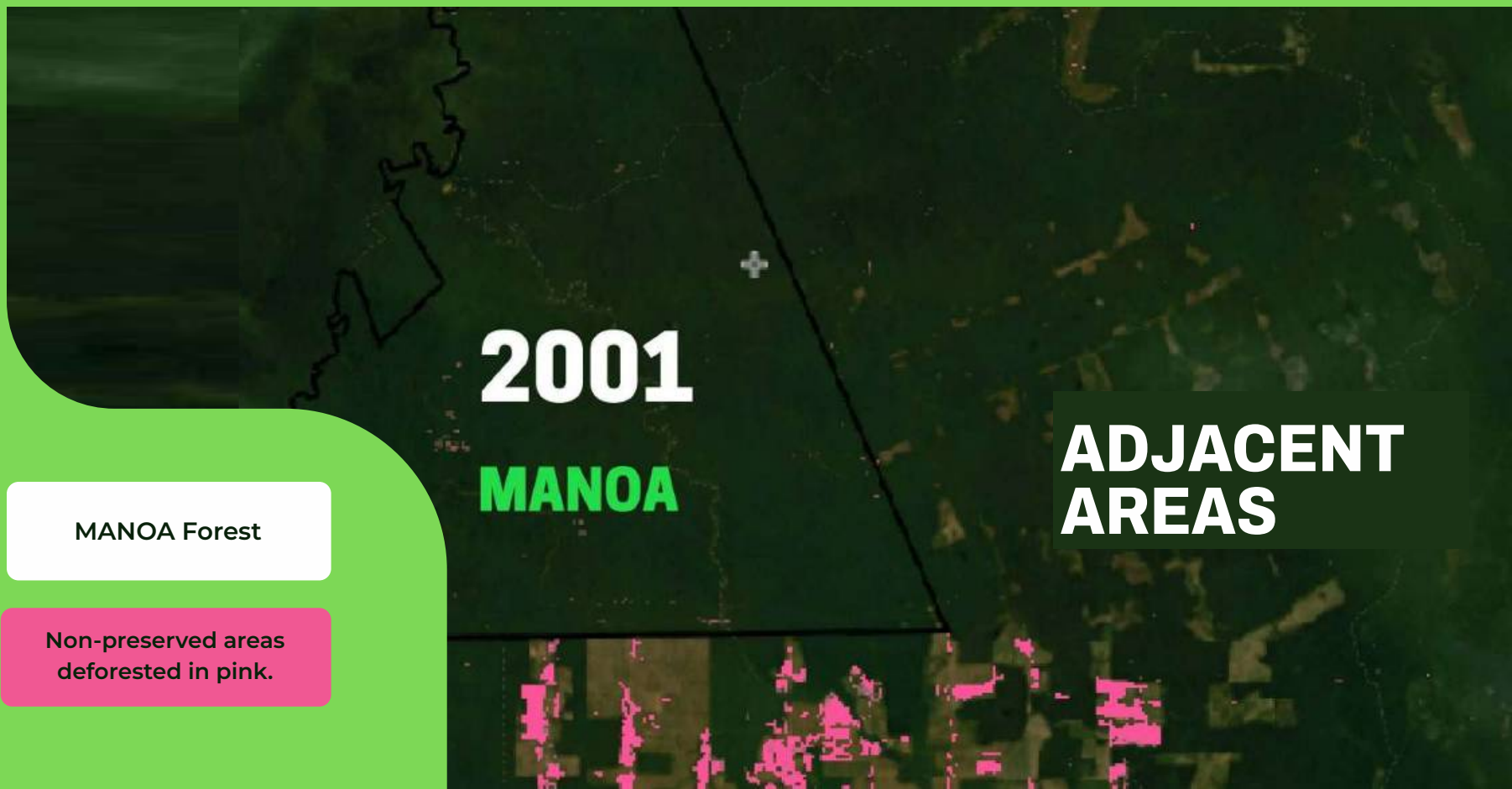
In this way, a new concept of forest exploitation was implemented, applying techniques that minimize the effects of interventions on the forest while increasing operational efficiency and management productivity.

Security for the Forest

The MANOA area is contiguous with public areas such as the Jamari and Jacundá National Forests and the Samuel Reserve, forming a large forest block of approximately 480 thousand hectares. Maintaining this block is important for the conservation of a wide variety of fauna and flora species in the state of Rondônia and throughout the Brazilian Amazon.

On the map, we can see how much non-legally protected areas can be deforested, unlike the MANOA Forest.





MANOA Forest

Non-preserved areas deforested in pink.

Ecological Corridor

Connectivity that sustains biomes and wildlife

Ecological corridors are fundamental elements for the conservation of natural biomes, especially in regions where the landscape has been fragmented by human activity. They allow the connection between areas of native vegetation, ensuring that fauna and flora maintain their natural cycles of life, movement, and reproduction.

Importance for the region's biomes

In the region where this ecological corridor is located, its presence plays a decisive role in maintaining environmental balance. The connectivity between forest areas contributes to the preservation of local biomes, reducing habitat isolation and strengthening the resilience of ecosystems.

This type of connection is especially important for species that depend on large continuous areas or that need to migrate throughout the year in search of food, shelter, or reproductive partners.

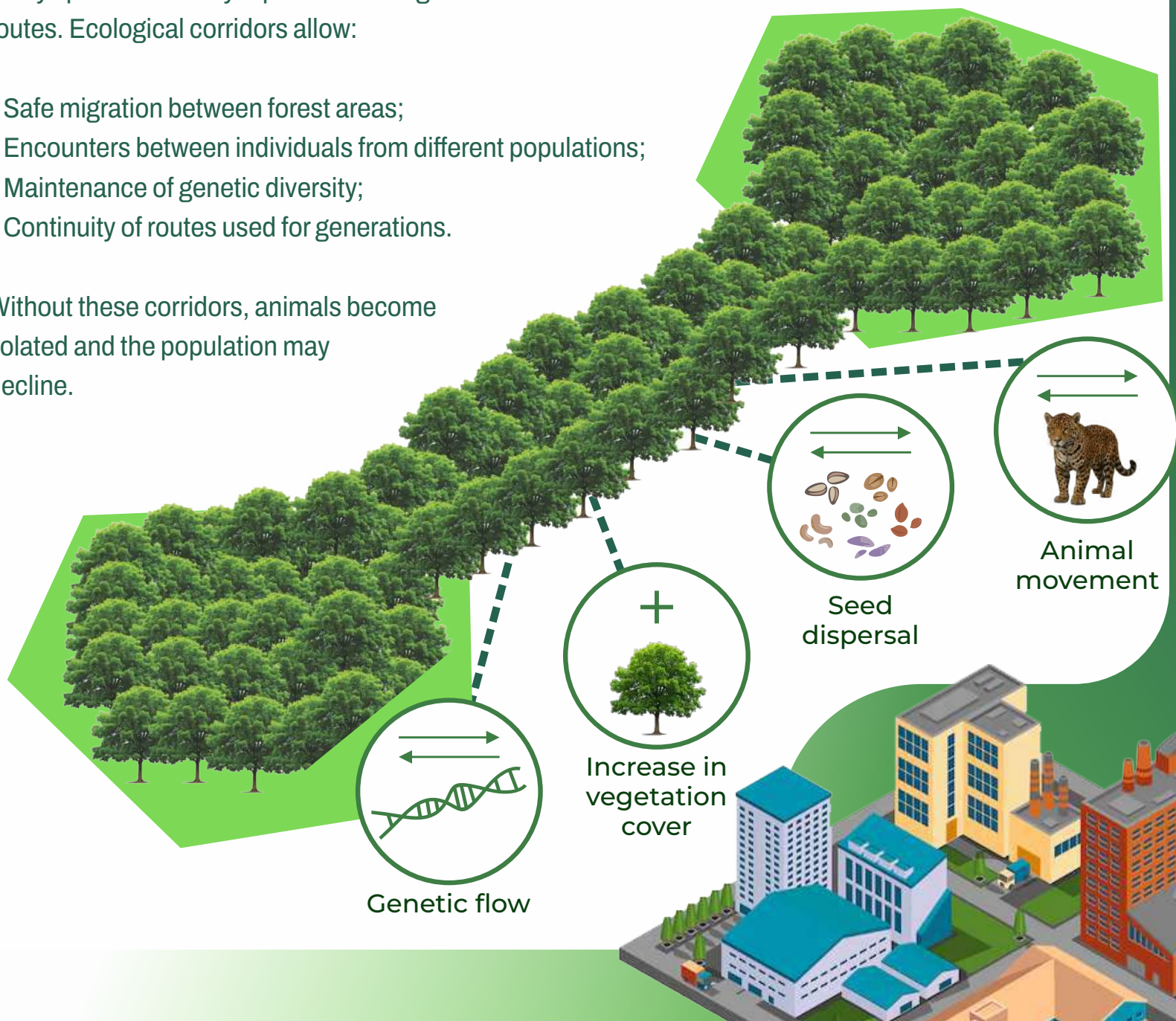

Ecological Corridor between FLORAS
Jacundá
National Forest
Samuel Lake
Manoa Farm
Jamari
National Forest

Ecological Corridors and Species Reproduction

Many species can only reproduce through natural movement routes. Ecological corridors allow:

- Safe migration between forest areas;
- Encounters between individuals from different populations;
- Maintenance of genetic diversity;
- Continuity of routes used for generations.

Without these corridors, animals become solated and the population may decline.



How the ecological corridor is Maintained and used today

Currently, the ecological corridor is maintained through the preservation of native vegetation, continuous environmental monitoring, and protection against activities that may cause degradation. This care ensures that the corridor remains functional, serving as:

Natural pathway for wildlife movement

Area for regeneration and seed dispersal

Key element for the stability
of the region's biomes

Essential instrument for
long-term environmental conservation

By keeping the forest connected, the ecological corridor plays a silent but vital role: ensuring that nature remains in motion, allowing species to survive, reproduce, and maintain the balance of ecosystems.

Environmental Commitment

Certifications

MANOA follows strict international standards and principles of quality and sustainability.

The certifications attest to all the work involved in ensuring the traceability of the wood and the genuine commitment to maintaining sustainable forest management as the main pillar of actions in the forest.

International organizations recognize MANOA as an example of environmental practices to be followed.

FSC®
www.fsc.org
FSC® C018650

A marca da gestão florestal respinsável

The forest certification seal is issued by certifying bodies that are constantly monitored by the FSC and aims to ensure that the wood comes from a production process managed according to ecologically appropriate, socially fair, economically viable management that complies with current laws.

The EPA is the United States Environmental Protection Agency. It is responsible for protecting the environment and human health: water, air, and land.

PEFC has more than 30 national forest certification initiatives, including the Brazilian Forest Certification System (CERFLOR), a forest certification system developed in Brazil. This system is based on criteria defined in the resolutions of the Helsinki and Lisbon Conferences on Forest Protection in Europe.

The certification indicates that samples of a product have undergone rigorous scientific testing to meet some of the world's strictest chemical emission requirements. These products help reduce indoor air pollution and the potential exposure to chemical substances in the atmosphere.

The Lacey Act establishes a series of requirements for the entry of foreign wood into the United States. As an example of its application, the Act prohibits all trade in plants and plant products—including furniture, paper, and wood—from illegal sources originating in any region of the United States as well as from other countries.

UN – SOCIAL AND SUSTAINABILITY ACTIONS

Sustainable Development Goals in Brazil

The Sustainable Development Goals are a global call to action to end poverty, protect the environment and the climate, and ensure that people everywhere can enjoy peace and prosperity. These are the goals to which the United Nations is contributing so that we can achieve the 2030 Agenda in Brazil.

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Manoa currently contributes actively to 7 of these goals.

QUALITY EDUCATION

Socioeconomic Contributions

Local Community

Since its arrival in the region, MANOA has supported the municipality mainly through improvements in transportation infrastructure and the supply of basic necessities. In addition to this focus, every year social initiatives are carried out for the local population, such as activities supporting education and the practice of sports and leisure.

Concern for regional development led MANOA to build the Raio de Luz Daycare Center, with the capacity to serve 180 children, which was later transferred to the municipality. Another facility built and delivered to Cujubim was the APAE center, with a built area of 312 m^2. MANOA's actions in support of education, culture, and leisure have directly benefited approximately 400 children and young people over the past two years.

Maintaining local quality of life enables the development of mutual cooperation between the company and society for the sustainable use of resources.

Benefited Institutions

- Cujubim City Hall
- Pequeno Príncipe School
- APAE
- Antônio Francisco Lisboa School
- Raio de Luz Daycare Center
- Rural Producers
- Aluísio Becker School

APAE CUJUBIM

Capacity: 40 children

Area: 312 m²

RAIO DE LUZ DAYCARE CENTER

Capacity: 180 children

Area: 398 m²

CHILDREN'S PASTORAL CARE

MANOA DAYCARE

Capacity: 376 children

Area: 1,514 m²

The vision of a better future for the region makes MANOA one of the companies that invests most heavily in educational infrastructure, providing access to education, culture, and leisure in Cujubim.

More than 400 children and young people have been **served over the past two years.**

QUALITY EDUCATION

Socioeconomic Contributions

Forest Education

Investment in education is the most efficient way to conserve the environment and our forests. MANOA Florestal and the Triângulo Group believe that the sustained maintenance of natural resources is the key to ensuring the continuity of a world capable of combining development, quality of life, and population growth. With this in mind, MANOA built CEFLOM (MANOA Forest Education Center), where guidelines are provided to employees and students so that, together, they can work toward a better future.

Every year, CEFLOM receives visits from public agencies, communities, and educational institutions in the region. The facility promotes environmental education through lectures, courses, training sessions, and more, addressing topics such as environmental impacts and the importance of proper forest management.

CEFLOM visitors and an aerial view of the facility.

CEVIFLOR
MANOA Forest Education Center

- Total built area: 850 m²
- Budget: R$ 2.35 million

Between 2008 and 2017, MANOA carried out 37 activities for three different sectors, benefiting 362 people, including students and professionals.

CLEAN WATER AND SANITATION

Preservation of Water Sources and Rivers

Rivers and springs are also part of the MANOA Forest and are monitored and preserved. They are of great importance to the climate, serve as habitats for various species, and are sites of visitation, especially by mammals seeking water and minerals from the riverbanks.

The waterfall, with its scenic beauty, and the salt lick, as an important source of mineral salts for animals, are unique environments within the MANOA Forest.

Considered High Conservation Value Attributes, the preservation and maintenance of these sites are a priority for the company, ensured through constant monitoring and surveillance, as well as satellite image tracking.


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DECENT WORK AND ECONOMIC GROWTH

Socioeconomic Contributions

Job Creation

All of MANOA's log production is destined to supply industries located in the Cujubim region. These companies process the logs into sawn timber, part of which is supplied to Triângulo Pisos, with the surplus sold to domestic and international markets.

Each year, MANOA supplies between 20 and 24 timber companies in its area of operation, providing approximately 45,000 to 50,000 m^3 of logs annually. The support and availability of raw materials have also influenced income generation, tax collection, and the creation of around 1,100 direct and indirect jobs, contributing to regional development.

Thinking About People

To improve the standard of its operations toward sustainability, MANOA carries out periodic training and refresher programs for its own employees and contractors. These updates focus mainly on reduced-impact management techniques and environmental topics relevant to forestry activities.

In addition to the benefits required by Brazilian law, the following are provided:

- Housing / Accommodation and Meals
- Life Insurance
- "Pick-up and drop-off" transportation
- Salaries above the municipal average

CEVIFLOR

Forest Living Center

Intended for the rest, social interaction, and leisure of employees.

DECENT WORK AND ECONOMIC GROWTH

Courses and Training

MANOA provides courses and training for employees and contractors.

- CIPA (Internal Accident Prevention Committee)
- Assessment for environmental certification
- Reduced-impact logging
- Basic first aid
- Prevention and control of forest fires
- Human relations
- Social aspects of certification

Jobs

Approximately 36% of Cujubim's employed population works in MANOA's production chain. There are 1,100 direct and indirect jobs.

Learning

Periodic training for employees and contractors.

Resources

The industrialization of MANOA forest products accounts for 33% of the municipality's tax revenue.

Infrastructure

Investments in safety, well-being, and housing are constant, supporting the development of both the company and the community.

MANOA forest management team.

RESPONSIBLE CONSUMPTION AND PRODUCTION

MANOA
Chain of Custody

MANOA's Chain of Custody ensures a healthy and sustainable production cycle, from the identification of trees to the final product at the Triângulo Pisos industrial plant.

1

Tree Identification

In the forest, trees with extraction potential are identified and recorded in a digital mapping system.

2

Forest Harvesting

In the forest, trees with extraction potential are identified and recorded in a digital mapping system.

3

Industrial Process

Wood destined for industrial processing (flooring, for example) is recorded throughout the entire process, using the same numbering assigned in the initial mapping.

4

Final Product

Full traceability of the wood.
Flooring products present on 6 continents.

High durability and stringent quality testing.

CLIMATE ACTION

REDD+ Project

Sustainable Forest Management

In an area of approximately

74 thousand hectares,

MANOA has

69 thousand hectares

registered as a Legal Reserve,
where the sustainable management
of forest resources is permitted.

The forest division methodology established
by MANOA allows the forest to be segmented into
30 Annual Production Units (APU).

Based on these figures,
MANOA harvests only
4,7% a **6,8%**
of the forest volume per hectare.

These premises ensure the maintenance of mature specimens of the various managed species. **The 30-year period** between each rotation cycle allows the forest to regenerate, restoring timber stocks and species diversity so they can be perpetuated.

CLIMATE ACTION

Forest Regeneration

Sustainable forest management means harvesting the forest responsibly.

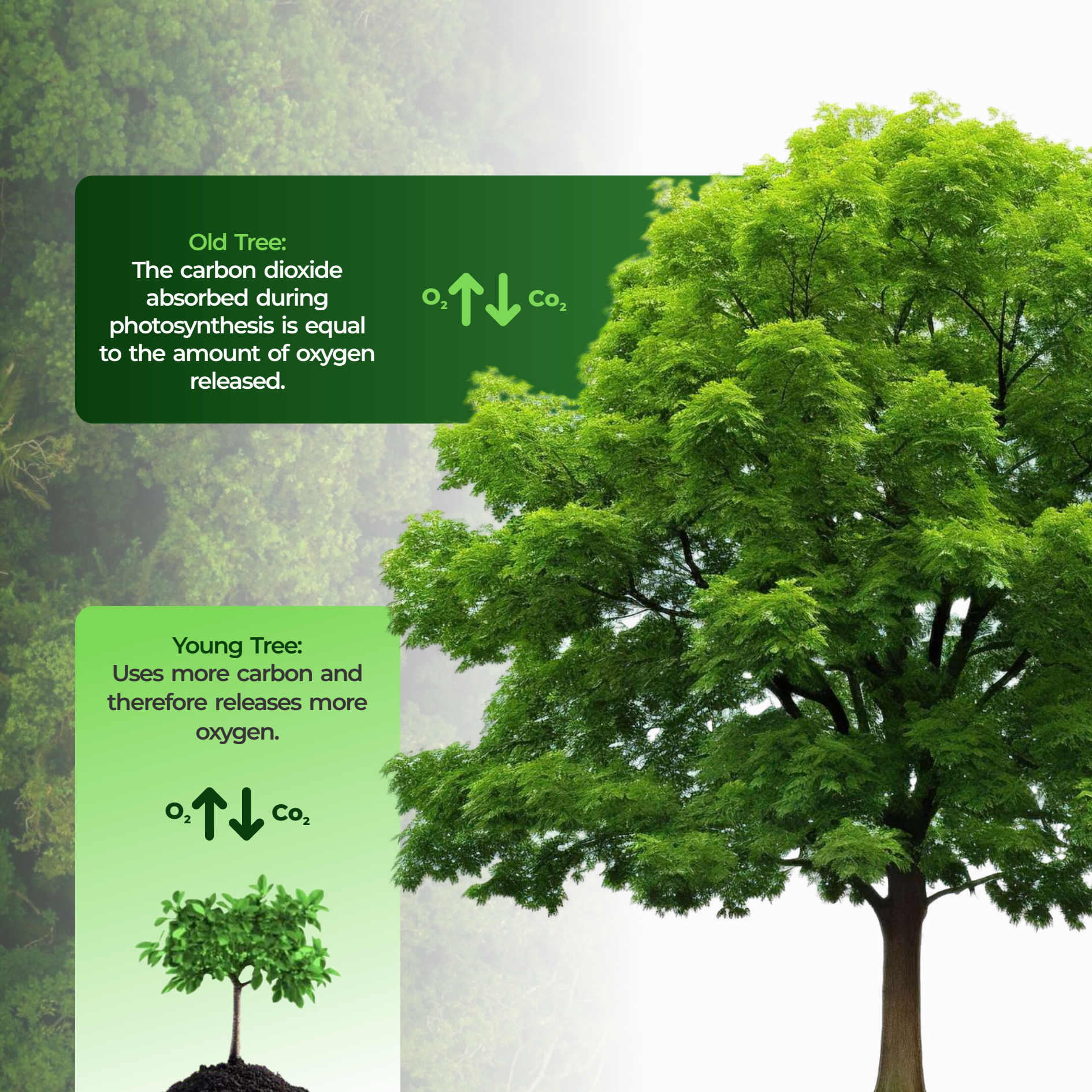
IBAMA authorizes the removal of a limited number of trees only after an extensive inventory study of the area to be harvested, among several other factors.

For a tree to be removed, a detailed analysis is required: age, impact on surrounding trees, whether it bears seeds, bird nests, etc.

Only mature to old trees may be removed, as they absorb less carbon dioxide during this stage of their life cycle.

When an old tree is removed from dense forest, the birth cycle of another tree is encouraged by the entry of light.

Carbon dioxide absorption and oxygen release by this young tree are far more efficient than those of the old tree that was removed.



Old Tree:
The carbon dioxide absorbed during photosynthesis is equal to the amount of oxygen released.

$O_2 \uparrow\downarrow Co_2$

Young Tree:
Uses more carbon and therefore releases more oxygen.

$O_2 \uparrow\downarrow Co_2$

LIFE ON LAND

Preserved Fauna and Flora

Within a preserved ecosystem, animals find protection and balance in the MANOA Forest, ensuring the perpetuation of species. Among monkeys, felines, various birds, and reptiles, 360 species of animals from the Amazon region have been identified.

More than 177 plant species have been identified. The forest monitored by MANOA plays a major role in preventing illegal deforestation, maintaining ecological corridors, and reducing the negative impacts of degradation in the region.

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Partnerships and Means of Implementation

Credit-Buying Companies: Companies such as GT Building purchase the credits generated by the project to offset their own emissions, integrating sustainability into their operations.

Local Communities: The project generates social benefits, such as support for education and sanitation, and strengthens sustainable business chains in the region of Cujubim, RO.

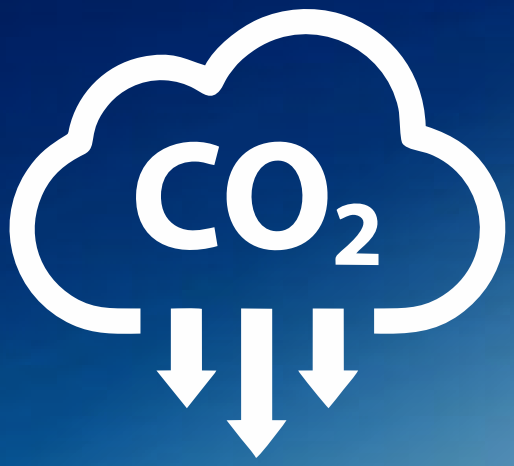
Institutions and Certifications: The project seeks FSC (Forest Stewardship Council) certification to ensure responsible forest management and aligns with the United Nations Sustainable Development Goals (SDGs).


RO | CUJUBIM
PROJETO
REDD+
MANOA

MANOA®
Manejo Florestal Sustentável

Carbon Project
REDD + MANOA

Each year, the **MANOA forest area** prevents the emission of **279.290 tons** of Co_2e, totaling **8.378.690 tons** of Co_2e over **30 years.**



Keeping the forest standing certainly brings countless benefits, and one of them is the preservation of the air! Because it has an immense amount of vegetation that captures carbon dioxide and transforms it into oxygen.

This project is maintained by the **MANOA Forest (from the Triângulo Group)** and its partners—companies that also need environmental certifications and find in the project an opportunity to become more sustainable.

The REDD+ Program

The REDD+ program is an incentive developed by the United Nations Framework Convention on Climate Change (UNFCCC) to financially reward developing countries for their results in reducing greenhouse gas emissions resulting from deforestation and forest degradation, while also considering the role of forest carbon stock conservation, sustainable forest management, and the enhancement of forest carbon stocks.

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Offset your carbon footprint with MANOA.

The Amazon Rainforest is fundamental to global climate balance, the conservation of 10% of the world's biodiversity, and the livelihood of traditional communities. However, deforestation and land-use changes account for a significant portion of greenhouse gas emissions, especially in Brazil. In light of the recent increase in deforestation, it has become urgent to strengthen socioeconomic development alternatives that value standing forests, such as REDD+ Projects.

Commercialization
of Carbon Credits

Credit-Buying Companies:
Companies such as GT Building purchase the credits generated by the project to offset their own emissions, integrating sustainability into their operations.

Local Communities:
The project generates social benefits, such as support for education and sanitation, and strengthens sustainable business chains in the Cujubim region, Rondônia (RO).

Institutions and Certifications:
The project seeks FSC (Forest Stewardship Council) certification to ensure responsible forest management and aligns with the UN Sustainable Development Goals (SDGs).

How the Partnership Works

Preservation and Monitoring:
Manoa Farm preserves large areas of the Amazon, preventing deforestation and sequestering carbon.

Credit Generation:
Ambipar quantifies the avoided carbon, generating credits that are validated by international standards.

Credit Sales:
These credits are sold to companies seeking to offset their emissions (carbon neutrality).

Socio-Environmental Impact:
The resources generated finance conservation actions, improve education, and promote sustainable forest management, benefiting fauna, flora, and local communities.

In summary, partnerships in the Manoa REDD+ Project create a value chain in which forest preservation generates economic, social, and environmental benefits—connecting conservation, the carbon market, and local development.

Certifications & Verifications

Verified Carbon Standard
A VERRA STANDARD

Sustainable Development Verified Impact Standard

Project Documentation – Verra Registry:
https://registry.verra.org/app/projectDetail/VCS/1571

FSC
www.fsc.org
FSC® C018650

A marca do manejo
florestal responsável

PEFC
PEFC/28-44-04

Manoa:
@manoaeco

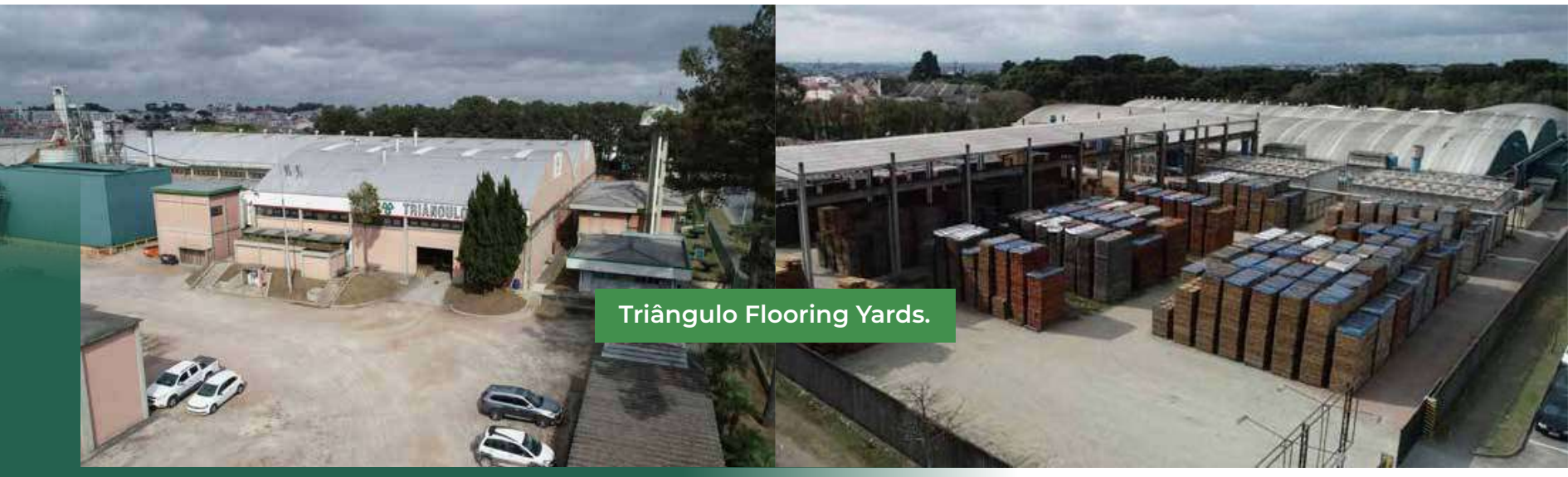
Manoa:
https://www.linkedin.com/company/manoa-sustentavel

Triângulo Pisos

The industrial unit of Triângulo Pisos e Painéis, located in Curitiba, Paraná, has a total built area of approximately 27,000 square meters. It houses the administrative headquarters of the Triângulo Group and the wood flooring industrial line.

As raw material for its industry, Triângulo also uses wood from its own reforestation areas established in the southern region of Brazil.

The company uses high-technology, environmentally friendly equipment, which is less polluting, makes more sustainable use of resources, and recycles production waste more efficiently.



Triângulo Flooring Yards.

Triângulo Pisos Industrial Plant – Curitiba, PR

An environmentally responsible factory.

TRIÂNGULO

Wooden Flooring

Follow Triângulo on social media to stay updated on products and sustainable initiatives.

@triangulopisos

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Contact

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