



MANOA

Sustainable Management and
Forest Services

A Company of
the Triângulo Group

A new look into the future.

Forest Management | Environmental Actions | Society | Economy





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Message from the PRESIDENT

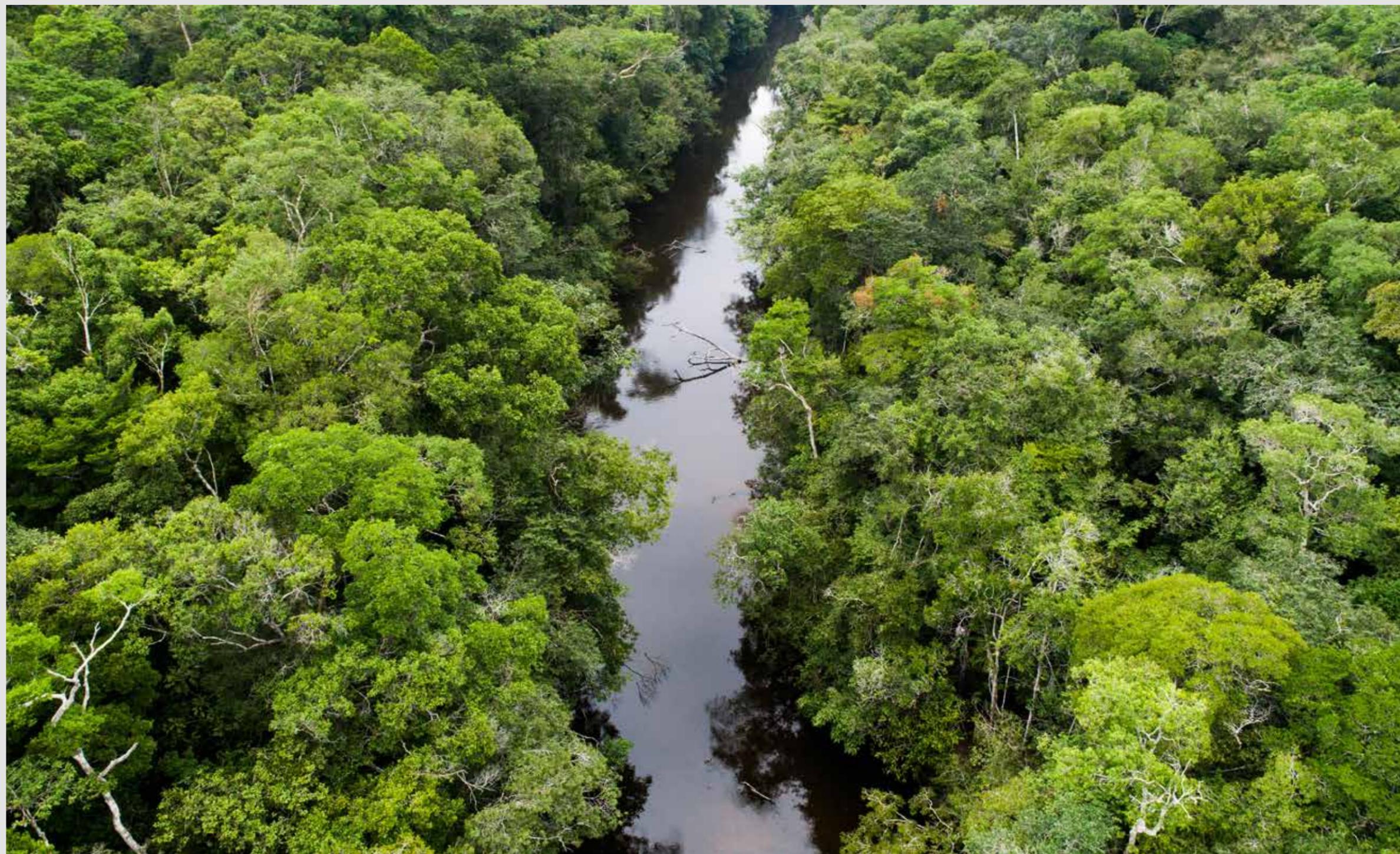
“To conserve the forest is to ensure that future generations of Brazilians can be proud of its country and keep benefiting from everything the forest can offer”

Douglas Granemann

In contrast to the perception that logging in the Amazon aims only financial return without considering environmental degradation, MANOA Florestal

After 47 years of history, we can assure it is possible to grow, innovate and overcome barriers based on a work policy which that benefits people and the environment.

Douglas Granemann
President



MANOA forest view.

THE AMAZON

The initial occupation of the Amazon adopted unsustainable practices for timber resources exploitation which caused significant impacts.

The techniques applied did not respect environmental or social criteria, contributing significantly to forest suppression, deterioration of air and water quality, in addition to inhumane working conditions.

Aiming at sustainable economic growth, respecting the environment, employees and the community, MANOA Florestal was one of the first companies to adopt reduced impact logging techniques in Brazil.

Thus, a new concept of logging was implemented in which the techniques applied minimize the effect of interventions on the forest, increasing the efficiency of operations and management productivity.

ABOUT US

MISSION

Develop, produce and market products respecting the local environment, ensuring customer satisfaction.

VISION

Be a leader in the production of sustainable forest assets.

VALUES

Transparency of operations, allowing the community to foresee the environmental gains. Business ethics respecting customers, society and the environment

74 THOUSAND
Hectares
of forests

30
UPAS

The forest is subdivided into 30 Annual Production Units (UPAS), being exploited only 01 lot per year.

1100
Direct and
Indirect Jobs

177
Flora species
preserved

360
Animal Species
preserved

30 YEARS

Is the time of each cycle for total recovery of the logged forest. Respecting this period of time is fundamental to forest regeneration. In the reduced impact logging, only 4.7% to 6.8% of the forest is harvested.



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BRAZILIAN SUCCESS

MANOA started in 1983, when Triângulo Pisos e Painéis acquired 74 thousand ha of forests in Cujubim, Rondônia.

It took several years of research for the development of adequate forest management methods.

In 1994, the Sustainable Forest Management Plan was approved, including innovative practices for environmental impact reduction.

During 3 years, local forest operators were selected and trained in the practice of a new work methodology, focusing on sustainability.

Between the acquisition of the area in 1983 and the start of operations in 1997, it took 14 years to gain expertise about the forest and its impact on the community.

In 2005, this effort was recognized by the Forest Stewardship Council (FSC), an internationally renowned forest certification.

1972
TRIÂNGULO PISOS E PAINÉIS WAS FOUNDED.

1994
MANOA FOREST MANAGEMENT APPROVAL.

1997
START-UP OF MANOA ACTIVITIES.

2005
OBTAINING FSC CERTIFICATION FOR FOREST MANAGEMENT PLAN AND CHAIN OF CUSTODY.

2009
OBTAINING PFS (INDUSTRIAL PRODUCT PROCESS) CERTIFICATION FOR TRIÂNGULO PRODUCTION LINE

2011
START-UP OF ACTIVITIES TO THE IMPLEMENTATION OF THE CARBON PROJECT.

1983
FOREST AREA ACQUISITION FOR FOREST MANAGEMENT IN RONDÔNIA.

1996
FIRST INDUSTRIAL FACILITIES IN CUJUBIM- RONDÔNIA.

2002
BEGINNING OF ACTIVITIES RELATED TO FOREST CERTIFICATION.

2007
OBTAINING FSC AND CERFLOR CERTIFICATION FOR TRIÂNGULO CHAIN OF CUSTODY.

2010
RECOGNIZED BY FAO (UN) AS A MODEL OF SUCCESSFUL FOREST MANAGEMENT PLAN.

2016
CARBON PROJECT APPRO-



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 direction.

Currently, our products are marketed in 16 countries, which demand the adoption of adequate environmental practices as a requirement to establish business relations.

MANOA Administrative Headquarters - Cujubim, RO.



SUSTAINABLE MANAGEMENT

Sustainable forest management is authorized in an area of approximately 74 thousand ha, MANOA has 69 thousand ha registered as Legal Reserve..

In the forest system adopted by MANOA (polycyclic) the rotation is divided into intervals called "cutting cycles".

The management plan requires a cutting cycle of 30 years and a maximum volume intensity cutting of 25 m³/ha.

Based on these numbers, MANOA harvests only 4.7% to 6.8% per hectare, of the total available forest volume.

These premises ensure the maintenance of adult specimens of various species managed. The 30-year period between each rotation allows the forest to regenerate, restoring timber stock and allowing species diversity to perpetuate.

The methodology applied for forest area to be managed established by MANOA allowed the forest to be segmented into 30 Annual Production Units (UPA).

FOREST REGENERATION

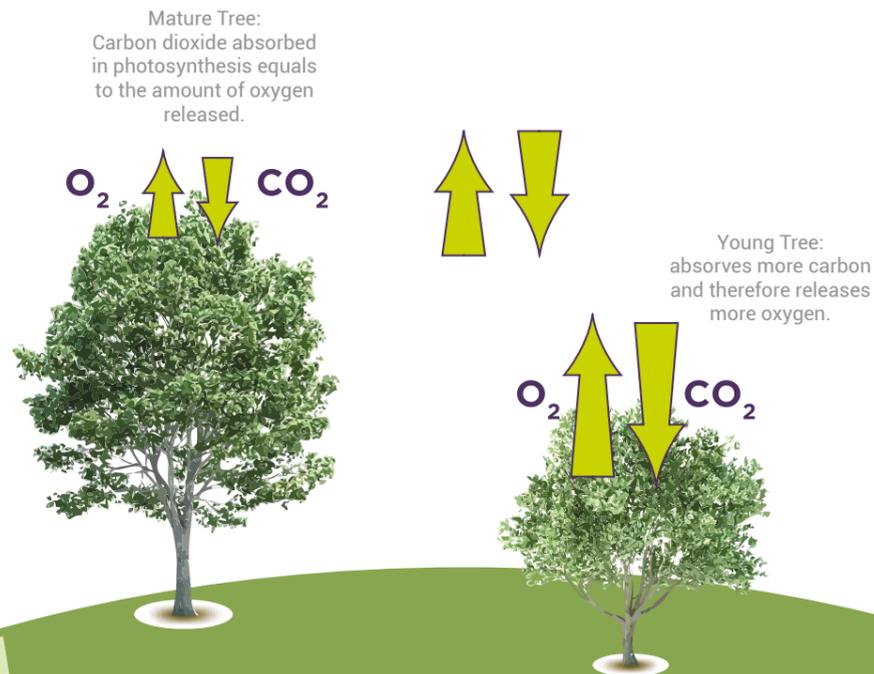
Sustainable forest management is about consciously exploiting the forest. After considering various factors and a forest inventory study of the area to be logged IBAMA approves the removal of trees in limited numbers, ,

For a tree to be removed from the forest, a thorough analysis is carried out taking in to regard various factors such as: age, impact to other trees in its surrounding areas, seed trees, bird's nest, etc.

Only mature trees can be removed because they absorb less carbon dioxide during this stage of the life cycle.

By removing a mature tree from closed forest, the birth cycle of another tree is fostered due to the incidence of light in the forest.

Thus, the carbon dioxide absorption and oxygen release from this young tree is already much more effective than the mature tree which was removed.



REFERENCE IN FAO (UN), PUBLICATION

MANOA's sustainable forest management model has already been disseminated as a good practice to be followed worldwide, in the 2010 UN publication *Exemplary Cases of Sustainable Forest Management in 2010*.

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"The Manoa Timber Industry owns 75,182 hectares (ha) of land in the municipality of Cujubim, in the state of Rondônia, in the Brazilian Amazon. Since 2005, 73,079 ha have been certified by the Forest Stewardship Council (FSC).

Manoa is a pioneer in sustainable forest management in Brazil and the first to obtain FSC certification in Rondônia.

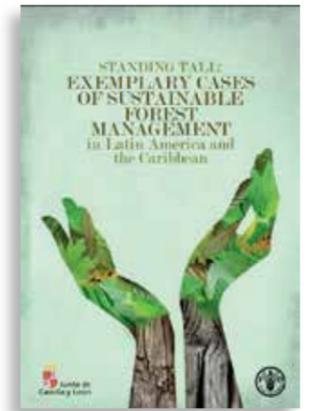
Manoa is owned by the Triângulo Group (www.triangulo.com.br), headquartered in Curitiba, Paraná State."

Note: Currently, 74 thousand ha are certified by FSC.



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Biodiversity Studies and Research in Natural Forests.

Bird species found in MANOA Forest.

PUBLIC COMMITMENT

MANOA's has as permanent activity in the monitoring of fauna and flora.

All employees are trained to be aware of possible damages and how to avoid them. Based on the agreement signed with the University of Rondônia (UNIR), it began the continuous inventory and survey of medium and large mammals which inhabit the region, a study aiming to record the animals and population found in MANOA area and its contiguous areas.

In order to ensure its conservation commitment, MANOA has registered within the notary's office around 69 thousand ha of its total area as Legal Reserve, making a public commitment to maintain all area covered by forest of its property.

MONITORING AND PRESERVATION



FAUNA

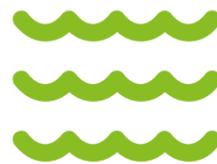


Moreover, due to a preserved ecosystem, the animals find in the MANOA forest, protection and balance for the perpetuation of the species. Among them monkeys, felines, several birds and reptiles, 360 species of animals from the Amazon region were identified.



FLORA

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



AFFLUENT

Rivers and springs are also part of the MANOA forest, which are monitored and preserved. They are of great importance for climate, species habitat, especially mammals seeking water and minerals in the riverbanks.



SAFETY FOR THE FOREST

MANOA's forest area is adjacent to public areas, such as Jamari National Forest, Jacundá and Samuel Reserve, forming a large forest block of approximately 480 thousand ha. The maintenance of this block is important for the conservation of the most diverse fauna and flora species of the state of Rondônia and the Brazilian Amazon. On the map, it is possible to see how unprotected areas surrounding the MANOA Forest can be cleared.



CERTIFICATIONS

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

The certifications demonstrate all the work to ensure the wood origin and the commitment to sustainable management as the main pillar of actions in the forest. International agencies recognize MANOA as an example of actions to be followed in the environmental field.



This certification informs that samples of a product have undergone rigorous scientific testing to meet some of the strictest requirement of chemical emission in the world. These products help to reduce indoor air pollution and the possibility of chemicals exposure in the atmosphere.



The mark of responsible forestry

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



EPA is the United States Environmental Protection Agency. It is entrusted with protecting the environment and human health: water, air and soil.



Certification exemption for formaldehyde emission. Required by developed countries due to highly carcinogenic property, formaldehyde remains on a finished product for over 20 years. Triângulo products are exempt from this substance.



The Lacey Act establishes a series of conditions for foreign timber imported to the United States. The law prohibits all trade in plants and plant products to include furniture, paper and timber used from illegal sources from any region of the United States and other countries.

CARBON PROJECT

REDD + Manoa

Each year, MANOA's forest area prevents the emission of 279,290 tons of CO₂e or 8,378,697 tons of CO₂e for a period of 30 years.



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SOCIOECONOMIC CONTRIBUTIONS

GENERATING JOBS

All MANOA log production is destined to supply industries located in the Cujubim region. These companies process logs into sawnwood, partly destined to Triângulo Pisos and the surplus to the domestic and foreign market.

MANOA annually supplies from 20 to 24 logging companies in its area of operation, providing around 45 to 50,000 m³ of logs annually. Support and availability of raw materials also influenced income generation, tax collection and the creation of approximately 1,100 direct and indirect jobs, contributing to regional development.

FOCUSING ON PEOPLE

To improve the standard of its operations towards sustainability, MANOA conducts periodic training and update programs for its own employees and third parties. These updates are mainly on reduced impact logging techniques and environmental issues relevant to forest activity. In addition to the benefits provided under Brazilian Labor law, other benefits are offered such as:

- Housing and Meals
- Life Insurance
- Transportation
- Salaries above the city average

COURSES AND TRAININGS

MANOA offers capacity building courses and training for employees and contractors, such as:

CIPA (INTERNAL COMMITTEE FOR ACCIDENT PREVENTION)

FOREST CERTIFICATION ASSESSMENT

REDUCED IMPACT LOGGING

FIRST AID BASIC NOTIONS

FOREST FIRE FIGHTING AND PREVENTION

HUMAN RELATIONS

SOCIAL ASPECTS OF CERTIFICATION



EMPLOYMENT

Around 36% of the working population of Cujubim is employed in the MANOA production chain. More than 1,100 direct and indirect jobs.



LEARNING

Periodic capacity buildings for employees and third parties.



RESOURCES

Industrialization of MANOA Forest Products is responsible for 33% of the city tax collection.



INFRASTRUCTURE

Investments in safety, welfare and housing are steady for the Company's development and the community.



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CEVIFLOR - FOREST EXPERIENCE CENTER

For employees breaks, living and leisure.



MANOA Forest Management Team.

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 sustainability of natural resources is the key to the continuity of a world capable of combining development, quality of life and population growth.

With this in mind, MANOA has built the CEFLOM (MANOA Forest Education Center), where staff and students learn guidelines to work together for a better future.

Every year CEFLOM receives several visits from government agencies, communities and educational institutions in the region. The center promotes environmental education through lectures, training courses and many other things to address issues related to environmental impact as well as stress the importance of proper logging management.



CEFLOM visitors and aerial view of the Center.



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CEFLOM – MANOA FOREST EDUCATION CENTER

Total Built Area: 850 m²

Budget: R\$ 2,35 million

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

SOCIOECONOMIC CONTRIBUTIONS

LOCAL SOCIETY

Since its arrival in the region, MANOA has supported the city, primarily through improvements in transportation infrastructure and supply of basic goods.

In addition to this approach, social actions are carried out every year for the population of the region, such as activities to support education and the practice of sports and leisure.

The concern with regional development led MANOA to build Creche Raio de Luz Nursery, with capacity to assist 180 children, which have been passed on to the Cujubim municipality ownership. Another project built and delivered to Cujubim was APAE, with 312 m² construction area.

MANOA's actions in support of education, culture and leisure have directly benefited more than 400 children and young people in the last 2 years.

The assurance of the local quality of life enables a collaborative work between the Company and society for sustainable use of resources.



CRECHE RAI0 DE LUZ NUR-



APAE CUJUBIM

Capacidade: 40 crianças
Área: 312 m²



PASTORAL DA CRIANÇA

BENEFITED INSTITUTIONS

- Prefeitura Municipal de Cujubim
- Escola Pequeno Príncipe
- APAE
- Escola Antônio Francisco Lisboa
- Creche Raio de Luz Rural Producers
- Escola Aluísio Becker



CRECHE RAI0 DE LUZ NURSERY

Capacity: 180 children
Area: 398 m²



The vision of a better future for the region makes MANOA one of the companies which invest the most in educational structure, providing access to education, culture and leisure in Cujubim. More than 400 children and young people were benefited in the last two years

CHAIN OF CUSTODY MANOA

The Manoa Chain of Custody ensures a healthy and sustainable production cycle from tree identification to the final product at the Triângulo Pisos industrial plant.

1 TREE IDENTIFICATION

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

2 FOREST HARVEST

When tree is harvested, the log and the stump get a metal plate with the number of the tree

3 INDUSTRIAL PROCESSES

Wood for to the industrial process (flooring, for example) is registered until the end of the process, with the same numbering as received at the initial mapping.

4 FINAL PRODUCT



TRIÂNGULO
Hardwood Floors



Enchanting Hardwood Flooring

Wood traceability in entire chain
Floorings present on 6 continents
High durability and high quality tests.

TRIÂNGULO HARDWOOD FLOORS

The Triângulo Hardwood Floors industrial plant, located in Curitiba - PR, has a total built area of approximately 27 thousand m², where the administrative headquarters and the industrial line of wood floors for Triângulo Group are located.

As a raw material for the industry, Triângulo also has its own planted forest established in the southern region of the country.

The company uses high-tech and environmentally-friendly equipment which cause less pollution and utilizes the resources in a sustainable manner while recycling residue waste more efficiently.



Follow Triângulo on Social Media and stay up to date on our products and sustainable actions



@triangulo_us
triangulo.us



Triângulo Pisos stockyard.



Triângulo Hardwood Floors Industrial Plant in Curitiba - PR.
Environmentally Friendly Manufacturing.



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MANOA FALL