

Public Summary
of the

Forest Management Plan

Forestry Business Unit Imperatriz

1st EDITION | MAY 2020

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Proceedings

Every year Suzano S.A. prepares its Forest Management Plan for the regions where it operates based on data from the previous year and according to results of monitoring and control or significant changes in forestry operations, responsibilities and socioeconomic or environmental conditions.

Coordination

Sustainability

Cover

Ricardo Teles

Images

Suzano Archive

Casa da Floresta Archive

Diogo Cavenague Casanova

Fernando Igor de Godoy (fauna)

Fernando Soares (social projects)

Julio Henrique R. Magalhães (flora)

Sérgio Zacchi (social projects)

Formatting and Design

Folks Comunicação

Conteúdo

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1. About the *Summary*

1. About the *Summary*

In this Public Summary of the Forest Management Plan Suzano S.A. presents information on the Forestry Operations in the region, including responsibilities, available resources and strategies for the adoption of responsible forest management practices aimed at sustainable development.

It is a synthesis of the Forest Management Plan, based on the main forest certifications: **FSC® – Forest Stewardship Council®, FSC-STD-BRA-01-2014 V1-1 PT FSC and NBR 14.789:2012 CERFLOR** (Forest Certification). Each system has its own principles and criteria.

Within the scope of forest certifications, Suzano S.A.'s Forestry Business Units are licensed under the following codes: FSC-C009927, FSC-C100704, FSC-C110130, FSC-C155943 and FSC-C118283.

In addition to the printed version, the Public Forest Management Plan Summary is emailed to the company's main relations: society, public authorities, neighbors and communities in its areas of operation, as well as employees and vendors.

Have a pleasant reading!

Additional Information, questions, feedback and suggestions that may arise from this reading should be sent to:

suzanoresponde@suzano.com.br

or calling

0800 022 1727

2. About *Suzano S.A.*



2. About **Suzano S.A.**

Suzano S.A. is a Brazilian company resulting from the merger of Suzano Papel e Celulose and Fibria Celulose. We are committed to being a global reference in the sustainable use of renewable resources.

World Leader in the manufacturing of Eucalyptus pulp and one of the main paper manufacturer in Latin America, the company exports to over 80 countries and its products is part of the lives of over 2 billion people. With ten operating plants and the joint operation Veracel, its installed capacity is 10.9 million tons of market pulp and 1.4 million tons of paper per year.

With Eucalyptus planting, the company provides 37 thousand direct and indirect jobs and invests in innovation for over 90 years, replacing fossil-derived materials with renewable materials. The company is granted the highest Corporate Governance levels of B3 in Brazil and New York Stock Exchange (NYSE) in the USA, Stock Markets where its shares are traded.

From supplies to a wide range of industries to everyday life products, we cultivate life with the notebook of the child learning how to read, with the diaper protecting the baby, with the eco-friendly coffee cup, with toilet papers and with the convenience of a sustainable packaging.



People who
*inspire and
transform*

We create
and share
value

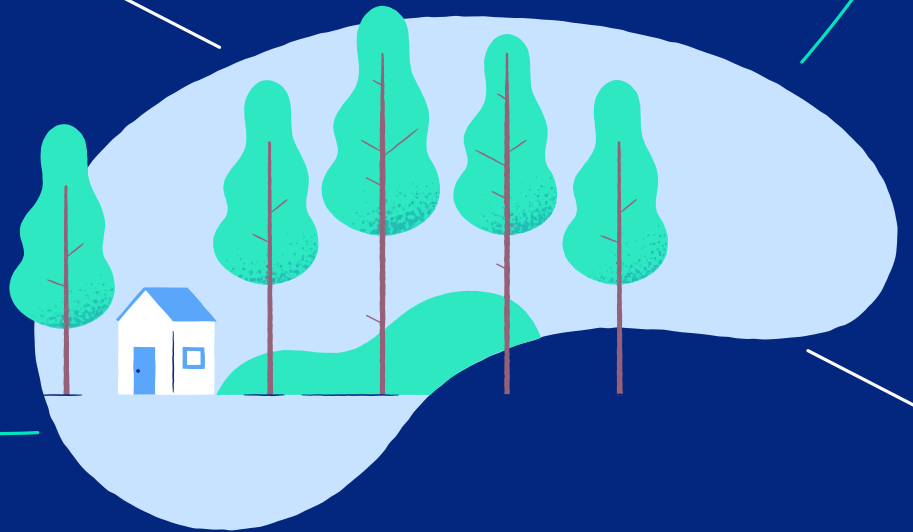
It's only good
for us if
*it's good for
the world*

We are a renewable basis company operating mainly in the segment of pulp and paper from Eucalyptus planting to supply companies all over the globe. Our portfolio is wide and diverse.

We invest in innovation that arises from the protagonism of our collaborators, by using renewable raw materials and biotechnology. We use sustainable practices in everything we do, from fluff to lignin, from cellulose to tissue, from A4 sheets to cardboard for packaging.

We operate responsibly based on our expertise in Eucalyptus planting. This means that we always use the best global management practices in cropping - that is how we contribute for the maintenance of fertility and protection against erosion and degradation.



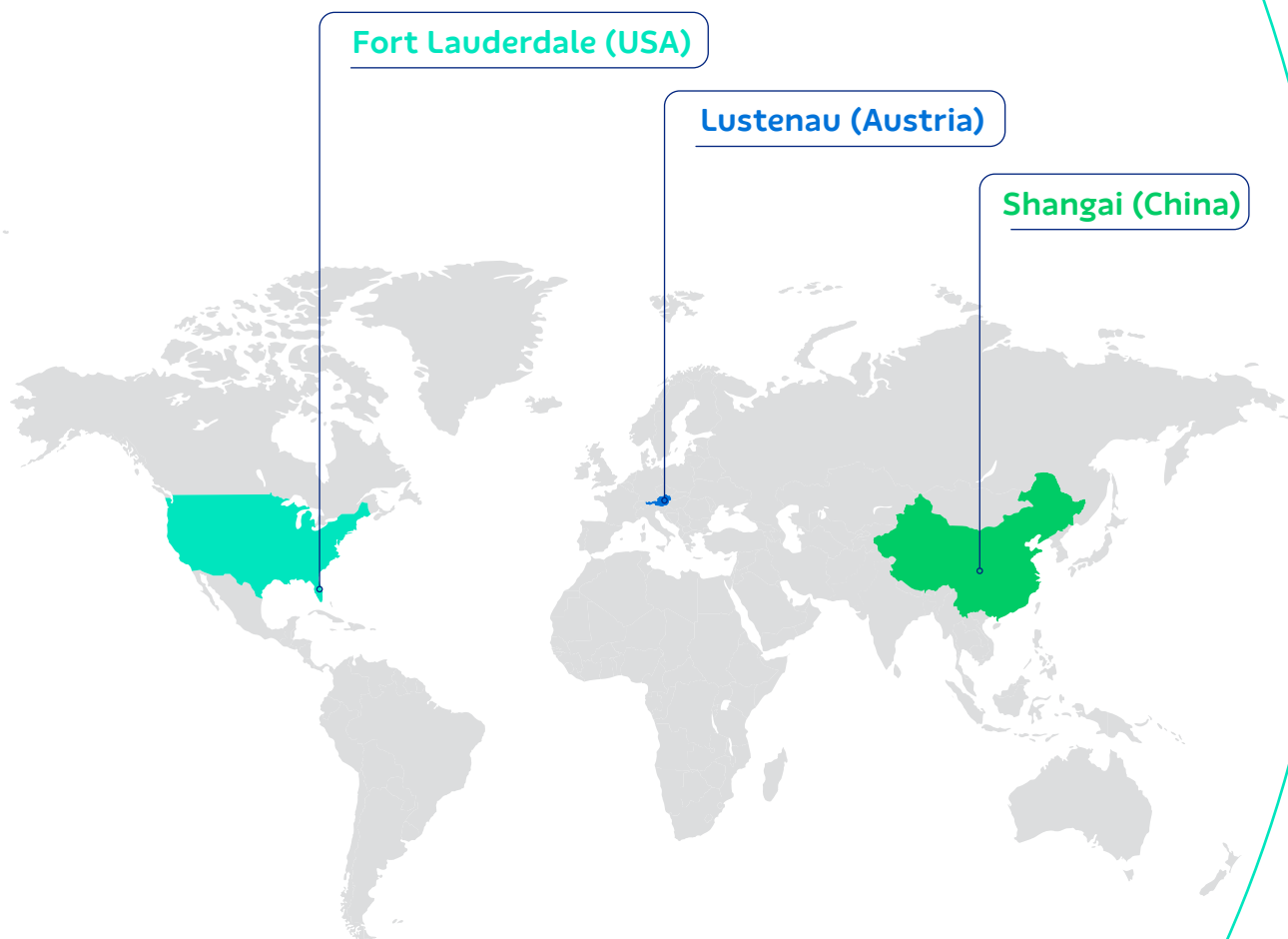


3. Where *We Are*

3. Where **We Are**

Business offices

We have business offices abroad in China, USA, Switzerland and Austria and subsidiaries in England and Argentina.



Distribution Centers

United States (4)

Europe (6)

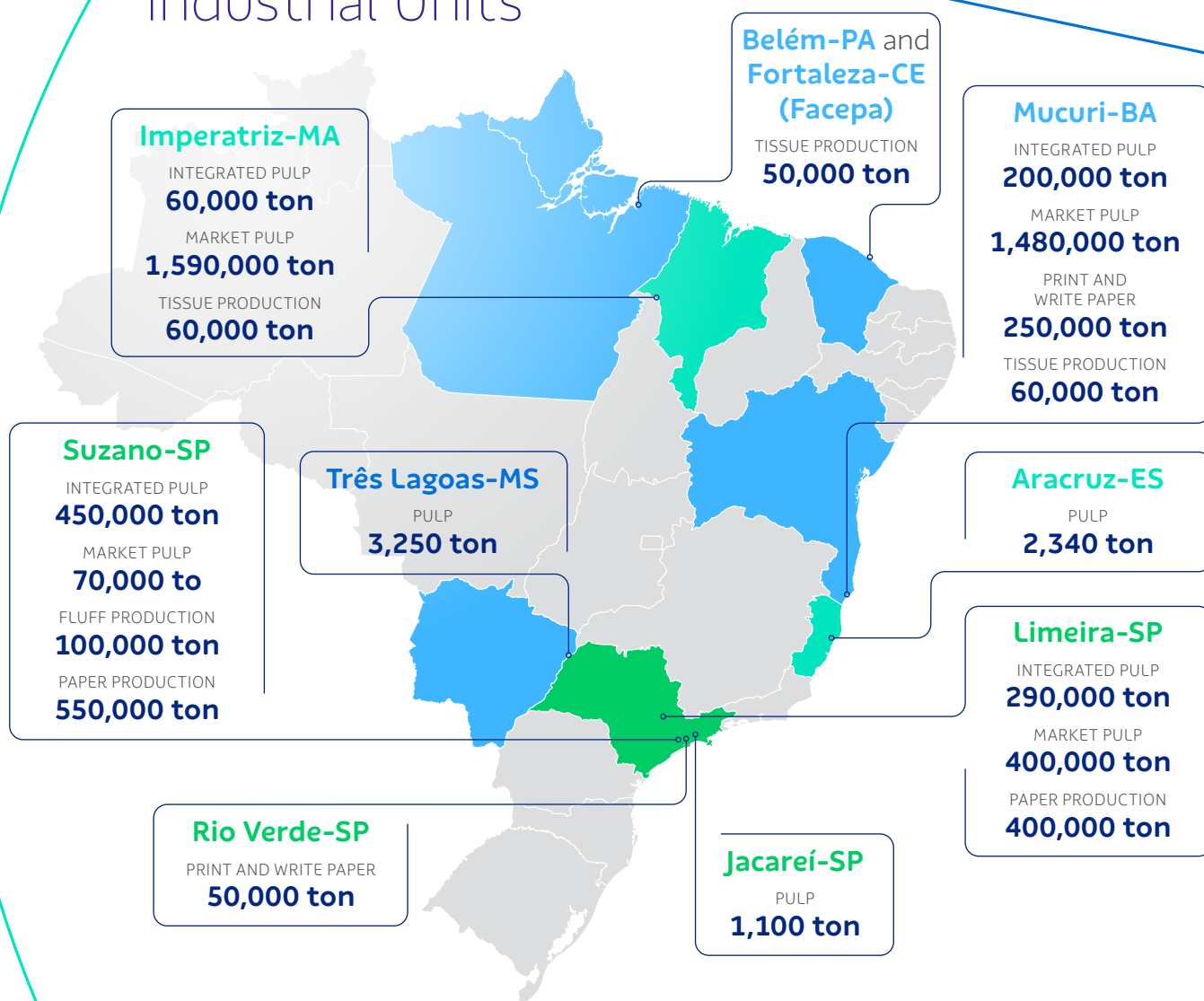
Asia (2)



Our organization includes administrative offices in Salvador (state of Bahia) and São Paulo (state of São Paulo), industrial plants and FuturaGene, responsible for the genetic development of forest crops and biofuels, with research laboratories in Israel and China.

We provide products and services from 1.2 million hectares of planted forests and 900 thousand hectares of preserved forest, situated in the states of Bahia, Espírito Santo, Minas Gerais, São Paulo, Mato Grosso do Sul, Maranhão, Tocantins, Para and Piauí.

Industrial Units*



Terminals and Ports

Belmonte (BA)
Caravelas (BA)
Aracruz (ES)

Santos (SP)
São Luís (MA)



4.

Forest Operation

Area

4. *Forest Operation* Area

Forest assets with certification

Suzano's forest competitiveness ensures its operation in different regions with adequate productivity.

Owned, Leased and Partnership Areas

Business Units	Crop areas (ha)	Conservation (ha)	Infrastructure (ha)	Total (ha)
Aracruz / Mucuri	365,686	250,913	62,452	679,051
Imperatriz	220,460	289,415	14,182	524,057
Limeira / Suzano / Jacaré	234,826	130,736	18,437	383,999
Três Lagoas	314,253	135,728	16,385	466,366
Total	1,135,225	806,792	111,456	2,053,473

Data Dec/2019, without the areas of Teresina, Urbano Santos, Market/Third parties and Sponsorships

Forest areas within the scope of FSC® and CERFLOR Certifications of each Forest Business Unit

FBU	Certified areas FSC® and PEFC (ha)
Aracruz (ES)	215,699
Jacaré, Suzano and Limeira (SP)	349,750
Três Lagoas (MS)	310,623
Mucuri (BA)	355,877
Imperatriz (MA)	404,083
Total Suzano S.A.	1,636,032



5. Forest *Certification*

5. Forest *Certification*

Suzano S.A. states its commitment to conduct its Forest Management system according to the Principles and Criteria set by FSC® Certification and CERFLOR NBR 14.789 Forest Management, aiming to provide long-term business sustainability, continuous improvement of its activities and performance, as well as the adoption of environmentally correct and socially responsible practices.

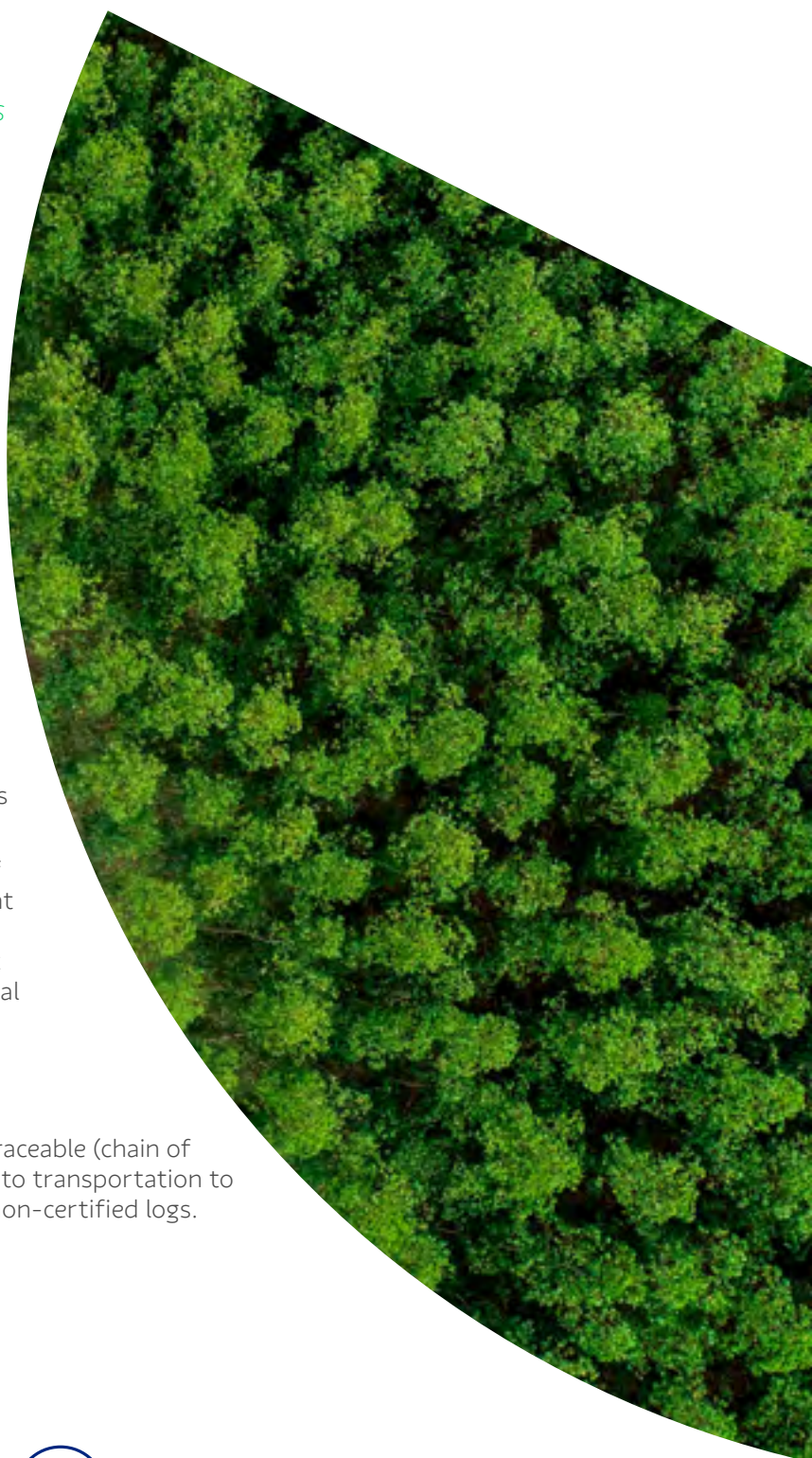
To this end, the company has incorporated the environmental, social and economic dimensions into its forest management basic guidelines, as following:

- To seek technological innovations and to support research to apply the best forestry techniques in its forest production units.
- To contribute to the development of direct and indirect collaborators.
- To implement the Forest Production Plan based on environmental aspects, such as landscape and microbasins management, monitoring of fauna, maintenance of biodiversity corridors, and compliance with the applicable federal, state and city legislation, as well as international agreements of which Brazil is signatory.
- To contribute to maintenance or improvement of communities surrounding the forest management units through open dialog channels, participative follow-up of social indicators, sharing of relevant information and recreation areas or environmental education.

Timber traceability

Every timber harvested in the eucalyptus crops is traceable (chain of custody), i.e., has guarantee of origin from planting to transportation to the industry, with no risks of being mixed up with non-certified logs.

Suzano is
certified by
FSC® and CERFLOR
(NBR 14.789)





6.

Forestry Business Unit

Imperatriz

6. Forestry Business Unit *Imperatriz*

The Forest basis of the MA Unit is distributed across the states of Maranhão, Pará and Tocantins. In the state of Maranhão, the farms are located in the route Cidelândia - Imperatriz - Açailândia- Buriticupu. In the state of Pará, the farms are located in the route Rondon - Dom Eliseu - Ulianópolis - Paragominas. In the state of Tocantins, the farms are located in the route Darcinópolis - Ananás - Araguatins. We also rely on planting areas in the region of Urbano Santos (Maranhão) and Teresina (Piauí).

The crops are maintained in owned lands, through leasing contracts, or through partnerships with rural producers. With a forest basis of 524,057 hectares, interspersed with an area of 289,415 hectares destined to biodiversity conservation, Suzano MA's forest management seeks to combine eucalyptus planting with the conservation of natural resources, technological innovation and respect to communities.

All production is based on renewable eucalyptus planting, with the aim of supplying the industrial complex of Imperatriz - MA, that has a production capacity of 1.6 million tons of bleached eucalyptus pulp per year.

The industrial plant operates within environmental control standards, with technology aimed at monitoring emissions, air and water quality, and the proper disposal of waste.

The seedlings are produced using cloning technology in nurseries from licensed third-party partners and free-lease agreements. Those partners maintain some of the most advanced genetic bases, adapted to the natural conditions and selected for the production of pulp.

FBU-MA has
a forest basis of
524,057 ha,
of which, about
289,415 ha
are destined to
conservation.



The harvest process observes the characteristics of the region and uses efficient systems that rely on equipment that allow an efficient, safe and environment-friendly operation.

To ensure success in all phases of the process, the company constantly invests in research, technology, and professional training. Suzano's practice is to recruit candidates from the regions where it operates, provided that they meet the requirements for the job and apply on equivalent terms with other candidates.

It is also the company's practice to train the workforce involving the communities, in partnership with universities and technical institutions.

Area of Operation in the Municipalities

Municipality	FU	Municipality area (ha)	Total area of farm (ha)	Total area of crop (ha)	Infrastruc. area (ha)	Sum of VEG* area (ha)	Sum of WAL** area	Total area occupied in the Municipality (%)
Açailândia	MA	583,476	91,274	41,498	2,514	47,071	191	16
Ananás	TO	160,312	1,963	1,080	44	839	0	1
Angico	TO	43,943	5,981	2,016	131	3,834	0	14
Araguatins	TO	267,177	3,003	1,649	93	1,258	3	1
Bom Jardim	MA	662,405	30,829	18,576	923	11,236	94	5
Bom Jesus das Selvas	MA	267,384	26,747	9,800	763	16,051	133	10
Centro Novo do Maranhão	MA	825,967	2,807	0	0	2,807	0	0
Cidelândia	MA	148,232	12,867	4,575	369	7,919	5	9
Darcinópolis	TO	163,860	1,998	926	52	1,020	0	1
Davinópolis	MA	31,967	3,215	811	71	2,332	1	10
Dom Eliseu	PA	532,525	55,681	21,611	1,280	32,770	20	10
Estreito	MA	271,793	14,081	5,992	467	7,615	7	5
Feira Nova do Maranhão	MA	147,629	4,436	2,353	100	1,983	0	3
Governador Edison Lobão	MA	62,466	911	444	27	440	0	1
Grajaú	MA	881,199	12,344	4,852	316	7,045	130	1
Imperatriz	MA	135,841	27,908	7,499	1,173	19,158	78	21
Itinga Do Maranhão	MA	352,973	45,579	23,060	1,534	20,919	67	13
João Lisboa	MA	61,607	2,017	722	111	1,182	2	3
Palmeiras Do Tocantins	TO	75,068	2,448	1,084	49	1,315	0	3
Paragominas	PA	1,932,602	69,205	19,290	1,271	48,634	10	4
Porto Franco	MA	141,454	1,182	533	94	548	7	1
Riachão	MA	635,170	900	331	27	542	0	0

Municipality	FU	Municipality area (ha)	Total area of farm (ha)	Total area of crop (ha)	Infrastruc. area (ha)	Sum of VEG* area (ha)	Sum of WAL** area	Total area occupied in the Municipality (%)
Riachinho	TO	53,077	1,098	422	26	650	0	2
Ribamar Fiquene	MA	74,713	840	235	21	584	0	1
Rondon do Pará	PA	825,659	844	361	19	464	0	0
Santa Luzia	MA	548,227	7,893	1,383	102	6,323	86	1
Sta. Terezinha do Tocantins	TO	28,146	103	25	2	77	0	0
São Bento do Tocantins	TO	112,042	2,514	729	51	1,733	2	2
São Francisco do Brejão	MA	76,157	7,676	3,965	238	3,462	12	10
São João do Araguaia	PA	127,799	3,501	1,658	73	1,770	0	3
São João do Paraíso	MA	204,414	3,155	1,201	86	1,868	0	2
São Pedro da Água Branca	MA	72,646	25,403	12,720	721	11,953	9	35
São Pedro dos Crentes	MA	97,099	5,877	3,269	155	2,452	0	6
Senador La Rocque	MA	125,262	258	117	6	135	0	0
Sítio Novo	MA	311,398	9,220	3,785	322	5,112	0	3
Ulianópolis	PA	508,612	32,329	12,898	732	18,699	0	6
Vila Nova dos Martírios	MA	121,109	7,703	3,880	282	3,533	7	6

Source: Suzano registry database in 2/3/2020

Municipalities areas - Source IBGE

(*) VEG: Native Vegetation

(**) WAL: Water Line





7. Environmental *Aspects*

7. Environmental *Aspects*

Forest regions

The forest areas and other native phytophysiognomies found in the FBU-MA offer possibilities for the conservation of the local biodiversity.

We are present in three macro-regions: Cidelândia (MA2, MA4, MA5 e MA6), Dom Eliseu (PA1 e PA2) and Porto Franco (MA1). With a unique biodiversity, FBU-MA spreads across two biomes: Amazon and Cerrado, as well as the transition areas between them.

Soil, weather and hydrography

Macro-region Cidelândia - MA2, MA4, MA5 and MA6

The areas pertaining to the macro-region Cidelândia are located in the municipalities of Açailândia, Cidelândia, Davinópolis, Governador Edison Lobão, Imperatriz, João Lisboa, São Francisco do Brejão, São Pedro da Água Branca, Vila Nova dos Martírios, Itinga do Maranhão, Bom Jardim, Bom Jesus das Selvas and Santa Luzia, all of which are in the state of Maranhão.

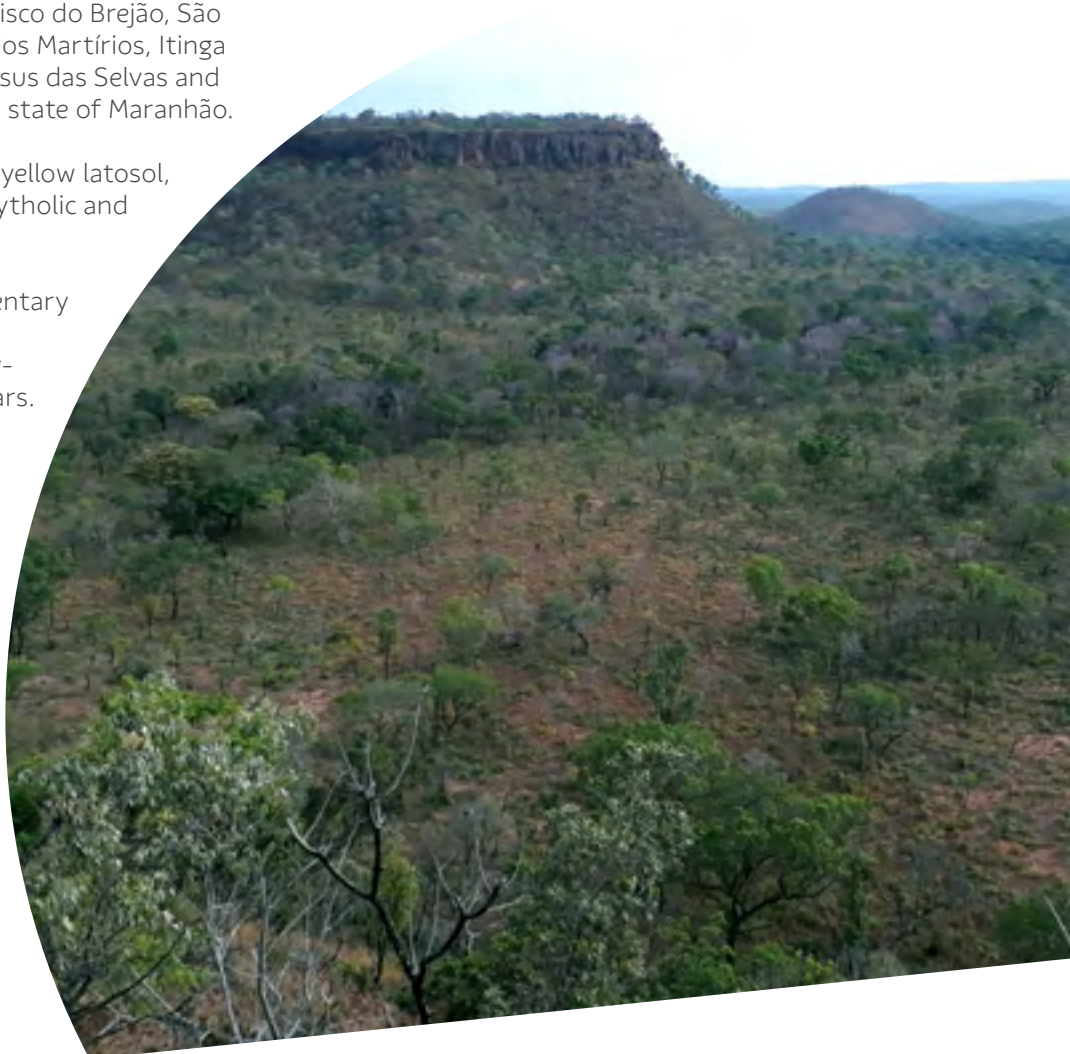
In this region, soil is composed of yellow latosol, red-yellow podzolic, plinthosols, litholic and alluvial soils.

Hydrogeology is entirely in sedimentary rocks domain and presents four aquifers: Codó, Itaperucu, tertiary-quaternary coverage and alluvionars.

The main watercourse is the Tocantins River, formed by rivers Alma and Maranhão. The Gurupi river also crosses the region, with a contribution basin of approximately 33,950 km², encompassing portions of the states of Maranhão and Pará.

We are present in three macro-regions: Cidelândia (MA2, MA4, MA5 and MA6), Dom Eliseu (PA1 and PA2) and Porto Franco (MA1). With a unique biodiversity, FBU-MA spreads across two biomes: Amazon and Cerrado, as well as the transition areas between them.

The macro-region Cidelândia is located in tropical latitude, with maximum average temperatures of 32.4 °C and minimum average of 21.5 °C, and relative humidity varying from 83% (January to March) to 63% (June to September), with annual average of 67.8%.





With a unique biodiversity, FBU-MA spreads across **2 biomes**

Macro-region Dom Eliseu – PA1 and PA2

The areas belonging to the macro-region Dom Eliseu are located in the municipalities of Dom Eliseu, Rondon do Pará, São João do Araguaia, Ulianópolis and Paragominas. The region has two main types of soil: yellow dystrophic latosol and red-yellow dystrophic argisol.

The macro-region Dom Eliseu is located on the hydrographic basin of Tocantins-Araguaia. This hydrographic region is covered by the biomes: on the North and North West portion is the Amazon Forest, and the Cerrado in the remaining areas.

Climate in the region is humid mesothermal. The average annual temperature is around 25° C and average daily minimum is around 20° C. The rainfall regime is usually between 2,250mm and 2,500mm. Rainfall regimen is regular, but not evenly distributed throughout the year, being concentrated between the months of January and June (approximately 80%). This implies large amounts of water surplus and, as a consequence, the occurrence of surface run-offs and floods. Relative humidity is around 85%.

Macro-region Porto Franco – MA1

The macro-region Porto Franco encompasses the municipalities of Estreito, Feira Nova do Maranhão, Grajaú, Porto Franco, Riachão, Ribamar Fiquene, São João do Paraíso, São Pedro dos Crentes and Sítio Novo, all of which are in the state of Maranhão. In the state of Tocantins, it stretches across the municipalities of Ananás, Angico, Araguaatins, Darcinópolis, Palmeiras do Tocantins, Riachinho and São Bento do Tocantins.

The region presents seven types of soil: glazed hydromorphic, red-yellow latosol, quartzite sands, red-yellow podzolic, concretionary, and litholic soils.

Climate is predominantly humid with moderate water deficiency, and average annual potential evapotranspiration of 1600 mm. During summer, evapotranspiration stays around 410 mm throughout the three consecutive months with highest temperatures.

The North of Tocantins is characterized by the transitional forest between cerrado and the Amazon forest.

Macro-region Porto Franco is located on the Parnaíba basin. The main aquifers are the Serra Grande, Cabeças and Poti-Piaui.

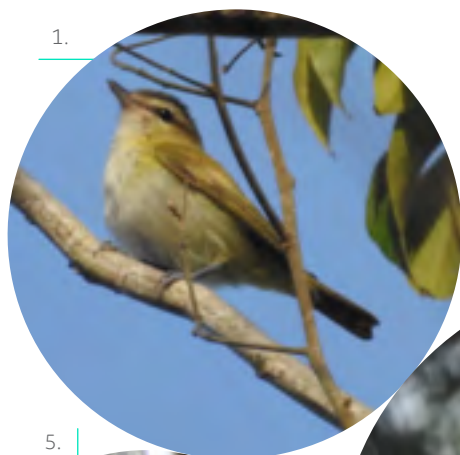
Fauna and Flora

Suzano's FBU-MA farms are inserted into different forest coverage mosaic and house several phytophysiognomies of the biomes Amazon, Cerrado and Caatinga.

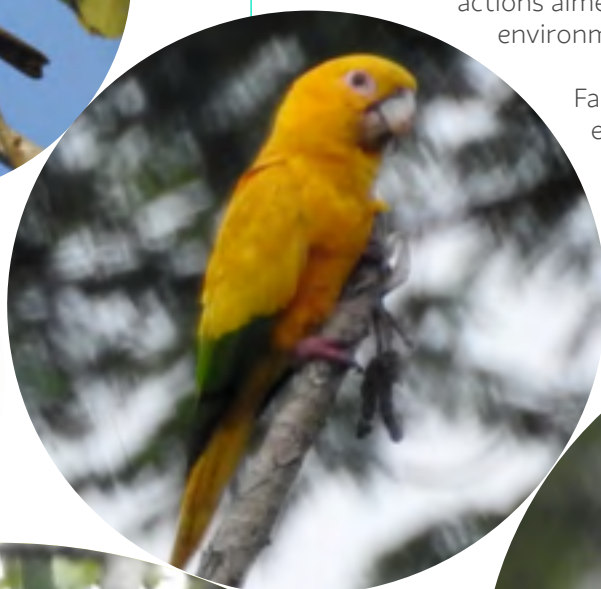
In general, our farms have remaining areas capable of contributing to the conservation of several species, particularly those endemic to the biome or threatened.

Monitoring of fauna and flora provides information for the characterization of the natural environment in the areas where Suzano operates. In a general way, the studies seek to identify, randomly or systematically, the local fauna and flora species, enabling the identification of critical species (protected by law), mapping the habitats of endemic, rare and endangered species, and finding opportunities for more detailed studies, restorative actions aimed at the flora, or improvement of environmental conditions for the fauna.

Fauna monitoring campaigns are conducted every three years, while the flora monitoring are done every four years and involves expeditions during the dry and rainy seasons.



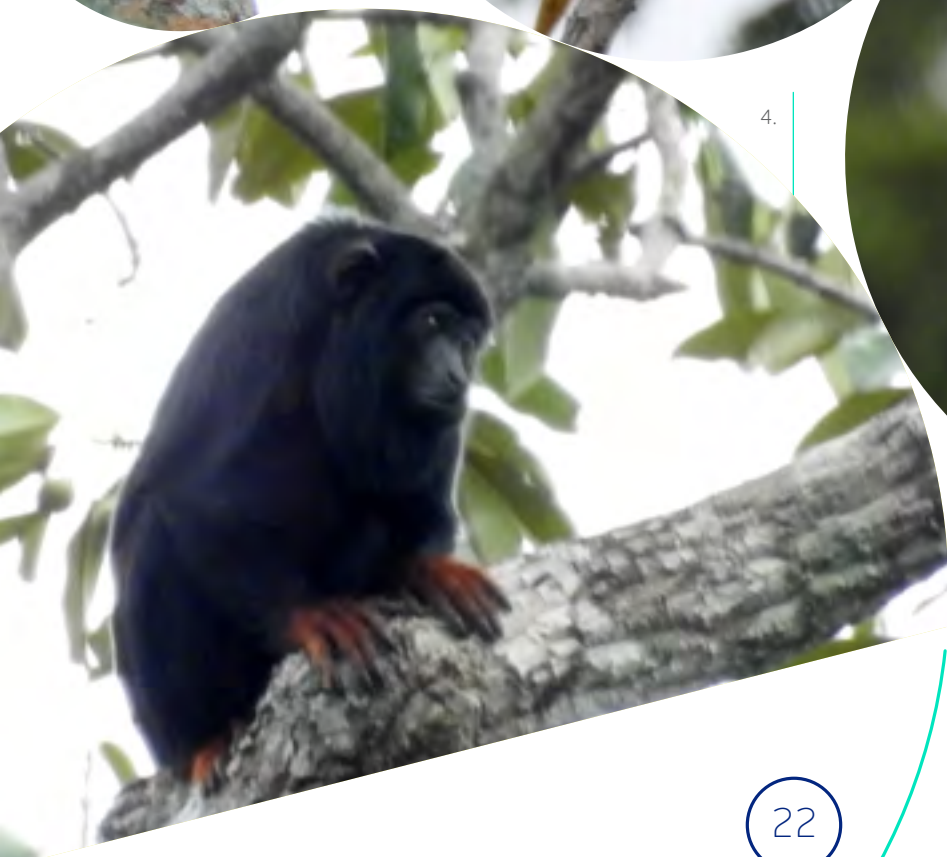
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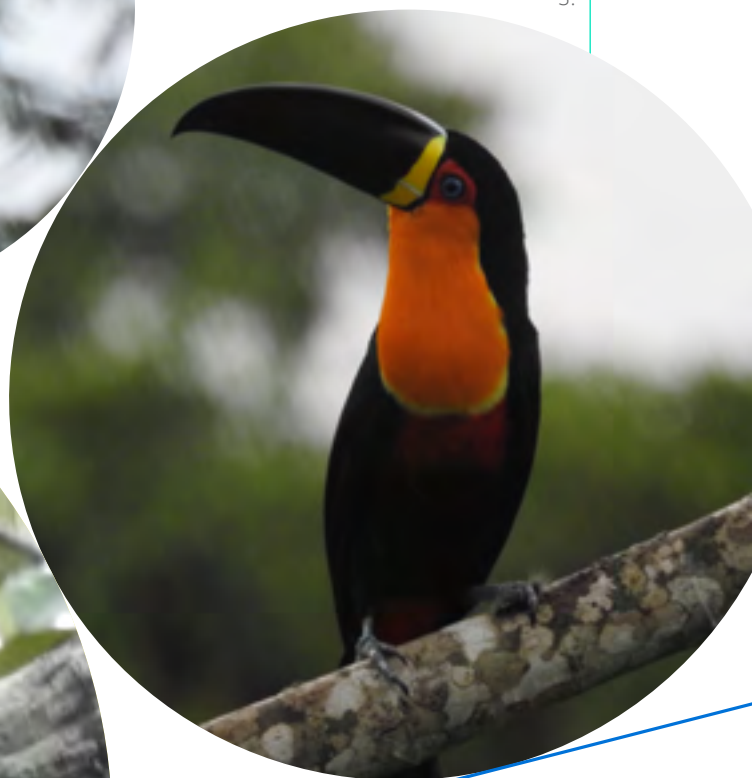
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3.

1. Juruviara (*Vireo olivaceus*), 2. Golden parakeet (*Guaruba guarouba*), 3. Black-billed toucan (*Ramphastos vitellinus*), 4. Red-handed howler (*Alouatta belzebul*)
5. Squirrel (*Guerlinguetus brasiliensis paraensis*), Red-handed howler (*Alouatta belzebul*)

Vegetation in the macro-region Cidelândia is characterized by Lowland Ombrophilous Dense Forest and by an area of mixed forests. Currently, vegetation consists, mostly, by eucalyptus reforestation and areas of native forest in several stages of succession. Species from several taxonomic groups have been recorded in this macro-region: Herpetofauna, Avifauna, mammals and Ichthyofauna.

Vegetation in the macro-region Dom Eliseu corresponds to Amazon Forest, dense forest of the sub-region of the high plateau of Pará-Maranhão, alluvial plains dense forests, and terrace dense forests. The great majority of species in this forest are arboreal small or medium-sized animals. Some typical examples of the Amazon forest animals are: monkeys, snakes, marsupials, toucans, woodpeckers, rodents, bats, among others.

The North of Tocantins is characterized by the transitional forest between cerrado and the Amazon. Studies conducted on the Northern region of Tocantins show a huge variety of animal species due to the large ecotone area found in the region.

Jatoba
(*Hymenaea parvifolia*)



Cassia fastuosa

Timbo
(*Magonia pubescens*)



8. Socioeconomic *Aspects*

8. Socioeconomic *Aspects*

Forest regions

The company bases its actions on the characterization and identification of key socioeconomic and cultural aspects found in the Forest Centers to define specific strategies for the region of operation.

The extensive area of operation in the BFU-MA is characterized by different socioeconomic and cultural realities and by small, essentially rural, municipalities.

Eucalyptus crops are responsible for significant socioproductive changes in the region, as is the strong presence of soy crops. Nonetheless, traditional activities, such as cattle ranching and subsistence agriculture, are very important for the productive structure of the regional economy.

Except for Imperatriz and Governador Edison Lobão, all municipalities have demographic densities lower than that of the state and the country. In terms of territorial occupation, the population seems to be distributed mainly in urban areas.

The north west region of Maranhão is known as a technical and higher education hub, with particular emphasis to the courses of Nursing, Pharmacy, Animal Science, Veterinary and Agronomy (STCP, 2009) and, recently, Forest Engineering.

In the macro region Cidelândia, between 56% and 90% of residences are supplied by the water supply network.

In the region of Dom Eliseu, cattle ranching activities have been boosted by the inauguration of the highway BR-010, that connects Belém to Brasília, passing through Paragominas, and has quickly become the economic basis of the municipality.

In the macro region of Porto Franco, subsistence agriculture and cattle ranching are the main uses of land and large areas of the biome Cerrado have been degraded by indiscriminate use and the recurring use of fire for management and expansion of pasture.

The company maps social assets – tool used to learn and map the main socioeconomic characteristics of the surrounding communities

Archaeological Information

The archaeological sites and places with historical and/or cultural relevance located in the company's areas or surroundings are identified in our cartographic base..

Among the main actions conducted by the company, we emphasize the identification of places with special historical, archaeological, cultural, ecological, economic or religious meaning for the communities, and training of field employees on the archaeological heritage.





Distribution of Suzano's farms, Conservation units and Management Units of Water Resources

Conservation Units are legally recognized areas, with relevant natural features with the role of securing the representativeness of significant and ecologically viable samples of the different populations, habitats and ecosystems.

The fragments of native vegetation and planted forest have an important role in the set of biodiversity conservation actions both locally and state-wide.

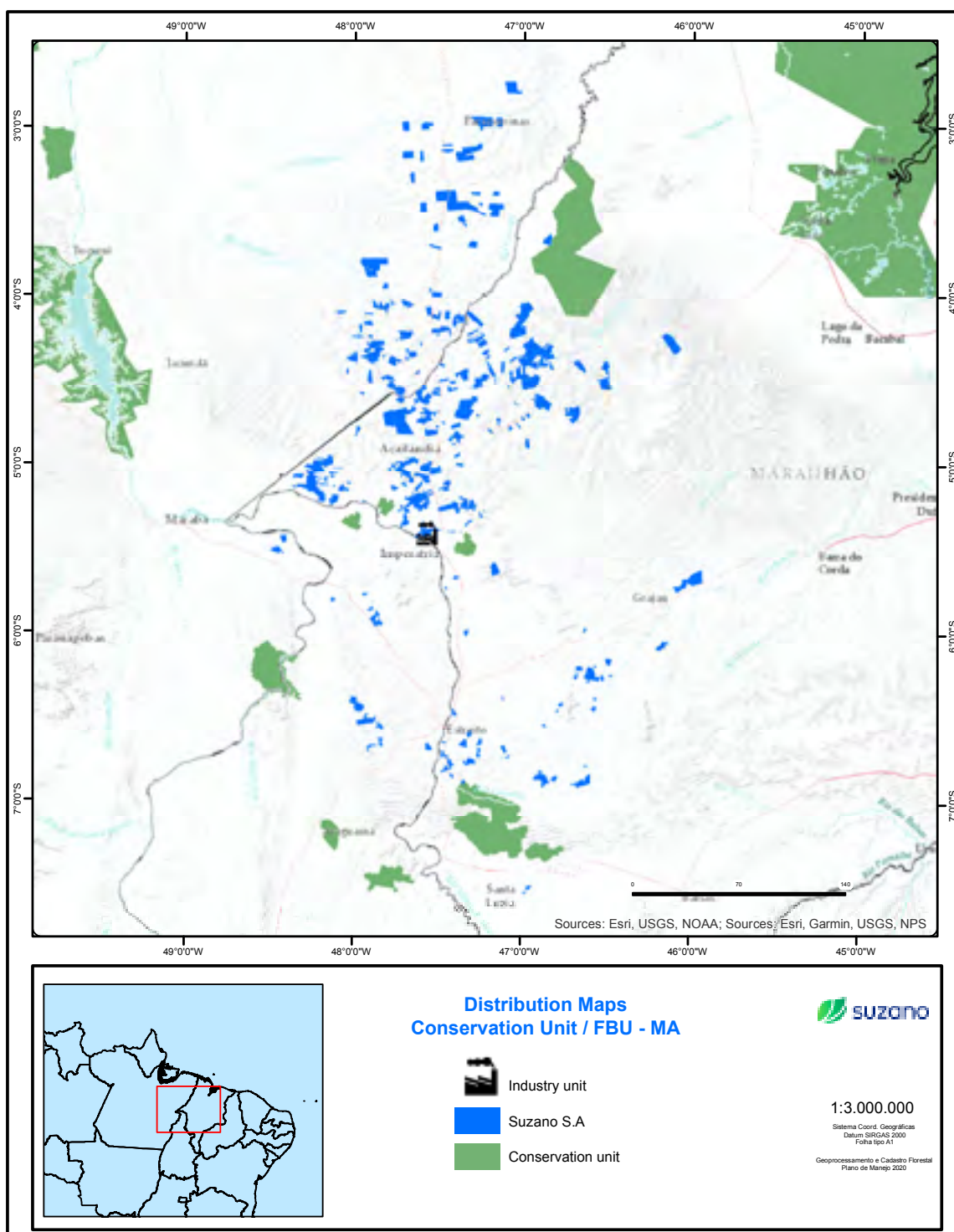
The areas operated by Suzano, with the techniques provided to protect fragments and manage commercial crops, have relevant positive effects on the neighboring conservation units because they shelter significant amounts of biodiversity and maintain the functionality of key biological and ecological processes.

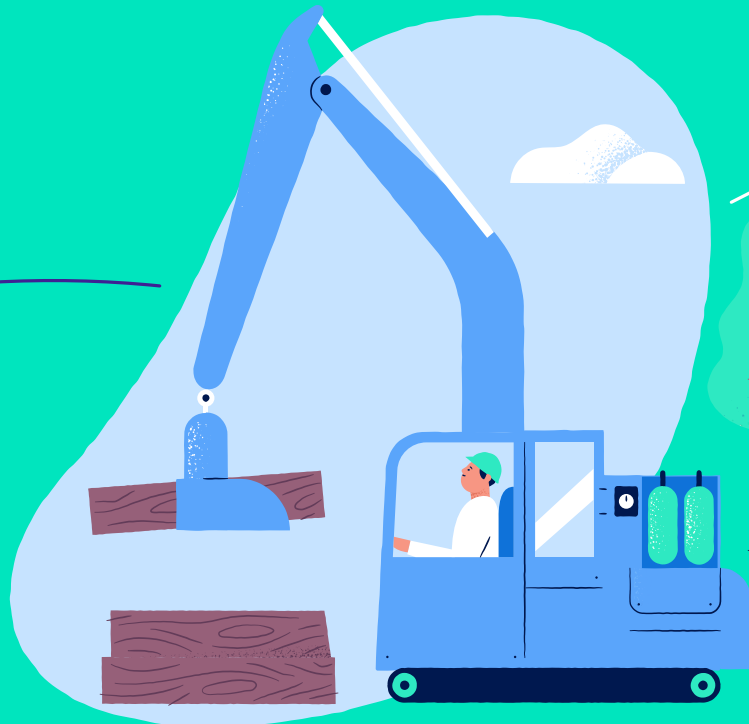
Furthermore, understanding where the company's areas are inserted relative to the river basins helps us to plan new implementation areas, and to maintain existing plantings.

The conservation units surrounding Suzano MA Unit in the macro-region Cidelândia are the Biological Reserve Gurupi, and the Extrative Reserves Ciriaco, Mata Grande, and extreme north of the State of Tocantins, managed by Chico Mendes Institute for Conservation of Biodiversity - ICMBio

There are no conservation areas or Indigenous Lands in the areas next to the company's in the macro-region Dom Eliseu.

The macro-region Porto Franco encompasses a few protected areas, such as the National Park Chapada das Mesas, with 160,046 hectares in the municipalities of Carolina, Riachão and Estreito (MA), and the Natural Monument of Fossilized Trees, a conservation unit of great relevance with 31,758 hectares, located at the municipality of Filadélfia, in the North of the State of Tocantins.





9. The Importance of *Planted Forests*

9. The Importance of *Planted Forests*

What is **Forest Management**?

Forest Management is the administration of forest resources with the aim of achieving economic and social benefits aligned with the mechanisms for ecosystem support by employing the best practices of Eucalyptus farming. The goal is to reach high productivity in balance with the environment conservation.

Objective

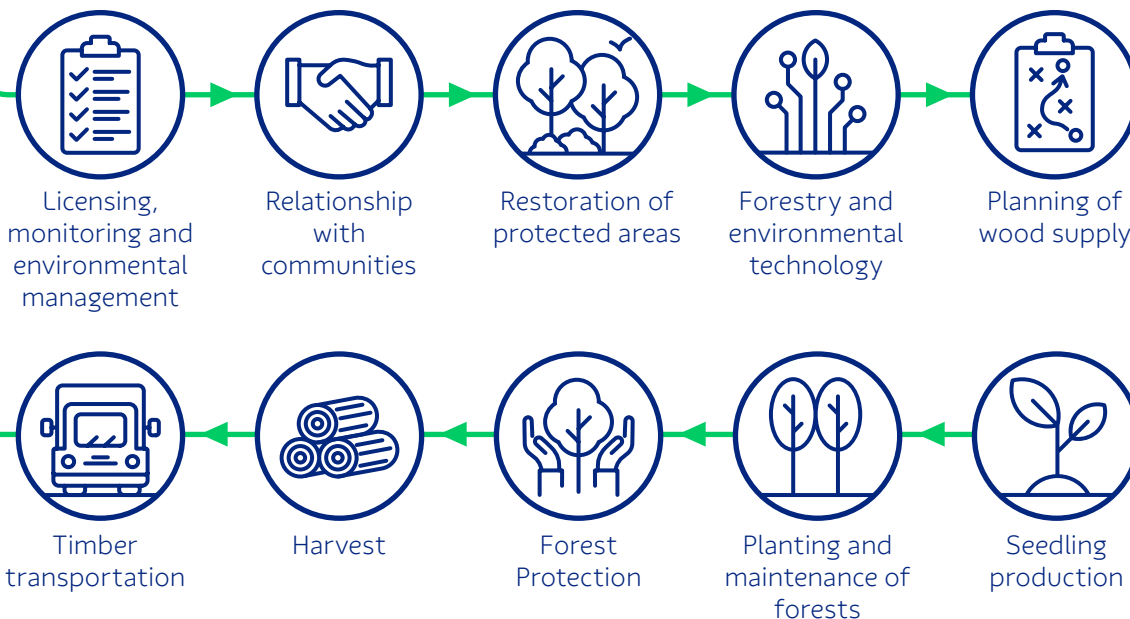
The goal of Suzano's forest management is to supply the industrial Units with Eucalyptus timber, according to the parameters described in the following, either in short or long terms.

- Availability and rational use of areas for the cultivation of Eucalyptus through directives and procedures for the purchase and lease of land.
- Development of new genetic material and monitoring of soil nutritional levels, pests and others, defined in operational routines and specific research projects.
- Standardization, reporting and continuous improvement of procedures related to seedling production, implementation, restoration, forestry practices, construction and conservation of roads, harvesting, and forestry products transportation.
- Outlining of programs concerning the environment, healthcare and safety at work, as well as socioenvironmental aspects, always in compliance with the applicable law.

Eucalyptus

- Is an exotic species (not native from Brazil), like coffee, corn, soy, sugar cane and several other crops widely cultivated in the country.
- With proper management, water consumption is similar to that of native forests and its roots are kept away from the water table.
- It is harvested in approximately seven years and can be cultivated in low fertility land.
- With proper management, it provides protection for biodiversity as shown by the biodiversity surveillance results in Suzano's areas.
- Of rapid growth, Eucalyptus helps to absorb carbon dioxide from the atmosphere, giving back pure oxygen. The role of Eucalyptus forests is key to humankind efforts to neutralize greenhouse gases, responsible for the Earth's warming.

Forest management activities



Compliance with the law

Suzano is always up-to-date with the applicable environmental, labor and tax laws with preliminary surveys carried out by an environmental law consulting firm.

Managed forest resources

To supply the demands of the industry for eucalyptus timber, we rely on crops of the genus *Eucalyptus*, which encompasses more than 600 species that are adapted to many different soil and weather conditions.

Eucalyptus originates from Australia and Indonesia. It was chosen due to its higher potential for timber production for pulp when compared to other forestry species and due to its adaptability to the environmental conditions in Brazil, including soil and weather.

The annual average production of the plantings in the FBU-MA is around

32 m³/ha/year



Technology and Innovation

Suzano has an advanced Technology Center responsible for the development of research on forestry and industry. These activities focus on the continuous improvement of the current operations and the development of technological innovations aiming at the company's sustainability.

Regarding forestry, the Technology Center works mainly on Classical Genetic Improvement, Forest Protection, Forest Management, Ecophysiology and Biotechnology, defining models of planted forest management that support an increase in forest biomass productivity.

Suzano's plantings are mostly formed by hybrids obtained from the crossbreeding of *Eucalyptus grandis* and *Eucalyptus urophylla*.

Those species were selected because they are better adapted to the local soil and weather conditions following several cycles of improvement and research. Currently, the tree is harvested in six years in average, varying from five to seven years. After the first harvest, the area is managed for a new planting or for regrowth.



Partnerships

Suzano conducts studies and surveys conducted in partnership with relevant public and private institutions in Brazil and abroad. All projects and activities seek to meet operational and market demands, legal requirements, new tendencies, technologies and products defined by internal research strategies.

As a result, Suzano has stood out in the development and referrals of new genetic materials, monitoring and recommendation of fertilization and practices of forest management, use of new technologies for forest protection and more sustainable practices of production.





10.
Forest
Management

10. Forest Management

Forest Protection

The company continuously monitor for pests, diseases and weed with regular field visits.

The objective is the early detection of pests and weeds, and the assessment of competition level of Eucalyptus with weed. All information gathered are used to help decisions on control and to define the method to be adopted, seeking for the rational use of pesticides.

Suzano also prioritizes the use of biological control agents in occasional pest management, and selection and planting of clones resistant to the main crop diseases, complementing the integrated management.

Forest Inventory

In its first 120 days, the forest is monitored through a Qualitative Inventory that allows inferences to be drawn on the quality and homogeneity of the crops. From the second year on, monitoring of the standing timber stock, and the growth of the planted forest is carried out through a continuous forest inventory that uses sampling techniques to gather data that allow an estimate of the planting volume per hectare and per tree for a given age. This information is used in the decision making process on the best harvest time. It is also important for the proper planning of timber supply to the Industrial Unit.

Planning

Planting and harvesting planning for timber supply comprises short, medium and long term achievements, aiming at the best utilization of natural resources and minimizing occasional socioenvironmental impacts.

Forest planning keeps track of ordering to ensure the industry supply. The proper management of planted forests favors planting productivity and contributes to disease and pest control, biodiversity conservation, and protection of springs and ecosystem services - creating a virtuous cycle.

Development and Operational Excellence

This area is responsible for the development and transfer of mechanization and digitalization technology to forest processes.

Seeks the continuous improvement of forestry activities, harvest and logistics, with particular interest in routine management, quality and productivity of operations, as well as personnel qualification, thus promoting safety, product quality, high productivity, feasible costs for forestry activities and environmental conservation.

The licensed nurseries of FBU-MA have an installed capacity of

41.9 million
seedlings per year
with final yield of
65%

Seedling Production

The nursery is a kind of “tree baby room”. It is the place where Eucalyptus seedlings, young and tender, are planted and nursed until reaching the adequate size to be planted in a forest.

The seedling development takes 90 to 120 days. To ensure excellent quality of the seedlings, the spacing between them is increased after 60 days, since they tend to grow healthier when planted apart from each other.



Planting

The main activities related to trees planting are: pre-planting mechanized chemical cleaning, mechanized soil tillage, mechanized fertilization, planting, mechanized and semi-mechanized irrigation, and replanting.

Planting can be carried out in reform areas (where an Eucalyptus planting already exists), or in implantation areas (where there is no Eucalyptus planting). Suzano only implants forest in areas not covered by native forests.

Soil is prepared using minimum tillage, which consists in preparing strips of soil in the planting line. About 70% of the land remains undisturbed, which favors the maintenance of soil characteristics, avoiding erosion and loss of organic matter.



In 2019, FBU-MA acquired
67,971 ha (implantation),
130,131 ha (renovation) and
15,011 ha (regrowth), totaling

213.113 ha

**Disregarding production units awaiting implantation*

In 2019, the annual harvest volume in the FBU-MA was

3,643,320 m³

Forest Maintenance

This stage consists in a set of activities carried out between planting and harvest (5 to 7 years) to ensure growth and productivity.

The main activities are: manual or mechanical mowing, chemical or mechanical weeding, fertilizing, sprouting reduction, control of ants, and prevention of forest fire.

Harvest

As soon as the forest reaches its ideal point, timbers are harvested to supply the industrial plant. Harvest encompasses all the processes from tree harvest to the disposition of logs (cutting, forwarding, stacking and fueling), up to the point where they can be transported by trucks or any other transportation mode.

During harvest, eucalyptus trees are cut toward the center of the plot, avoiding any possible damage to the native forest.

Trucks equipped with telemetry

Use of precision technology for the management of operations. Our fleet is equipped with telemetry for the improvement of the drivers working hours, detection of occasional violations of speed limits, and monitoring of the distribution and positioning of the fleet on the roads and farms.

With this system in place, Suzano strengthens the culture of daily routine management with partner companies in logistics operations, thus maximizing personnel safety standards and operational efficiency based on reliable data.

Timber Transportation

Forest Logistics main responsibility is to transport timbers from the forest areas to the Industrial Units. The harvested timbers are transported according to the Annual Transportation Planning. From this planning, loading, routes and trucks distribution are defined considering the requirements defined on the area's operational procedures.

The routes for timber transportation are defined in agreement with Suzano's Sustainability sector in order to minimize the possible impacts of forestry activities on the neighboring communities.

The annual volume of timber transported to the industry from FBU-MA in 2019 was

4,191,309 m³



Suzano is
committed to

**Health
and Safety**



Road Networks - Roads

The road network in the forest area comprises municipal and state roads, arterial, collectors and firebreaks, whose maintenance is defined according to the company's internal criteria to secure forestry operations and avoid erosive processes in the conservation areas.

- "Works of art" are built to store rain water, such as containment boxes, and to avoid erosion on the roads.
- Existing roads are repaired and new roads can be opened to improve operation quality and safety.
- Firebreaks are kept to secure the access of fire brigade teams.

Moistening of Roads

To keep the road wet during certain earthworks, the company uses a tank truck. The goal is to reduce dust around houses and settlements caused by the traffic of trucks transporting timber to the company.

Water collection for the road moistening is granted by the competent bodies.

Road Safety

*Suzano respects and values
its professionals.*

Therefore, health and safety are the company's permanent commitment. Suzano maintains a set of rules that guides its employees and the carriers' employees into safer driving habits, protecting everyone's lives.



Forest Integrity

Suzano's professionals focus largely on prevention and control of wildfires.

That is why the company provides continuous training to its brigade teams that are not only apt to monitor, but also act as support to fight fire in neighboring farms.

Suzano invests in awareness raising, sharing informative folders that address the dangers of wildfires.

We rely on trained fire brigade teams, trucks and surveillance towers available to respond to any possible fire outbreaks.

The program Live Forest aims to raise awareness among collaborators (employees and suppliers), partners and surrounding communities about the impacts and dangers of fire, how to avoid it and how to act when a fire outbreak is spotted.

Our planted forests and native forest areas are systemically surveyed and any event, whether fire, littering, trespassing, blocking of watercourses, among others, are monitored and documented.

Imperatriz Unit has an Electronic Fire Detection System formed by surveillance towers with 360o view distributed across the company's areas and operated from a monitoring center. This system provides over 95% coverage of the forest, including planted and conservation areas.



Live Forest Program

raises awareness among collaborators and community on the impacts and dangers of fire

Monitoring structure

Cameras	Towers	Radio repeaters	Radios distributed along the operation own	Operating radius
39	43	26	500	Average of 800-900 km from Paragominas to the region of Grajaú/Araguaína



11.

Environmental Management

11. Environmental Management

We preserve over
25,000 ha
of native forests in
High Preservation
Value areas

High conservation value areas

Every forest has values or environmental and social functions beyond its productive value, such as fauna and flora and their habitats, protection of water resources, among others.

When the values are considered extraordinary, the forest can be classified as a High Conservation Value Forest (HCV Resource Network, 2007), and are targeted by Suzano's management to maintain or improve its attributes.

The company has used as a reference the General Guide for Identification of High Conservation Value, edited in 2018, to define the features criteria.

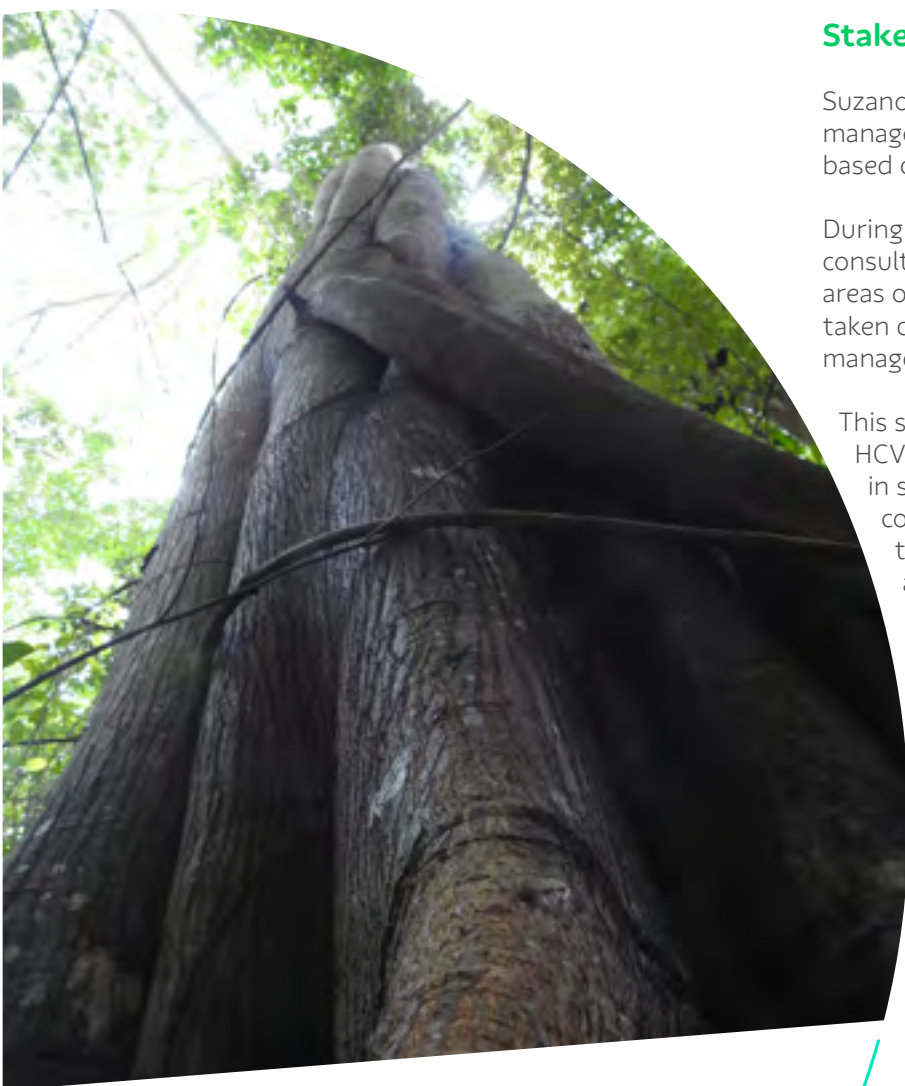
Value	Definition
HCV 1	Diversity of species
HCV 2	Ecosystems and mosaics on the landscape scale
HCV 3	Ecosystems and Habitats
HCV 4	Critical environmental services
HCV 5	Communities needs
HCV 6	Cultural values

Stakeholders Consultation







Suzano has consulted the stakeholders to develop management regimes and review their efficiency, based on the criteria for the identification of HCVs.

During the preparation of the diagnosis, Suzano consulted researchers and specialists on their areas of expertise to ensure safe decisions were taken concerning the proper identification and management of HCVs.

This surveys has identified 15 forest fragments as HCVs, where species of fauna and flora are found in significant number, diversity and relevance for conservation. Also, places with social value for the surrounding communities were identified as HCV 3.



Measures of protection and Monitoring actions in the HCVs

High Conservation Value	Characteristics	Risks and Threats	Impact	Protection Measures	Monitoring
					
HCV 1	Endemic, rare, threatened or endangered species at the regional, national or global level.	a) Wildfires; b) Timber theft; c) Invasion of exotic species; d) Hunting and predatory fishing; e) Inadequate management of bordering areas; f) Deforestation.	a) Loss of Biodiversity; b) River sedimentation; c) Damage to biodiversity; d) Ecosystem Imbalance	a) Asset Surveillance; b) Implementation of preventative measures against fire; c) Prioritize, whenever possible, forest restoration to form connections through ecological corridors; d) Environmental Education; e) Placement of Identification Plates;	• Anthropoc activities: Quarterly • Avifauna: three-yearly • Mammals: three-yearly • Flora: Five-yearly
AVC 2	Significantly wide areas at the global, national or regional level, containing viable populations of naturally occurring species.				• Anthropoc activities: Quarterly • Plant composition via satellite image: Annually
HCV 3	Ecosystems, habitats or refuges of rare, threatened or endangered biodiversity				• Anthropoc activities: Quarterly • Avifauna: three-yearly • Mammals: three-yearly • Flora: Five-yearly
HCV 4	Critical Environmental Services. Protection of springs	a) Wildfires; b) Timber theft; c) Inadequate management of bordering areas; d) Deforestation	a) Loss of access to natural resources; b) Water scarcity; c) River sedimentation; d) Damage to biodiversity;		Anthropoc activities: Quarterly Plant composition via satellite image: Annually
HCV 5	Key areas to meet the basic needs of local communities	a) Damage and pillage; b) Wildfires; c) Deforestation; d) Inadequate management	a) Loss of access to natural resources; b) scarcity of sources of collection; c) Disfigurement of the area;		Anthropoc activities: Quarterly
HCV 6	Area of great relevance for the traditional culture identity of local communities		a) Loss of access to resources of cultural and religious value; b) Disfigurement of the area; c) Weakening and loss of cultural identity;	a) Conservation of the area; b) Granting of access; c) Identification plates; d) Open dialog with the community; e) Asset surveillance; f) Operational patrolling; g) Identification on the company's geographical tools.	Anthropoc activities: Quarterly
LSI (Location of Special Interest)	Areas occasionally used by the local communities for non-traditional activities, related to cultural, historical, ecological, economic and/or religious manifestations.				Anthropoc activities: Biannually

Biodiversity management

Suzano understands Biodiversity Monitoring as the follow up on development and changes in components and parameters of landscape and fauna and flora communities, aiming to assess the effects of forest management on the environment.



Black tamarin
(Saguinus niger)

Fauna and Flora

In the studies conducted between 2013 and 2016, Birds accounted for 566 species appearing in the FBU database, of which, 18 are threatened. The last monitoring, in 2019, has identified 354 bird species.

Studies conducted between 2013 and 2016 showed 16 medium and large-sized mammals in the FBU database, 13 of which are threatened. In the last monitoring, conducted in 2019, 32 species of mammals were identified.

Species recorded up to the last monitoring



354
Birds



32
Mammals



369
Plants

With the survey of fauna and flora in the company's areas, it is possible to establish indicators of the environmental status. Monitoring includes surveying, demarcation, restoration, and conservation of the areas, allowing a continuous learning based on the improvement of environmental management techniques, thus contributing to the local biodiversity conservation.

Studies conducted between 2013 and 2016 identified 375 plant species in the FBU database, 04 of which are threatened. The last monitoring, conducted in 2018, identified 369 plant species, 11 of which are threatened.

Threatened species

The last surveys - Flora in 2018 and birds and medium and large-sized mammals in 2019 - have identified several threatened species. See below the table with the description.

Type	Species	Popular name	Conservation status		
			PA	BR	G
Flora	<i>Apuleia leiocarpa</i>	Guarapa		VU	
	<i>Aspidosperma desmanthum</i>	Para-Tudo-Branco	VU		
	<i>Aspidosperma sandwithianum</i>	Araracanga	VU		
	<i>Bertholletia excelsa</i>	Brazil nut	VU	VU	VU
	<i>Campomanesia aromatica</i>	Gabirola			VU
	<i>Cedrela fissilis</i>	Cedar		VU	VU
	<i>Couratari guianensis</i>	Tauari			VU
	<i>Hymenaea parvifolia</i>	Jatobá		VU	
	<i>Manilkara elata</i>	Cow tree			EN
	<i>Ptychopetalum olacoides</i>	Marapuama	VU		
	<i>Sorocea guilleminiana</i>	Folha-De-Serra			VU
Birds	<i>Harpia harpyja</i>	Harpy Eagle		VU	
	<i>Psophia obscura</i>	Dark-winged trumpeter	EN	CR	CR
	<i>Patagioenas subvinacea</i>	Ruddy pigeon			VU
	<i>Penelope pileata</i>	White-crested guan			VU
	<i>Pteroglossus bitorquatus</i>	Red-necked aracari	VU	VU	EN
	<i>Ramphastos vitellinus ariel</i>	Black-billed toucan			EN
	<i>Celeus torquatus pieteroyensi</i>	Ringed woodpecker	EN	EN	
	<i>Guaruba guarouba</i>	Golden parakeet	VU	VU	VU
	<i>Pyrrhura amazonum</i>	Santarem parakeet			EN
	<i>Pyrrhura coerulescens</i>	Pearly parakeet	EN	VU	VU
	<i>Phlegopsis nigromaculata paraensis</i>	Black-spotted bare eye	EN	VU	
	<i>Thamnophilus aethiops incertus</i>	White-shouldered antshrike	EN		
	<i>Dendrexetastes rufigula paraensis</i>	Cinnamon-throated woodcreeper	EN	EN	
	<i>Dendrocolaptes medius</i>	Barred woodcreeper	EN	VU	
	<i>Synallaxis rutilans omissa</i>	Ruddy spinetail	EN		
	<i>Lepidothrix iris</i>	Opal-crowned manakin		EN	VU
	<i>Piprites chloris grisescens</i>	Wing-barred piprites	VU	VU	
	<i>Tolmomyias assimilis paraensis</i>	Zimmer's flatbill	EN		

Type	Especies	Popular name	Conservation status		
			PA	BR	G
Medium and large-sized mammals	<i>Alouatta belzebul</i>	Red-handed howler		VU	VU
	<i>Chiropotes satanas</i>	Black-bearded saki	CR	CR	CR
	<i>Leopardus sp.1</i>	Oncilla		EN/VU	VU
	<i>Myrmecophaga tridactyla</i>	Giant anteater	VU	VU	VU
	<i>Panthera onca</i>	Jaguar	VU	VU	
	<i>Priodontes maximus</i>	Giant armadillo	VU	VU	VU
	<i>Puma concolor</i>	Cougar	VU	VU	
	<i>Puma yagouaroundi</i>	Jaguarundi		VU	
	<i>Saguinus niger</i>	Black tamarin		VU	VU
	<i>Tapirus terrestris</i>	South American Tapir		VU	VU
	<i>Tayassu pecari</i>	Pecari		VU	VU

Conservation status: VU – “vulnerable”, EN – “endangered” and CR – “critically threatened” PA – State of Para’s list; BR - Brazil’s list; G - global list.

Jaguar
(*Panthera onca*)



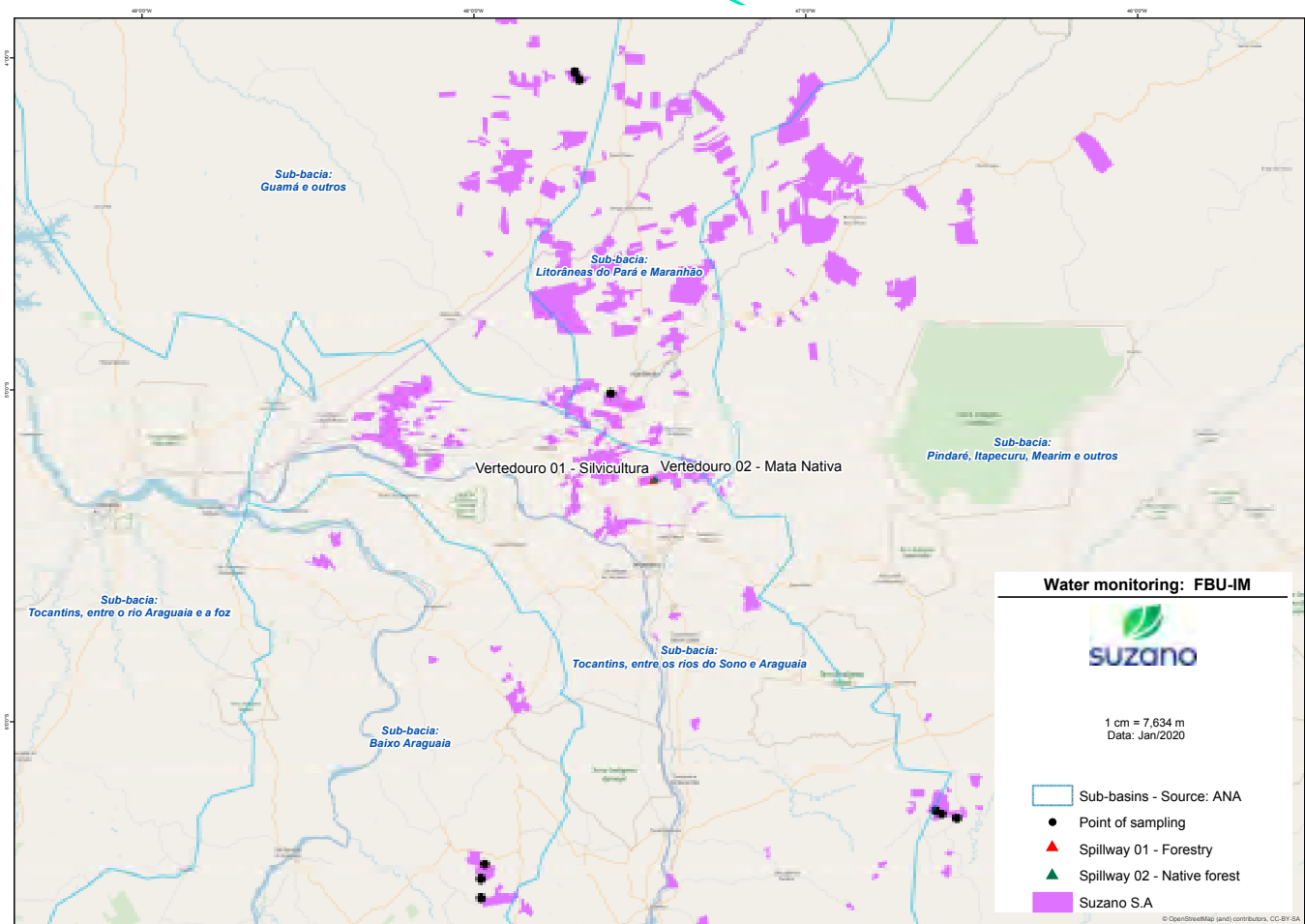
Monitoring of water resources

Suzano assesses the effects of its plantings on the quality and quantity of water resources through a representative monitoring network according to the scale and intensity of plantings.

Five hydrographic sub-basins, representing the different regions of operation at the FBU-MA are permanently monitored. Part of the information gathered are sent to the Cooperative Program on Monitoring and Modeling of Hydrographic Basins (Programa Cooperativo sobre Monitoramento e Modelagem de Bacias Hidrográficas - PROMAB), a research program of IPEF (Institute of Research and Study of Forests) coordinated by the Laboratory of Forest Hydrology of the Forest Sciences Department of ESALQ - University of São Paulo.

One of the mechanisms applied for the maintenance of water resources is based on natural control developed along evolutionary processes of the landscape. One example is the well-known relationship between forest coverage and water resources. These actions are primarily taken in Permanent Preservation Areas aiming to meet the legislation and constraints posed by the forest operation permits..

In 2019,
11 points in
5 hydrographic sub-basins
were monitored



Environmental aspects and impacts of forest management

Suzano is committed to adopting the best environmental practices to innovate in promoting a sustainable development.





Focusing on process sustainability, the company uses managerial instruments and tools that provide better environmental quality in its forestry activities. Managing environmental aspects and impacts, the FBU defines methodologies for the identification, assessment and control of environmental aspects and impacts (of its services, activities and products), seeking to minimize all possible adverse impacts and strengthen the beneficial ones.

Environmental aspects and impacts of forestry processes are identified and assessed considering:

- The new laws that apply to the business.
- Compliance with the current law.
- Regulatory marks.
- Obligations resulting from agreements and voluntary certifications
- Change management for new products, services, activities and equipment.

Once identified the environmental aspects and impacts, mitigation, control and monitoring actions are established.

Examples of environmental aspects and impacts of forest management

Type of impact	Adverse	Adverse	Beneficial	Beneficial
Environmental Aspect	 Water consumption	 Fire	 CO₂ Capture (GGE - Greenhouse gas emission)	 Improvement of ecological processes
Environmental impact	Temporary variation of amount of water	Soil depletion and reduction in biodiversity	Minimization of climate changes	Conservation of Biodiversity
Control measure	<ul style="list-style-type: none"> • Physical control: • field notes. • Limits of water use rights. 	Control systems (brigades with trained teams, tank trucks and equipment).	CO ₂ sequestration by the forest production areas and conservation areas as informed in the Greenhouse Gas Inventory	<ul style="list-style-type: none"> • Monitoring of restored areas. • Biodiversity management.

Ecological Restoration

The Ecological Restoration Program aims to restore the ecological processes that are responsible for a sustainable functional forest. These actions are implemented primarily in Permanent Preservation Areas.

The process of ecological restoration is very recent in the region where Unit Imperatriz is located. Little is known about the adequate methodology and set of actions necessary for the success of the restoration.

With this aim, in 2018, we started the implantation of 107.52 hectares to learn the dynamics of the ecological restoration process in the region. In 2019, the process of restoration was initiated in 15.24 hectares.

Suzano's program promotes an increase in biodiversity and creates several environmental services in our region of operation by using the following restoration methodologies: planting of native species saplings, conduction of natural regeneration, control of invasive species, and isolation of protected areas.

In 2017, Suzano has started the restoration process of

122.76 ha

of protected areas in the Imperatriz Unit





Environmental Education

School of Heroes

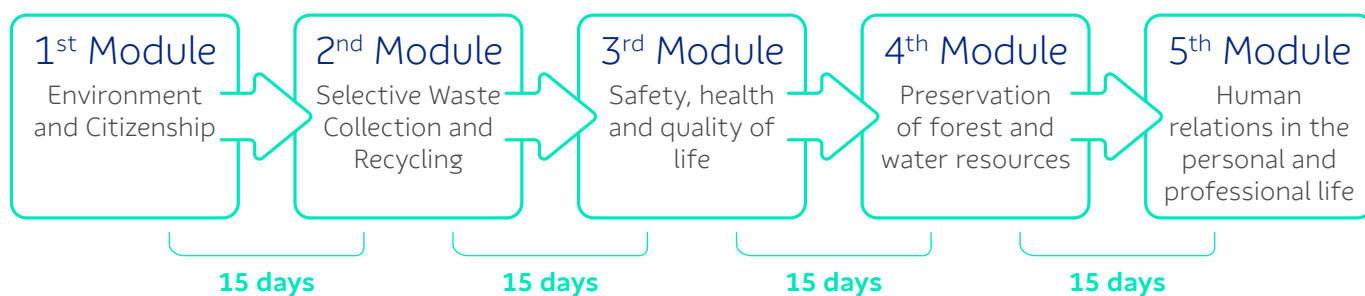
Sponsors classes and awareness-raising actions that focus on the promotion of values that instigates practices for the improvement of the environment, quality of life and other values pertaining culture and sustainability..

The project is developed in public schools of the municipalities where we have a forest or industrial basis. It is divided in 5 modules and lasts 3 months. Children from 10 to 14 years-old are allowed to participate.

Students are randomly selected. Each module covers a subject in environmental education. Following the lecture, the students take physical education, singing and drill commands classes.

At the end of the cycle, the students participate in a graduation ceremony in the Army, in Imperatriz-MA, and spend an afternoon having fun in the shopping mall as a reward for the conclusion of the program. This program has been implanted in 2017 by Suzano and, since then, has benefited more than 1,300 students in 15 municipalities.

The following subjects are addressed in this program:



The Environmental Training Program disseminates information and environmental practices to raise awareness among its participants about sustainable attitudes and behavior capable of transforming the socioenvironmental reality.

To reach the internal and external audiences, this Program was divided in three different projects in line with the reality of each target audience.

In 2019, 174 collaborators (employees and contractors) were trained on the subjects: High Conservation Value areas, Monitoring and Management of Environmental Law Compliance, Environmental evidences, Water Collection process, and Environmental events and Operational deviations.

We also encourage our collaborators to be agents of transformation through sustainable attitudes and good environmental practices. Since 2017, we promote the “D-Day - show your love for Tocantins river”, in Imperatriz-MA, where several collaborators volunteer to a big joint effort to raise awareness and clean the river beach.

In 2019, over 500 people participated in the event, including collaborators (employees and contractors), family and partners, and 800 kilos of waste were removed from the beach.



Solid waste management

Suzano's Solid Waste Management procedure adopts practices to classify, separate, store, collect, transport, and dispose of waste produced in forestry operations and activities, aiming to:

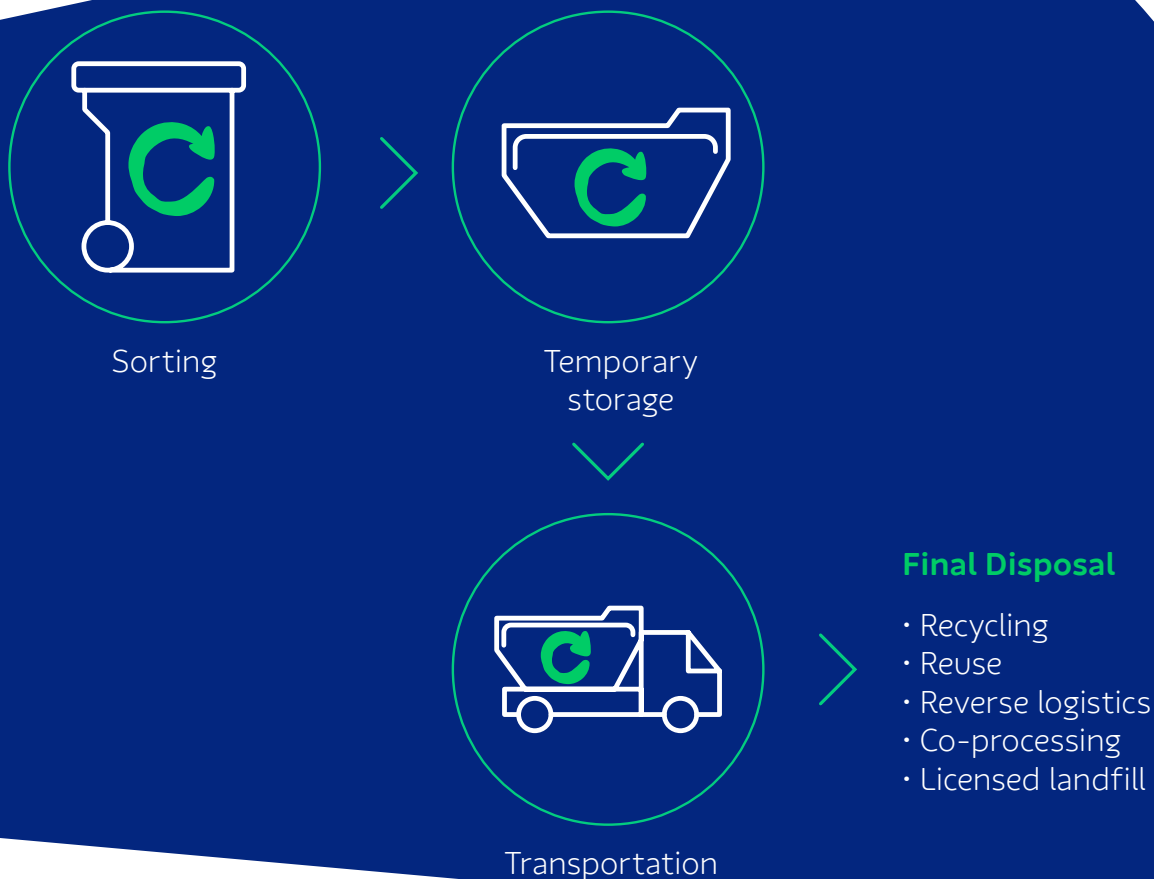
- Reduce waste production;
- Reuse of residues, optimizing its use before disposal;
- Recycle residues;
- Adequately process waste;
- Ensure the proper disposal.

Waste management in the forest areas is performed according to the effective legislation. Waste is forwarded according to its classification to recipients that undergo a rigid process of evaluation and approval. Class I waste (Hazardous) might be sent for co-processing, recycling and licensed Class I landfills. Class II waste (non-Hazardous) are sent for recycling or licensed landfills, depending on its physical characteristics.

Packages of pesticides used in forestry operations are sent to licensed Empty Crop Protection Packages Receiving Units for reverse logistics.

Waste management steps

Waste recipients go through evaluation and *approval*





12.

Acknowledgement Of and Respect for *Professionals*

12. Acknowledgement Of and Respect for Professionals

Safety, Health and Quality of Life

The valuation of, and respect for, professionals are Suzano's commitment. Safety and health management is one of Suzano's priorities. The company encourages all individuals to take responsibility for safety and spares no resources to further reduce the rate of accidents.

The Occupational Health and Safety Management program provides guidance on the registration of events in and outside the company, providing the Safety Department with the elements required for the development of awareness campaigns that extrapolate the management boundaries and contributes significantly to the quality of life of employees, their families and the communities surrounding Suzano's areas of operation.

Checking and ensuring work safety and health conditions, as well as the use of safety devices, are also covered by the collective agreement signed with the employees' representative entities. All events related to the employees health and safety are registered and monitored based on a corporative standard for the communication of accidents, incidents and occupational disease.

Programs developed by Suzano to ensure safety at work involve the preparation of documents that seek to identify the risks associated with operations, such as the Environmental Risk Prevention Program (PPRA), Preliminary Risk Analysis (APR), Work Risk Observation (OPA), Safety in the Area, and work permits.

All activities are checked and monitored for below-standard conditions and practices (*Fique Alerta / GID*) and approached by programs as the Program for Medical Control of Occupational Health (PCMSO). The system is composed of different groups and committees that help monitoring and provide guidance on safety and health conditions. The initiatives aim to establish and maintain a responsible and transparent relationship with all employees in order to adopt the best existing practices in the industrial, forestry and administrative units. This process helps to build Suzano's reputation among its key relationship public and seeks to explore synergies and to better employ our professionals talents.

Safety performance of FBU-MA forestry operations

Safety indicators	2019
Safety Management Indicator (IGS) Operation + Logistics	87%
Frequency rate (accidents with lost work days) Forestry Operation	0.62
Frequency rate (accidents with lost work days) Forestry Logistics	1.90
Frequency rate (accidents with lost work days) Operation + Forestry Logistics	1.66



Workforce Qualification

The company contributes to the generation of local jobs by improving the economic activities in the region of operation.

Our collaborators and vendors are offered personal and professional development opportunities. All collaborators take part in training activities that address not only technical aspects of the operation, but also subjects such as ethics and human rights. The welfare of every employee and level of satisfaction with the company are also closely monitored through organizational surveys.

The company conducts a structured process of integration of new employees and permanent vendors that aims to facilitate their adaptation into the work environment, the organizational culture, concepts and drivers, environmental conservation, code of conduct, the management system and stakeholders relationship.

Suzano has a benefits policy aligned to the good practices of the market and to its employees' expectancies. The benefits granted represent a significant value for the company and its employees, and are managed in order to ensure the best quality level and provide comfort and satisfaction.

Job creation at the FBU-MA

Own	677
Vendors*	218
Total	895

*Admitted in 2018/2019





13.

Social Management

13. *Social* Management

Suzano prioritizes a clear and straightforward work toward social aspects directly or indirectly affected by its forest management activities.

With this end, the company considers a set of specific actions aimed at the different audiences influenced by its activities.

Sustainable extractivism
- Craftsmanship program
(RESEX Ciriaco)



Stakeholders Relationship Management

Suzano's relationship strategy is to ensure social and business legitimacy through the long-term strengthening of its interaction with neighboring communities and the integration of its interests into forestry business management.

Suzano's relationship with communities surrounding its operations follows the following approach:



1. Priorization Matrix

Process of characterization of the area where Suzano is present to guide the activities with social impact to be adopted in each case. This study provides an assertive guidance for social investment and other actions for local engagement.



2. Engagement

Structured, inclusive and continued relationship, where the company plays the role of a partner toward the local development.

Takes place on the communities most impacted by Suzano's operation. In rural communities, engagement is promoted by the Rural and Territorial Development Program (PDRT), Beehives Program, among others.



3. Operational Dialog

Channel for direct communication through which the company informs the residents of neighboring communities about the forestry operations scheduled in that region according to an annual planning of activities, and discusses impacts and mitigation actions.

This process also integrates annual visits to ensure a continuous relationship with the neighboring communities.

Babassu coconut



Management of social impacts

Suzano understands "social impacts in the communities" as any changes (harmful or beneficial) caused entirely or partially by its forestry operations within three kilometers radius of its properties or areas leased for eucalyptus production.

The management of social impacts model seeks to eliminate, reduce or compensate the negative impacts through management practices, socioenvironmental investment, and continuous control and mitigation actions.

Despite all measures taken to prevent and mitigate adverse impacts, unpredictable losses and damages can still occur, directly affecting the communities resources or livelihood. In this case, these losses and damages are compensated and mitigated, in common agreement and according to the particularities of each case, in a fair and balanced way.

In the following, examples of adverse social impacts from forestry management and the corresponding mitigation and prevention measures are presented. For conflict resolution, disputes and compensations involving rights of use, possession and control of the land, the company has defined directives that prioritize a friendly and fair solution for the parts.

Examples of adverse social impacts and controls

Activities	Social Impacts	Preventative and mitigating measures
Application of crop protection products	Inconvenience caused by drift* to neighboring areas	<ul style="list-style-type: none"> • Use of products authorized by the environmental bodies • Signaling of the areas • Training of employees that apply the products • Maintenance of equipment use for application
Forest harvest	Increase in the risk of accidents	<ul style="list-style-type: none"> • Use of up-to-date equipment and trained and qualified teams • Signaling and guidance offered to the community to prevent people from approaching machinery during operation
Timber transportation	Change of landscape (visual) and loss of reference	Placement of warning signs
	Increase in the risk of accidents	<ul style="list-style-type: none"> • Reduced and controlled velocity • Compulsory stops to check and tighten the load • Safe driving voluntary campaigns
	Dust	Reduction of dust with moistening of the roads (tank trucks)
	Damage of the road network	<ul style="list-style-type: none"> • Road maintenance during operations • Monitoring and control of load weight of the timber trucks
	Noise	Negotiation of time period for the operations

**Drift: phenomenon of spray drops carry-over by the wind (EMBRAPA)*

Analysis and monitoring of stakeholders relationship processes

All the demands concerning forestry operations, identified in the engagement processes, operational dialogs and participative agenda are critically assessed and validated by the operational areas to review the social impact matrix and improve Suzano's forest management.

Effectiveness of the socioenvironmental impacts mitigation actions

Área	Category	Name of Monitoring	Indicator	Results 2019
Social	Social Impacts on the communities	Investments on the community(GRI EC1)	Socioenvironmental investments	R\$ 1,379,729.85
			Share of donations to socioenvironmental investments	R\$ 316,922.27
			Rural communities on PDRT	11
		Operational Dialog and Participative agenda	Reach of operational dialog	3,959 people
			Complaints about damage caused by management	Number of complaints received
			Average time to answer a complaint	27 days
		Image survey	Suzano favorability in the communities	63.2 %



PDRT Project – Community Trecho Seco

Socioenvironmental investment

Socioenvironmental investment is the voluntary transference of private resources in a planned, monitored and systematic way to social, environmental and cultural projects of public interest that contributes to the development of the communities where Suzano operates. Such investments are segmented into four types of interventions:

Partnership

Short-term one-off support, with social purpose, that require a counterpart from the applicant. Are related to operations, expertise and products from Suzano's business.

Donation

Very short-term one-off support to meet stakeholders demands aiming to strengthen institutional relationships.

Sponsorship

Granting of resources, whether financial, material and/or services provided by Suzano to enable certain activity or event. Is considered a communication tool.

Project

Social investments planned and developed within the scope of a certain program, with well-defined purpose and duration (objectives, goals, deadlines, process indicators, results and impacts).

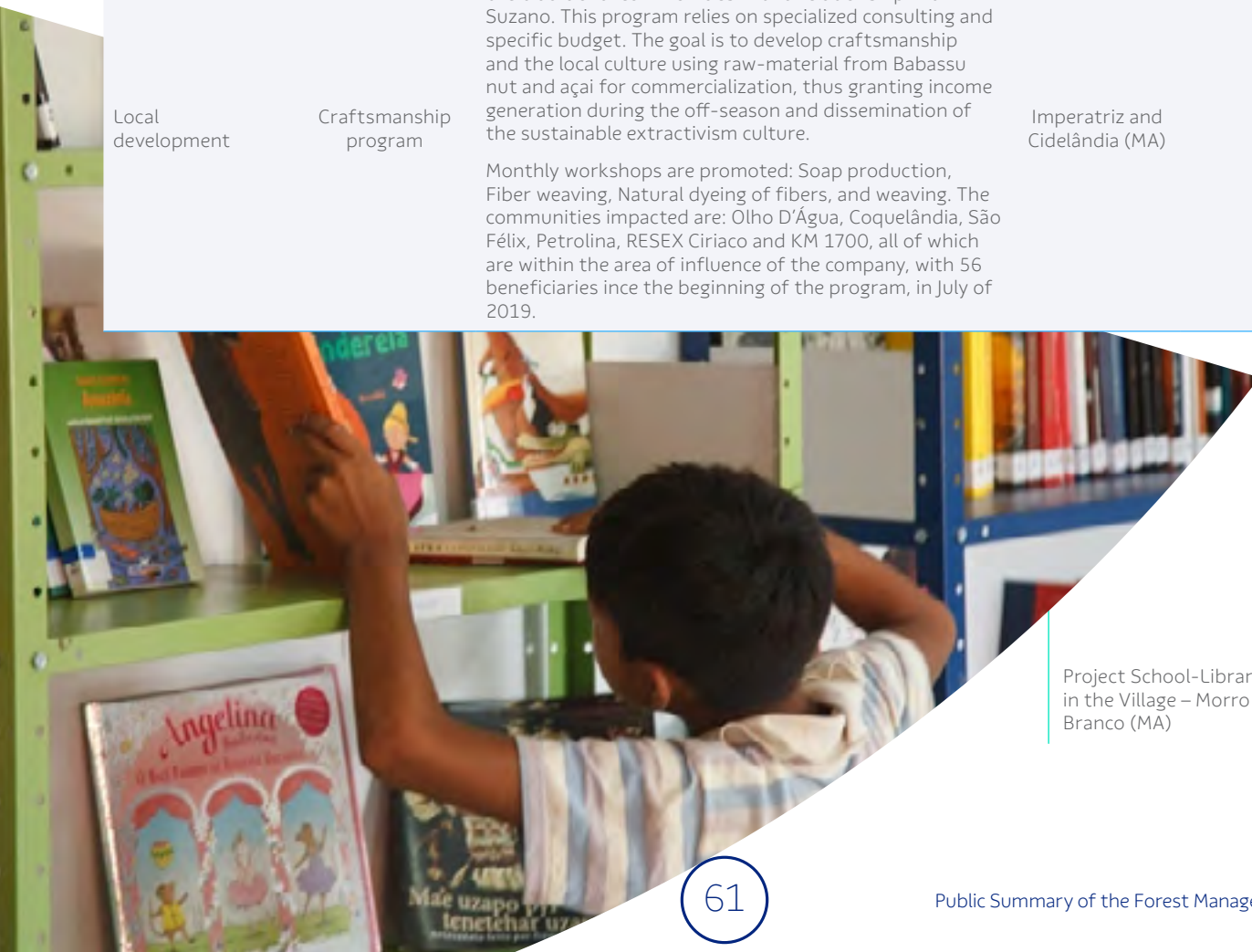


Rural family residence in Coquelândia (MA) participating in the PDRT.

Socioenvironmental programs and projects

Line of action	Project/ program	Description	Municipality	Direct beneficiaries
Local development	PDRT	<p>The Rural and Territorial Development Program (PDRT) is based on agroecology and on the promotion of autonomy of families and associations, strengthening the human and social capital, using agroecology fundamentals as a basis.</p> <p>Our role on the territory development is given through the dialog with the neighboring rural communities, strengthening organizations and networks with socioeconomic development programs, thus generating income and improving the quality of life in the communities where the company operates.</p> <p>Empowering the community, shared decision-making, transparency, fostering the strengthening of local and territorial networks, inclusion of women and young adults are the essentials of the program.</p> <p>Since the launching of this program in Maranhão, in 2018, we have moved forward, hiring technical assistance to work, in a planned way, with the families on the axes of Production, Management and Commercialization, with an increase of 55% in the number of beneficiaries and expansion towards the states of PA and TO.</p>	Cidelândia, Imperatriz, São Francisco do Brejão, São Pedro da Água Branca and Vila Nova dos Martírios (MA), Ulianópolis (PA) and Darcinópolis (TO)	421 families
Local development	Beehives	<p>The Beehives Program aims to contribute to income generation, improve quality of life and development of the population by means of opening new market opportunities for beekeeping. Also, it allows studies and research opportunities for the development and understanding of the behavior of bees, as well as pest and disease control. Suzano offers planting areas to beekeepers with the aim of boosting honey production in the regions where it operates. This partnership occurs at no charge for beekeepers and the project works in a very simple way: the beehives are installed in the areas of eucalyptus planting in the flowering period so that the bees can use the nectar to produce honey.</p> <p>Producers are offered consultancy and training to improve their product and increase income, contributing to the development of beekeeping in the forest units of Suzano, implanting new technologies in partnership with beekeepers, farmers, family agriculture settlements with the multiple use of the forest, thus organizing the production chain of honey in a sustainable way and allowing an increase in income generation and quality of life for the communities.</p> <p>In 2019, 3 communities, with 66 families participated, with 1,350 producing beehives and an increase of 100% in the number of hives.</p>	Açailândia (MA), Dom Eliseu (PA) and Angico (TO)	85
Education	School of Heroes	<p>Socioenvironmental education program for children of public schools that promotes lessons and actions for sustainability, focusing on the building of values that encourage practices for the improvement of the environment, quality of life, culture and sustainability. The program rely on three main pillars: environment, citizenship and discipline.</p>	Bom Jesus das Selvas, Governador Edison Lobão e Ribamar Figueire (MA), Angico, Araguatins, Darcinópolis and São Bento do Tocantins (TO)	608

Line of action	Project/ program	Description	Municipality	Direct beneficiaries
Local development	Sustainable extractivism	<p>The aim of sustainable extractivism is to support the strengthening of plant extractivists, such as the Quebradeiras de Coco and communities that live off açai, by providing the rescue of traditional practices.</p> <p>Collective actions, especially the sustainable gathering of raw-material from the region, such as the babassu nut and açai, granting free access to the açai planting, test and develop new production models, benefit extractivist communities with an extra source of income during the off-season are also goals the Sustainable Extractivism program, in addition to the promotion of partnerships between the company and community. Only through joint efforts we can create a chain of value of biodiversity capable of ensuring continuity and the improvement of the company's actions in line with sustainability: the added value of the business, improvement of welfare of the populations in the areas where Suzano operates and environmental conservation.</p>	Cidelandia and Imperatriz (MA), Carrasco Bonito and Davinópolis, (TO)	211 families
Education	Suzano's Program of Education	In 2019, Suzano has ended its participation in the program Partnership for the Valuation of Education (PVE), an initiative of Grupo Votorantim, that encompassed 25 municipalities. This program is being replaced by Suzano's Program of Education, to be launched in 2020 in partnership with Comunidade Educativa (Cedac), formed by professionals that are reference in the area of education. The methodology is being developed by Suzano's team, partners and specialists.	Imperatriz (MA)	90
Local development	Craftsmanship program	<p>The Craftsmanship Program is composed of a set of projects inserted into the communities, particularly, the traditional communities with a relationship with Suzano. This program relies on specialized consulting and specific budget. The goal is to develop craftsmanship and the local culture using raw-material from Babassu nut and açai for commercialization, thus granting income generation during the off-season and dissemination of the sustainable extractivism culture.</p> <p>Monthly workshops are promoted: Soap production, Fiber weaving, Natural dyeing of fibers, and weaving. The communities impacted are: Olho D'Água, Coquelândia, São Félix, Petrolina, RESEX Ciriaco and KM 1700, all of which are within the area of influence of the company, with 56 beneficiaries since the beginning of the program, in July of 2019.</p>	Imperatriz and Cidelandia (MA)	62



Project School-Library
in the Village – Morro
Branco (MA)

Performance and key indicators of forest management

Aspect	Resp. process	Monitoring	Indicators	Unit	Goal 2019	Reality 2019	Critical analysis	Actions	Systems / database	Frequency
Environmental	Asset intelligence	Fire	Fire - planting (outbreaks) ha	ha	170.1	240	Up to September/2019, results were within the expected, suggesting we would reach the goal. However, in this month, a huge wildfire spread on the farm Vargem Bonita (MA), burning 160 ha at once.	Intensify the campaigns Live Forest in the region, provide fire-fighting equipment to the Asset Intelligence teams, conduct a survey of machinery and establish partnerships with neighbors to support fire-fighting.	Sharepoint (daily control via PowerApps)	Daily
			Fire - preservation (outbreaks) ha	ha	852.3	2007	In September/2019, there were fire outbreaks in 884 ha of preservation areas in the farm Vargem Bonita (MA), 252 ha in the farm Planalto (PA), 135 ha in the farm Conquistadoura (PA), and 99.51 ha in the farm São Roque (TO). All of them can be classified as arson, that led to a huge wildfire.	Intensify the campaigns Live Forest in the region, provide fire-fighting equipment to the Asset Intelligence teams, conduct a survey of machinery and establish partnerships with neighbors to support fire-fighting.	Sharepoint (daily control via PowerApps)	Daily
	Forestry	Forestry controls	Weed control - competition - Activities with herbicide	ha	306,260	284,638	In 2019, a tool for the reduction in the use of herbicides to control weed competition was developed - OS Mato. This tool is used by the department of quality in forestry operations, where the field technicians assess the field conditions of each PU and, in agreement with the supervisor of the operation, defines the need for chemical control. With this monitoring, we were able to reduce the area where this was done.	We will keep the same monitoring and control actions of 2019 during 2020.	SAP ECC PRODUÇÃO ZFLP033	Annually
			Ant bait consumption	kg/ha	1.63	1.32	Ant infestation was smaller than estimated for the year.	We will keep the same monitoring and control actions of 2019 during 2020.	SAP ECC PRODUÇÃO ZFLP033	Annually
			Herbicide (glyphosate) consumption	kg/ha	1.92	1.82	Using OS Mato monitoring, we were able to reduce herbicide consumption.			
			Herbicide (glyphosate) consumption	L/ha	2.24	2.79	Higher consumption of liquid herbicide was due to the high rainfall rate.			

Aspect	Resp. process	Monitoring	Indicators	Unit	Goal 2019	Reality 2019	Critical analysis	Actions	Systems / database	Frequency
Environmental	Environment	Fauna Monitoring (environmental HCVs)	(%) of fulfillment of the timeline	%	100%	100%	We started biodiversity monitoring in 2019.	We will redesign the biodiversity monitoring methodology in 2020.	Excel	Every three years
		Flora Monitoring (environmental HCVs)	(%) of fulfillment of the timeline	%	100%	100%	Monitoring was conducted in 2018, but results were received only in 2019.	We will redesign the biodiversity monitoring methodology in 2020.		Every five years
		Restoration	Hectares of area with restoration initiated	ha	0	15.2	Part of the planned area for 2018 was implanted in 2019 due to the high volume of rainfall. Therefore, there was no goal for 2019.	In 2019, the focus was in the maintenance of areas implanted in 2018 and beginning of 2019.		Annually
		Environmental Education Program	Number of people participating in the Environmental Education Program	Num.	608	608	Our goal was to attend 608 children with School of Heroes Program and we reached this goal.	Keep this program in 2020 and restructure the Environmental Education Program at the Unit.		
Social	SSQV	Accidents (employees and third parties)	Rate of frequency	num	0.74	1.66	Among the personal occurrences in 2019, most took place in logistics, which indicator was low in the previous years. The increase is related to excessive working hours and long journeys in 2019.	Safety working plan for 2020, considering three processes: Logistics, Forestry and Harvest	Monthly Safety Reports	Annually
		Accidents (employees and third parties)	Rate of severity	num	1.6	663	Increase in the number of high severity accidents in logistics	Safety working plan for 2020, considering three processes: Logistics, Forestry and Harvest	Monthly Safety Reports	Annually
		Accidents involving tipping over of trucks	Number of complete tipping-overs (tractor plus trailer)	num	0	32	Excessive working hours, long journeys, experience of the drivers with three-trailer trucks, and condition of the roads in the region.	Safety working or 2020, with several structuring actions considering physical, systemic and behavioral barriers.	Internal control SSQV Portal	
		Applicable health and safety laws	Rate of law compliance	%	90%	92.4%	Fulfillment and monitoring of legal requirements.	SSQV Portal	Annually	Monthly
		Compliance to the law, operational procedures and other safety, occupational health and environmental requirements	Grade obtained in SSOMA assessment	%	90%	92.3%	Fulfillment and monitoring of legal requirements.		SSQV Portal	Biannually

Aspect	Resp. process	Monitoring	Indicators	Unit	Goal 2019	Reality 2019	Critical analysis	Actions	Systems / database	Frequency
Social	SSQV	Monitoring of the management of internal management system of events and deviations (GID)	Ending of deviations in GID (%)	%	90%	97.3%	Adherence to procedure	Keeping action	GID - Management of incidents and deviations	Monthly
		Task Analysis: analysis of the operational activities focusing on safety aspects aiming to identify points of improvement	Grade obtained in the task analysis (%)	%	90%	91.9%	Adherence to procedure	Keeping action	SSQV Portal	Monthly
		Program Safety in the Area: promotion of focused field safety dialogs, promoting the safe behavior in the field when operating (%)	Degree of perception of the level of knowledge of the safety management integrated system (%)	%	90%	91.9%	Adherence to procedure	Keeping action	SSQV Portal	Bimonthly
	People and management	Hiring workforce locally (WFL)	(%)	%	70%	71%	WFL are those collaborators residing in a radius of up to 600km from the place of work for more than 5 years. This number refers to all workforce hired or moved in 2019. Reaching this goal was a great challenge mainly due to our radius of planting and harvesting being higher than 600km.	Programs Formare, Estágios and Capacitar, that are entrance doors, target local collaborators. Harvest and forestry operations also prioritize hiring locally to favor human and social development of the region.	Manag. WFL via Excel and Power BI	Monthly
	Asset Intelligence	Non-authorized events in the forest management areas	Number of events	Nº	-	550	Most occurrences are classified as low impact, being animal introduction in minor scale (cattle in areas of preservation and planting), and hunting and predatory fishing in larger scale, in addition to smaller damage such as fence breaching, littering, etc.	Environmental awareness, personal approach, ostensive and preventive patrolling, dialog with the communities, registration of occurrences in the police department and conduction of investigations when needed.	Gisagri, datasheets and forest registry	Monthly
		Monitoring and tracking of timber theft events with a specialized team	Number of stolen native timbers	Nº	-	81	This type of event is more common in areas close to camp grounds and rural settlements, in the state of Pará, a region with a large number of illegal sawmills.	Strengthening of the relationship with the regulatory bodies (IBAMA, ICMBio, Military Police, Civilian Police, Army) aiming to reduce time of police action. Identification and investigation of the native timber trading network. Demobilizing illegal sawmills.	Gisagri, datasheets and forest registry	Monthly

Aspect	Resp. process	Monitoring	Indicators	Unit	Goal 2019	Reality 2019	Critical analysis	Actions	Systems / database	Frequency
Social	Asset Intelligence	Monitoring and tracking of timber theft events with a specialized team	Volume of stolen commercial wood (m3)	m³	-	3.9	From the total stolen, 1.3 m3 refers to standing timbers, and the rest, 2.6 m3, is related to piled timbers. The product is mainly destined to bakery shops and pizza places.	Filing police reports, follow-up of investigations, monitoring of suspects and opening police investigations.	Gisagri, datasheets and forest registry	Monthly
		Income generation and insertion into the local labor market	Number of benefited communities	Nº	-	11	There was an increase in the number of benefited communities with the PTA (Plan of Transition to Agroecology) and identification of potentially productive communities, in addition to the organization of Associations.	"Inclusion of the 6 agricultural fields into PDRT; Fund raising from external sources (mapping of opportunities in the region); Dissemination and strengthening of productive models adequate to family agriculture."	Sharepoint	Annually
Econômico	Social development	Income generation and insertion into the local labor market	Income generated	R\$	-	4,273,677	Value corresponding to over 1 million tons of food traded.	Expansion of the territory encompassed by the program.	Sharepoint	Annually
		PDRT	Number of benefited communities	Num	-	11	2 communities included, goal for 2023: attend 18 localities.	"Inclusion of the 6 agricultural fields into PDRT; Fund raising from external sources (mapping of opportunities in the region); Dissemination and strengthening of productive models adequate to family agriculture."	SharePoint	Annually
		PDRT	Number participating farmers	Num	-	628 families	With the inclusion of families in the program, we have had an increase of 300 families benefited in comparison with 2018.	Qualification of participants to weigh their social, environmental, and economic demands, encouraging networking and cooperation.	SharePoint	Annually
		PDRT	Annual production	Ton	-	1,084,622	Income generation in the communities by means of activities scheduled in the PTA, such as support and assistance during production.	Technical support for commercialization and management of production and sales.	Sharepoint	Annually
		Complaints	Number of complaints filed	Num	-	59	Registered on our Complaints platform at SISPART.	Promotion and training on the functions of SISPART, where the importance of documentation is stressed.	Sharepoint	Monthly
		Complaints	Average number of days to close the complaint process	Days	-	27 days	Average number of favorable days, given that we have a deadline of 30 days to answer the complaint	Promotion and training on the functions of SISPART.	Sharepoint	Annually

Aspect	Resp. process	Monitoring	Indicators	Unit	Goal 2019	Reality 2019	Critical analysis	Actions	Systems / database	Frequency
Economic	Timber supply	Timber supply for production	Imperatriz Unit - volume of wood delivered (m3)	m3	4,919,424.2	4,191,308.6	The volume transported was fitted to the industrial production that was reduced due to the particular moment of the market and the high stocks of pulp. As a consequence, the volume of delivered wood was smaller than expected.	Timber supply will adapt to the new scenario of 2020.	SAP	Daily
		Time of supply	Imperatriz Unit - length of stay of trucks at the plant (min)	Min	60	66.5	Indicator was affected by several variables: PG, PPs, reduction in production, long period delivering deteriorated wood (brittle, fungi, long time after harvest), old mobile cranes with deficient maintenance.	Improve transportation process monitoring, renegotiation of EPS responsible for the cranes (substitution of equipment, increase automation of the internal cycle).	SAP	Daily
		Distance	Average radius Imperatriz	km	381.9	347.4	Average radius is within the goal for 2019 due to the reduction of the volume transported to fit the reduction in production. As a consequence, a new mix of farms was chosen for transportation, prioritizing those closer to the industrial units.	Wood supply will adapt to the new scenario of 2020.	SAP	Daily





14. Communication with *Stakeholders*

14. Communication with Stakeholders

Suzano is constantly in contact with its employees and with the several segments of society, keeping them up to date on its activities, and always keeping things clear, transparent and straightforward.

Among the most commonly used communication media are:

Internal audience

SuzanoNet, Printed and Digital newsletters, walls, Forest Radio (including an app for mobile access), Corporate TV, Educational guides.

External audiences

Relationship with the Press, Website, Social Media, Visitation programs, Annual reports, Management Plan Summary and printed media Jornaleco and Ecosciente. In addition to these, the company has other communication channels.





Communication with specific audiences

Suzano Answers

0800 022 1727
or suzanoresponde@suzano.com.br

If you have any questions, suggestions for improvement, or complaints, please contact us. It is toll-free!

Social Networks

-  Facebook
www.facebook.com/suzanoempresa/
-  Instagram
www.instagram.com/suzano_oficial/
-  Youtube
www.youtube.com/user/Suzanovideos
-  LinkedIn
www.linkedin.com/company/suzano/

Ombudsman Suzano

Phones (toll-free)

Brazil
0800 771 40 60

Phones abroad
Check for the specific numbers on the Suzano Ombudsman website.

E-mail
ouvidoriaexterna@austernet.com.br

Website
<https://ouvidoriaexterna-suzano.com.br/>





www.suzano.com.br