

FLORESTECA S/A.

MANAGEMENT PLAN

1 JANUARY 2020 – 31 DECEMBER 2024

Prepared By:
Teak Resources Company (TRC)
December 2019

Table of Contents

1 Executive Summary	5
2 Financial Forecasts	9
2.1 Sales Volume	9
2.2 Sales Revenue.....	10
2.3 Capital Expenditure	11
2.4 Net Cash Flow (Cash Basis)	12
2.5 Macroeconomic Outlook and Exchange Rate.....	13
3 Forestry costs	15
3.1 Silviculture	15
4 Market Outlook and Price forecast	18
4.1 Tropical Hardwoods World Import Demand	18
4.2 Indian Teak Log IMPORTS.....	21
4.3 Plantation Production and Sales Assumptions.....	24
5 Harvest Schedule & Operations, and Growth and Yields	27
5.1 Harvest Schedule	27
5.2 Cost of Production (COP).....	Erro! Indicador não definido.
6 Annual Inventory Summary	30
7 G&A EXPENSES	32
7.1 General and administrative overhead expenses	32
8 Environmental, Safety & Governance	33
8.1 FSC	33
8.2 Socio-Environmental Programs	33
9 Appendices	34
9.1 Appendix 1: Tree Crop Strategy	34
9.2 Appendix 2: change in the accounting basis of Profit and Loss	41

INTRODUCTION

Floresteca S.A. (“Floresteca” or the “Company”) is a forest company focused on the sustainable and responsible management of Teak plantations in Brazil. Founded in 1994, the Company was established with the objective of developing and managing teak plantations in Brazil. Floresteca forests produce teak round logs for export markets and firewood.

The Company’s forest operations currently are focused on silvicultural maintenance, including thinning, pruning, pest control, road maintenance, among others. The current workforce stands at 86 active employees, distributed throughout Floresteca’s 23 teak farms located in the southern portion of Mato Grosso State. Floresteca’s forest management process is fully sustainable and ensures that the teak plantation activities occur in accordance with the preservation of the existing native forests reserves. Floresteca has received FSC certification for most of its forests since 1997.

COMPANY HISTORY

Floresteca was originally founded as Floresteca Agroflorestal Ltda, under the National Tax Payers Registry number (CNPJ) 74.301.482/0001-56. The Company began plantation operations in 1994 in the municipality of Jangada, in the state of Mato Grosso, about 90 km from Cuiabá, the State capital. From 1994 to 1999, it expanded to include areas in Rosário Oeste, near Jangada. In 1997, Floresteca received Forestry Stewardship Counsel (FSC) Certification, maintained to the present, for most of the plantations under management. From 1998 Floresteca began planting on third party land through usufruct or land use deal (LUD) contracts. Under these contracts, Floresteca planted teak on the property of the land owner-partner, who in return is due a percentage of the planted forest as payment, with delivery of the timber at roadside. The percentage due to the land partners varies as per the specific contracts. All costs associated with silviculture and maintenance, as well as harvesting and final land clearing for LUD partners are borne by FSA.

Between 1999 and 2000, the Company expanded to the Cáceres and Porto Esperidião regions of Mato Grosso, where there was greater availability of suitable land for teak plantations, as well as greater availability of support services. Over the years the Company has made changes to adapt to the ever changing legal and tax environment in Brazil. Today Floresteca is a Sociedade Anonima (SA) and is now called Floresteca S/A.

In 2016 FSA began final harvests.

In March 2017, FSA agreed to a Management Services and Timber Sales Agreement (MSTSA) with TRC Agroflorestal Ltda (TRC), outsourcing a wide range of services previously performed by FSA. This agreement allows FSA to maintain continuity in the management of its forests at economically advantageous terms, at a variable costs tied to the number of hectares standing annually and assure access to the expert know-how of the largest teak management company in Brazil. While FSA maintains a dedicated workforce to perform silvicultural maintenance, general administration and harvesting will be performed by TRC.

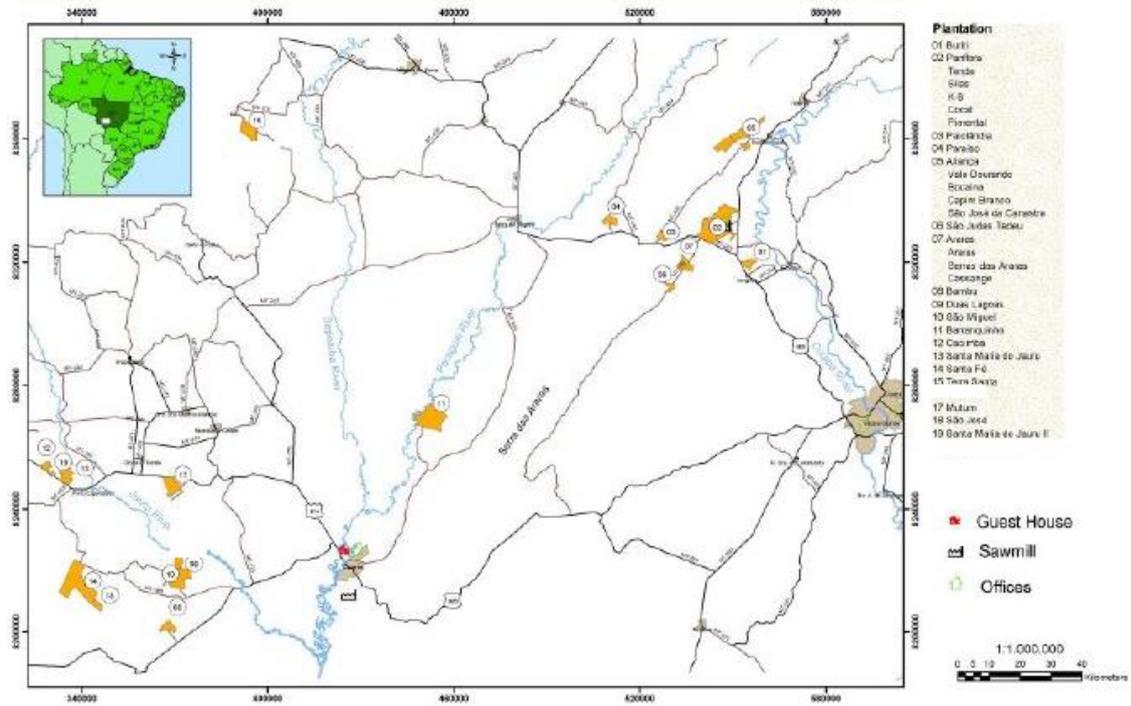
Previously, FSA sold logs directly to buyers in Asia, incurring significant costs and risks for logistics and distribution. FSA now sells its timber roadside in Mato Grosso to TRC, greatly reducing the working capital requirements and risks associated with log export sales (credit/default risk). The logs are sold at market prices and based on an independently produced quarterly benchmark report for Mato Grosso teak logs.

OVERVIEW OF THE PLANTATIONS

Floresteca is responsible for the management of 30,418.35 of total area including teak plantations, legal reserves, permanent preservation areas, roads, fire lanes, buildings, and other areas unsuitable for teak plantation inside the teak stands.

We show the locations of the individual farms in the following map, and a more detailed breakdown of each region by project and farm below.

Location of the Floresteca Plantations in Mato Grosso, Brazil



1 EXECUTIVE SUMMARY

Please note that all references are to USD in this report unless otherwise stated. This Management Plan is for the period 1 January 2020 to 31 December 2024, with a specific focus on the first twelve months (F20).

This management plan sets out the guidelines for the sustainable production of teak to be delivered at the roadside of the plantations, describing objectives, responsibilities, available resources and the environment in which the Company operates.

The main objectives of this management plan are:

- Maximize the financial returns of the forests for all stakeholders;
- Manage and harvest the plantations of Tectona Grandis (Teak) in the most efficient manner and seeking the highest possible production quality;
- Ensure environmentally responsible management, with full compliance with all laws and regulations;
- Contribute to the economic development of our areas of operation, generating a positive impact on the welfare of our employees and adjacent communities, as a leading member of these communities;

Overall project status:

- Floresteca S/A is located in the State of Mato Grosso, where it manages 15,189.55, hectares of Tectona Grandis (Teak) at October 31th 2019, planted on 52,862.74 of leased land, and composed of 23 individual farms planted between 1994 and 2008.

(overall project status table follows on the next page)

Table 1.3 November 2019 Overall Project Status

Project	Year	Initial Area	Harvested	Current Area
Buriti	1994	0.00		0.00
Paiolandia	1997	297.92		297.92
Paraíso	1997	555.05		555.05
Bocaina	1998	140.36	76.46	63.90
São José da Canastra	1998	44.62		44.62
Paiolandia	1998	93.95		93.95
São Judas Tadeu	1998	26.76	26.76	0.00
Araras	1999	98.88	98.88	0.00
Bambu	1999	549.07		549.07
Bocaina	1999	36.07	36.07	0.00
Cassange	1999	88.49	88.49	0.00
Capim Branco	1999	507.87		507.87
Serra das Araras	1999	105.01		105.01
Vale Dourado	1999	48.59		48.59
Bambu	2000	513.83		513.83
Duas Lagoas	2000	1,527.51		1,527.51
Duas Lagoas	2001	1,764.34		1,764.34
São Miguel	2001	97.52		97.52
Barranquinho	2002	970.2		970.2
Cacimba	2002	571.08		571.08
Duas Lagoas	2002	48.41		48.41
São Miguel	2002	5.71		5.71
Santa Maria do Jauru	2002	1,085.18		1,085.18
Barranquinho	2003	12.95		12.95
Cacimba	2003	10.19		10.19
Santa Maria do Jauru	2003	207.87		207.87
Santa Fé	2003	2,562.71		2562.71
Barranquinho	2004	1,021.00		1,021.00
Terra Santa	2004	1,143.17		1,143.17
Duas Lagoas	2005	207.67		207.67
Duas Lagoas	2006	233.88		233.88
Mutum	2007	539.18		539.18
São José	2007	301.30		301.30
Santa Maria do Jauru II	2008	99.87		99.87
Total		15,516.21	326.66	15,189.55

Note: although final harvest is finished in Bocaina 1998 and São José da Canastra 1998, there is volume stacked to be sold in fewer hectares.

The Manager makes the following recommendations:

1. Maintain scheduled thinning to avoid in-stand competition and control disease outbreaks, independent of market conditions, as the most important value driver comes from the final cut volumes. During the first 24 months of this plan, our recommended thinning schedule is:
 - **2020 Thinnings:** Cacimba 2002, Terra Santa 2004, Santa Maria do Jauru 2002 and 2003;
 - **2021 Thinnings:** São José 2007, Santa Fé 2003 and Barranquinho 2004.

2. The eligible projects for the final harvest, according to the recommended schedule:
 - **2020 Final Harvests:** Paiolandia 1997 and 1998, Bambu 1999 (partial) and 2000 (partial), Paraíso 1997, Capim Branco 1999 (partial) and Vale Dourado 1999;
 - **2021 Final Harvests:** Capim Branco 1999 (conclusion), Bambu 1999 and 2000 (conclusion), and Duas Lagoas 2000.

While projects might be eligible for harvest contractually, factors such as the growth and development of the stands, weather and market conditions may alter the final harvest schedule.

Financial Summary

The table 1.2 below shows Floresteca's Profit and Loss (accrual basis) forecast for the next 5 years. In a change from the prior Management Plan and Quarterly Reports, TRC is using the accounting financial statements under IFRS for the projections. The same detail on the specific items from the prior management account plan is provided in the subsequent sections, and in the accompanying workbook excel file with the full budget figures.

See Appendix 2, which provides additional detail on the change and use of the accounting figures, as well as the financial statements in BRL, Floresteca's functional currency. The forestry activities and property expenses are detailed in specific sections of the MP and accompanying tables.

Table 1.2 Floresteca S/A Profit and Loss (USD):

Profit and Loss									
<i>(In USD 0,00)</i>									
	1Q2020	2Q2020	3Q2020	4Q2020	2020	2021	2022	2023	2024
Log Sales	2.206.016	2.766.698	2.411.356	2.035.744	9.419.814	8.473.480	11.534.647	19.422.681	18.041.566
Internal Market	275.459	260.480	203.696	70.514	810.150	687.423	287.812	549.480	46.532
External Market	1.930.557	2.506.217	2.207.660	1.965.230	8.609.664	7.786.057	11.246.835	18.873.201	17.995.034
(-) Sales Deductions	(30.995)	(31.011)	(24.870)	(11.612)	(98.488)	(194.776)	(245.282)	(415.007)	(371.278)
Net Sales	2.175.021	2.735.686	2.386.486	2.024.132	9.321.325	8.278.704	11.289.365	19.007.675	17.670.288
CoGS									
Harvesting + Depletion	(4.454.204)	(4.691.137)	(3.545.859)	(2.378.041)	(15.069.241)	(8.080.257)	(10.919.865)	(15.057.681)	(12.668.528)
Total CoGS	(4.454.204)	(4.691.137)	(3.545.859)	(2.378.041)	(15.069.241)	(8.080.257)	(10.919.865)	(15.057.681)	(12.668.528)
Gross Profit	(2.279.183)	(1.955.451)	(1.159.374)	(353.909)	(5.747.916)	198.447	369.499	3.949.994	5.001.760
% Gross Margin	-105%	-71%	-49%	-17%	-62%	2%	3%	21%	28%
Operational Expenses									
G&A: owner expenses	(64.253)	(49.668)	(78.298)	(57.975)	(250.194)	(260.202)	(270.610)	(281.434)	(292.692)
G&A: Annual Management Fee	(445.177)	(449.639)	(454.146)	(458.698)	(1.807.661)	(1.750.310)	(1.629.912)	(1.400.964)	(1.075.854)
Other operational income/expenses	(5.191)	(5.191)	(5.191)	(5.191)	(20.763)	(21.593)	(22.457)	(23.355)	(24.290)
Operational Result	(2.793.803)	(2.459.950)	(1.697.009)	(875.772)	(7.826.534)	(1.833.659)	(1.553.479)	2.244.240	3.608.924
Financial Expenses	(6.594)	(7.059)	(5.316)	(6.112)	(25.081)	(19.249)	(19.055)	(19.145)	(19.266)
Financial Result	(6.594)	(7.059)	(5.316)	(6.112)	(25.081)	(19.249)	(19.055)	(19.145)	(19.266)
EBT	(2.800.397)	(2.467.008)	(1.702.325)	(881.885)	(7.851.615)	(1.852.908)	(1.572.535)	2.225.095	3.589.658
Income Tax	0	0	0	0	0	0	0	0	0
Profit & Loss	(2.800.397)	(2.467.008)	(1.702.325)	(881.885)	(7.851.615)	(1.852.908)	(1.572.535)	2.225.095	3.589.658
% R/E / R/L	-129%	-90%	-71%	-44%	-84%	-22%	-14%	12%	20%
Profit & Loss Adjusted	612.128	1.001.623	1.064.785	877.975	3.556.511	2.897.553	4.716.959	10.480.906	11.701.298
Financial Expenses	6.594	7.059	5.316	6.112	25.081	19.249	19.055	19.145	19.266
Depreciation and Amortization	7.734	5.732	1.346	1.310	16.121	0	0	0	0
Depletion	3.412.526	3.468.632	2.767.110	1.759.859	11.408.126	4.750.461	6.289.494	8.235.811	8.111.639
EBITDA	626.456	1.014.414	1.071.447	885.397	3.597.713	2.916.802	4.736.014	10.480.052	11.720.564
Capitalized Costs									
Forestry	(411.289)	(597.768)	(422.069)	(326.622)	(1.757.748)	(1.457.889)	(239.204)	(53.160)	(43.352)
Land Use Deals	0	(269.199)	0	0	(269.199)	0	0	0	0
Depreciation	(54.951)	(54.684)	(49.290)	(44.536)	(203.461)	(69.723)	(44.914)	(23.507)	(15.161)
Property Management	(214.672)	(202.159)	(205.609)	(201.626)	(824.067)	(857.029)	(891.310)	(926.963)	(964.041)
EBITDA adjusted	(54.455)	(109.397)	394.478	312.613	543.239	532.160	3.560.586	9.476.422	10.698.010

For continuity with the prior account plan and results, we calculate Adjusted EBITDA, which considers include the capitalized forestry and farm/property related expenses. This corresponds to what we have called Operational Result in the quarterly management reports produced to date.

This will generate an Adjusted EBITDA cash flow (accrual basis) of USD 24 million, with USD 1.7 million in the 2020-2021 period and USD 23.7 million in the 2022-2024 period (more details provided in table 2.4.1).

FX rates

For convenience and continuity, we show the accrual P&L in USD. TRC is using the market consensus Fx rate from forecasts of the Brazilian Central Bank's Focus report. For this Management Plan, we are using an FX rate of 3.82, on the date the projections were made. See the following section's discussion of macroeconomic variables and forecasts.

2 FINANCIAL FORECASTS

2.1 SALES VOLUME

For 2020 the expected commercial volume will come from the final harvesting of Bambu 1999 and 2000 (BAM); Capim Branco 1999 (CPB); Paiolândia 1997 and 1998 (PAI); Paraiso 1997 (PAR) and Vale Dourado 1999 (VDO). And thinning of Cacimba 2002 (CMB); Santa Maria do Jauru 2002 and 2003 (SMJ) and Terra Santa 2004 (TST). Overall volume will increase by 33% vs the prior plan, with higher final harvest volume, but lower thinning volume.

Table 2.1.1 Sales Volumes (m³):

Intervention Project	2020		Var.	2021	2022
	Plan	Prior		Plan	Plan
Thinning	34.524	28.850	5.674	29.372	8.526
BAR2004	0	6.700	(6.700)	8.661	2.533
CMB2002	9.369	4.000	5.369	0	0
MUT2007	0	850	(850)	0	905
SAJ2007	0	0	0	10.323	0
SMJ2002	7.634	10.393	(2.759)	0	0
SMJ2003	2.504	5.107	(2.603)	0	0
STF2003	0	1.800	(1.800)	10.389	0
TST2004	15.017	0	15.017	0	5.088
Final Harvest	70.135	50.000	20.135	63.086	111.112
BAM1999	2.877	0	2.877	6.520	0
BAM2000	7.798	0	7.798	4.027	0
BAR2002	0	0	0	0	0
CMB2002	0	0	0	0	51
CMB2003	0	0	0	0	0
CPB1999	13.523	33.000	(19.477)	10.315	0
DLG2000	0	0	0	42.224	52.444
DLG2001	0	0	0	0	51.080
DLG2002	0	0	0	0	6.350
PAI1997	20.066	0	20.066	0	0
PAI1998	6.712	0	6.712	0	0
PAR1997	14.156	12.000	2.156	0	0
SMG2001	0	0	0	0	0
SMJ2002	0	0	0	0	1.186
SMJ2003	0	0	0	0	0
STF2003	0	0	0	0	0
TST2004	0	0	0	0	0
VDO1999	5.003	5.000	3	0	0
Total	104.659	78.850	25.809	92.458	119.638

Final harvesting of PAI and thinning of TST were initially planned to be done in 2019, but issues with the landowner of PAI and TST delayed the operations and they have been rescheduled to 2020. Some projects previously eligible for thinning in 2020 (BAR2004, STF2003 and MUT2007) were postponed based on growth indicators from the new measurements. BAR2004 and STF2003 are now to be thinned in 2021 and MUT2007 in 2022. In SMJ, part of the areas will be

thinned already in 2019, so lower volume will be produced in 2020. Regarding SAJ, the forest is developing very well, so the next thinning was brought forward to 2021.

In 2021, final harvests at BAM and CPB will continue (1999 and 2000 stands), and final harvests at Duas Lagoas 2000 (DLG) will begin, continuing into 2022. For 2021, thinnings will occur at Barranquinho 2004 (BAR); São José 2007 (SAJ) and Santa Fé 2003 (STF).

In 2022, final harvest will initiate at Duas Lagoas (2001 and 2002), Cacimba (2002) and Santa Maria do Jauru (2002). Thinnings will continue at Barranquinho (2004) and begin at Mutum (2007) and Terra Santa (2004).

Note on Log Measurement Conventions

The teak log markets in Asia use their own methods for categorizing and pricing, which differ from how logs are measured and classified in Brazil traditionally. Asian markets typically use (i) the circumference as measured at the middle of the log, and not the diameter; and (ii) in India, volume is measured in Hoppus cubic meters, an imperial system of measure.

The conversion from Hoppus to geometric cubic meters (m³) is straightforward, with a geometric cubic meter equal to 78.5% of the Hoppus cubic meter. In terms of log size categorization, circumference is equal to the diameter multiplied by pi (3.14). Most models and appraisals use diameter, but sales tracking makes more sense to do directly in circumference terms. To facilitate for tracking with models and appraisals, we provide the following table which shows the equivalent diameter and girth measures:

	Sawmill			Export Logs							
Diameter (cm)	56-63	63-72	72-78	60-70	70-80	80-90	90-100	100-110	110-120	120-130	130-140
Girth (cm)	18-20	20-23	23-25	19-22	22-25	25-28	28-32	32-35	35-38	38-41	41-44

The main sales assumptions for the forecast period are shown in the tables below, per farm, log length and girth class:

2.2 SALES REVENUE

The 2020-21 budget will generate net sales for all the upcoming years, from the thinnings and final harvests commented in the section 2.1 above. Logs are priced based on the Consufor Mato Grosso Teak Price report of October 2019. Additional detail on sales prices is provided below in section 4.2 on Market Outlook and Prices Forecasts.

Table 2.2.1: Consolidated Net Sales*

Profit and Loss (In USD 0,00)						
	1Q2020	2Q2020	3Q2020	4Q2020	2020	2021
Log Sales	2,206,016	2,766,698	2,411,356	2,035,744	9,419,814	8,473,480
Internal Market	275,459	260,480	203,696	70,514	810,150	687,423
External Market	1,930,557	2,506,217	2,207,660	1,965,230	8,609,664	7,786,057
Other Sales	0	0	0	0	0	0
(-) Sales Deductions	(30,995)	(31,011)	(24,870)	(11,612)	(98,488)	(194,776)
Net Sales	2,175,021	2,735,686	2,386,486	2,024,132	9,321,325	8,278,704
Sales Volume	28,166	32,475	25,717	18,301	104,659	92,458
AVG Roadside Price	77.2	84.2	92.8	110.6	89.1	89.5

The forecast 2020 net sales revenue is expected to total USD 9.3 million, compared with estimated total 2019 net sales of USD 8.8 million. In 2021, net sales area estimated at USD 8.2 million. Total timber volume will be 104,659 cubic meters in 2020, and 92,458 cubic meters in 2021, compared to 79,815 cubic meters for 2019. Average roadside prices will be USD 89.1 / m³ in 2020, and USD 89.5 / m³ in 2021, compared with USD 110,51 / m³ in 2019.

2.3 CAPITAL EXPENDITURE

Investment in machines and equipment related to forestry will be done by Floresteca S/A.

The total recommended CapEx for Floresteca Properties in 2020 is USD 60,681, of which are for equipment for normal continuity of operations.

The detailed list of equipment follows in the next tables:

Table 2.3.1 Recommended Capex for Floresteca S.A Properties in 2020 (USD):

Description	Purpose of Use	Type	Acquisition Date	Quantity	Unit Value	Total
Pruning Machine	Forestry	Tractors and Implements	01/02/2020	20	785	15,707
Tools	Forestry	Tractors and Implements	01/02/2020	24	52	1,257
80 HP Tractor	Forestry	Tractors and Implements	01/02/2020	1	32,723	32,723
Hydraulic Mower	Forestry	Tractors and Implements	01/03/2020	2	2,356	4,712
Portable Radio	Forestry	Hardware	01/03/2020	2	524	1,047
Repeater Antenna	Forestry	Hardware	01/03/2020	1	5,236	5,236
Total						60,681

The Capex for Floresteca considers only equipment for the silviculture team. The tractor and the two brush cutters (mowers) are essential for basic property maintenance, since both will be used for fire prevention, safety and access to the properties. Some of the equipment will be financed via local development bank lines, at subsidized rates, and for terms of around 5 years on average. Current FSA Capex related debt financing totaled USD 158 k at the writing of this report, and payments of principal and interest in 2019 totaled USD 106 k.

2.4 NET CASH FLOW (CASH BASIS)

The following tables summarizes the net cash flow of Floresteca, on a cash basis, for the 2020-24 period. Note that Floresteca is assuming, only for 2020, USD 742 k on cash transfer to Floresteca BV for its operations and those of SATT and the stakeholder representative organizations. We have not included estimates for later years, as these expenses are under discussion among the stakeholders. No payments of the outstanding amounts from previous harvest results have been included as their timing is not certain, but would come out of this cash flow.

Table 2.4.1 Floresteca S.A Projected Cash Flow (USD):

Cash Flow <i>(In USD 0,00)</i>		1Q2020	2Q2020	3Q2020	4Q2020	2020	2021	2022	2023	2024
Fx rate		3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62
Initial Balance		817,040	1,020,891	47,621	343,052	817,040	988,241	934,668	7,206,666	16,700,841
Gross Revenues		2,167,768	2,169,385	2,775,339	2,466,552	9,579,044	7,855,087	14,220,994	19,422,681	18,041,566
Internal Market		532,873	238,832	269,130	258,890	1,299,724	397,505	680,454	549,480	46,532
External Market		1,634,895	1,930,553	2,506,209	2,207,663	8,279,320	7,457,582	13,540,540	18,873,201	17,995,034
(-) Sales Deductions		(28,354)	(31,223)	(30,936)	(11,444)	(101,957)	(194,776)	(245,282)	(415,007)	(371,278)
Net Revenues		2,139,414	2,138,162	2,744,403	2,455,108	9,477,087	7,660,311	13,975,712	19,007,675	17,670,288
Operational expenses		(1,741,902)	(2,862,084)	(2,190,978)	(1,641,225)	(8,436,189)	(7,655,227)	(7,661,408)	(9,484,390)	(6,932,828)
Financial expenses		(35,350)	(72,753)	(7,469)	(11,587)	(127,158)	(58,656)	(42,306)	(29,110)	(19,266)
Income tax		0	0	0	0	0	0	0	0	0
Transfers		(158,312)	(176,595)	(250,525)	(157,107)	(742,540)	0	0	0	0
Operational Cash Generation		397,513	(723,922)	553,425	813,883	1,040,898	5,084	6,314,304	9,523,285	10,737,460
Closing Balance		1,020,891	47,621	343,052	988,241	988,241	934,668	7,206,666	16,700,841	27,419,035

Operational cash generation will be limited in 2020 and 2021, as many of the projects to be cleared will generate substantial costs (for harvesting and subsequent land clearing), but relatively little revenue.

In table 2.4. below, we provide a breakdown of the Operational Expenses shown in table 2.4.1; the numbers are slightly different as 2.4.2 is on an accrual basis, while the later is on a cash basis. The single largest cost is harvesting in all years, with management fees and forestry both falling over time. Land clearing in will also be a substantial expense in the 2020-21 period.

Table 2.4.2 Operational Expenses Breakdown (USD):

OpEx <i>(In USD 0,00)</i>		1Q2020	2Q2020	3Q2020	4Q2020	2020	2021	2022	2023	2024
Harvesting		(712,026)	(749,847)	(591,894)	(444,690)	(2,498,458)	(2,085,954)	(2,807,126)	(4,455,979)	(3,523,635)
Forestry		(411,289)	(597,768)	(422,069)	(326,622)	(1,757,748)	(1,457,889)	(239,204)	(53,160)	(43,352)
G&A: owner expenses		(64,253)	(49,868)	(78,298)	(57,975)	(250,194)	(260,202)	(270,610)	(281,434)	(292,692)
G&A: Annual Management Fee		(445,177)	(449,639)	(454,146)	(458,698)	(1,807,661)	(1,750,310)	(1,629,912)	(1,400,964)	(1,075,854)
Other operational income/expenses		(5,191)	(5,191)	(5,191)	(5,191)	(20,763)	(21,593)	(22,457)	(23,355)	(24,290)
Land Clearing		(45,555)	(472,658)	(186,856)	(173,491)	(878,560)	(1,243,842)	(1,823,246)	(2,365,890)	(1,033,254)
Total OpEx		(1,683,490)	(2,324,772)	(1,738,454)	(1,466,668)	(7,213,384)	(6,819,791)	(6,792,555)	(6,580,782)	(5,993,076)

From 2022, cash generation from final harvests will increase substantially, with around USD 26 million in net cash being generated in in the 2022-24 period.

The initial cash balance is forecast based on the 3Q 2019 Management Report, totalling USD 817,040 K (BRL 3,121,092.79).

The cash from commercial logs harvested and sold is usually paid by end buyers within 90-120 days after harvesting, so we have assumed this period to calculate the net cash available.

2.5 MACROECONOMIC OUTLOOK AND EXCHANGE RATE

While sales from the properties are largely driven by export markets in Asia (to be detailed below in section 4), operations in Brazil are impacted by local macroeconomic conditions. The most direct effects on operations come from the FX rate, which impact USD stated costs, and of which domestic logistics are the biggest element. However, the demand for firewood and even logs for the construction and furniture industry are impacted, as well as labor costs through annual negotiations with unions.

Below we present selected macroeconomic indicators to show the recent evolution in Brazil, as a basis for our assumptions for the management plan forecast period.

Table 2.5.1 Brazilian Macroeconomic Indicators:

Selected Brazilian Macroeconomic Indicators	2016	2017	2018	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2
Real GDP Growth YOY	-3,5%	1,1%	1,1%	1,2%	0,9%	1,3%	1,1%	0,5%	1,0%
Real Investment Growth (YOY)	-10,3%	-2,5%	4,1%	2,6%	3,0%	7,8%	3,0%	0,9%	5,2%
Industrial Production	-6,4%	2,5%	1,1%	2,8%	1,9%	1,0%	-1,4%	-2,0%	-0,6%
Retail Sales (YOY growth)	-4,4%	2,1%	2,3%	4,2%	1,7%	1,1%	2,4%	0,5%	1,0%
Unemployment Rate (EOP)	11,3%	12,8%	12,3%	11,6%	12,4%	12,3%	12,0%	11,8%	11,8%
Public Sector Borrowing Requirement (% GDP)	9,0%	7,8%	7,3%	7,4%	7,3%	7,3%	7,0%	7,0%	6,8%
Net Public Sector Debt / GDP	46,2%	51,6%	52,4%	52,0%	51,6%	52,1%	53,8%	54,5%	54,8%
CPI (IPCA Index) YOY	6,3%	3,0%	3,8%	2,8%	7,9%	3,0%	1,6%	6,2%	2,9%
Interbank Rate (CDI) p.a.	14,0%	10,0%	6,4%	6,5%	6,4%	6,5%	6,3%	6,2%	6,3%
BRL / USD (Average Period)	3,49	3,19	3,66	3,20	3,60	4,00	3,80	3,80	3,90
Trade Balance (Exports - Imports), USD Billions	45,0	64,0	53,0	11,3	16,3	10,5	14,9	8,1	14,7

Having passed through a severe recession in the 2014-2016 period, Brazil has gradually recovered, albeit at a very slow pace. Real GDP grew 1.1% in both 2017 and 2018 and has registered similar growth 2019. Unemployment has remained stubbornly high at 11.8% in 2Q 2019, though has consistently fallen since 2Q2018. Consumption, as measured by retail sales growth, has been a motor of growth in the last 2 years, as has investment. Industrial production has been anemic and has suffered declines over the last 3 quarters of official data, reflecting the need for more structural reform and more robust consumer demand.

Worries regarding Brazil's fiscal solvency have been a large drag on the recovery. Even before the recession, the public sector began running large budget deficits, which ballooned to 9% of GDP in 2016. Net public sector debt grew from 46.2% of GDP in 2016, to 54.8% in 2Q2019. With the passage of a budget cap / freeze in 2016, the deficit has declined as a percentage of GDP, and was 6.8% in 2Q2019. The more recent passage of social security and public employee pension reform (the largest items of the budget) has eliminated the main risks of insolvency and should allow the central government to return to budget surplus over the next several years.

The lower demand environment has kept inflation in check, with consumer price inflation of less than 4% in both 2017 and 2018 and expected to be even lower in 2019. This has allowed base interest rates, as measured by the CDI interbank rate, to fall to historic lows – 5% p.a. at the time of this writing and expect to fall even lower by the end of 2019. This should be supportive of investment in 2020 and beyond, now that the long-term fiscal issues have been put on more solid footing.

This may also provide for support for the BRL, which has devalued over the course of 2018 and 2019 after having strongly revalued in 2017. The 2018 devaluing was largely due to the presidential and federal elections, and the uncertainty surrounding the outcome. Although the BRL rallied earlier in 2019 as the new Bolsonaro government made progress with the pension reform and announce other measures, external events (US – China trade tensions) and falling interest rates were forces pushing against the BRL. Brazil continues to run robust trade surpluses, has continued to receive substantial inflows of foreign direct investment, holds large USD reserves, and is a net USD creditor, so should not be greatly affected from external shocks going forward.

Looking forward, and with the above situation as a backdrop, current market forecasts for inflation and FX are provided by the Brazilian Central bank’s monthly FOCUS survey market forecasters. Brazilian inflation is projected at 3.6 % in 2020, 3.75% in 2021 and 3.5% in 2022 (below the current inflation target of 4%). FX rates are forecast to average BRL 4.0 / USD over the next 3 years. As previously agreed with Folium, we consider variable FX rates based on the USD / BRL inflation differential; however, both the current and forecast FX rates are higher than the BRL 3.82/ USD rate assumed in these projections. As this will affect USD reporting, we suggest agreeing to a budget FX rate once the MP & Budget are otherwise signed off.

Table 2.5.2 Market Consensus Forecasts:

Market Consensus Forecasts	2019	2020	2021	2022
Real GDP Growth (% yoy)	0.9%	2.0%	2.5%	2.5%
Industrial Production Growth (% yoy)	-0.73%	2.06%	2.50%	2.50%
Net Public Sector Debt (% of GDP)	56.20%	58.20%	61.00%	61.60%
Consumer Price Inflation (% yoy)	3.29%	3.60%	3.75%	3.50%
Policy Rate (Selic / CDI, end of period) (% p.a.)	4.50%	4.50%	6.00%	6.50%
BRL / USD FX (end of period rate)	\$4.0	\$4.0	\$4.0	\$4.0
Trade Balance (Exports - Imports), USD billions	\$47.5	\$43.0	\$43.4	\$45.0
Foreign Direct Investment, USD billions per year	\$80.0	\$80.0	\$83.2	\$81.4

*Note: Average consensus rates per the November 4th Focus Report (<https://www.bcb.gov.br/publicacoes/focus>)

It bears emphasizing that the road side prices for commercial logs are accounted for in USD, but are directly affected by the FX rate, as all domestic logistics costs are in BRL. Forestry, harvesting and overhead costs are in BRL and are also impacted by FX but will continue to be reported as well on a unit basis in USD using the FX rate of the budget.

3 FORESTRY COSTS

3.1 SILVICULTURE

In this section we present the forestry costs of the FSA properties, first showing the annual expected expenses and quantities, as well as unit costs in BRL for each of the forecast years. In the sections that follow, we provide greater detail on the assumptions for each of the main activities.

The high level detail for operations relates only to 2020 and 2021 and for the year 2022-2024 we have estimated operations based on our “Forest Matrix”, which is a guide which sets out the activities to be performed in each specific year over the whole life cycle of a regular plantation. The matrix considers an idealized single hectare, under normal operating conditions, and is most useful as a guide, to which activities are adjusted to climatic and operational constraints and factors.

Table 3.1.1 Silviculture / Forestry Detail 2020 - 2021:

Activities	Unit of Measure	2020			2021		
		Units	USD	USD/Unit	Units	USD	USD/Unit
Fertilization	ha	0	0	0	0	0	0
Firebreak Maintenance	ha	460	-74,548	-162	460	-94,204	-205
Road Maintenance	ha	196	-151,571	-773	55	-27,743	-504
Sprout Control	ha	4,239	-337,405	-80	3,417	-306,979	-90
Ant Control	ha	3,075	-63,194	-21	2,864	-60,942	-21
Weed Control	ha	3,753	-221,170	-59	2,432	-181,110	-74
Pruning	ha	1,200	-210,318	-175	1,143	-210,322	-184
Inventory	parc	1,612	-33,372	-21	1,492	-32,106	-22
Planting	ha	0	0	0	0	0	0
Soil Preparation	ha	0	0	0	0	0	0
Operational Support	-	-	-666,150	0	-	-544,485	0
Tax over Forestry Services	-	-	0	0	-	0	0
Total	ha	14,535	-1,757,728	-121	11,862	-1,457,889	-123

Essential forestry activities to maintain the property and permit the harvesting and thinning activities include firebreak maintenance, road maintenance, operational support and inventory:

- a) the firebreak maintenance is carried out for fire prevention, safety and access to the properties;
- b) the road maintenance is carried out only in the properties to be harvested and ensure the wood transport by trucks;
- c) the operational support considers all essential items to keep the harvest reasonably working (communication, mechanics, leadership, fuel trucks, water trucks, workshop trucks and support vehicles);
- d) the inventory is carried out to provide information about the forests.

Total forestry costs shown here include these activities, as well as other activities (ex. Pruning) which are investments in the future growth of the later plantations. In 2020, USD 121 / ha is proposed, with USD 123 / hectare in 2021. For comparison, in 2019 USD 100 / hectare was spent on forestry maintenance.

For the 2022-24 period, we show the silvicultural costs per the silvicultural matrix guideline. There is significant imprecision in forecasting these specific activities this far forward and activities can be brought forward or delayed due to operational constraints. The total amount to be spent per year should be relatively accurate, nevertheless, as the main component of these costs is the labor to perform the operations, and the man hours of the teams do not vary as much and are tied to the number of hectares to be managed.

Note that both the absolute and per hectare amounts are forecast to decline in 2022-24. This is due to the maturity of the plantations, with the majority requiring much less maintenance prior to final harvests to occur in the subsequent years.

Table 3.1.2 Silviculture / Forestry Detail 2022 - 24:

Activities	Unit of Measure	2022			2023			2024		
		Units	USD	USD/Unit	Units	USD	USD/Unit	Units	USD	USD/Unit
Fertilization	ha	0	0	0	0	0	0	0	0	0
Firebreak Maintenance	ha	1.272	-41.647	-33	1.177	-16.879	-14	932	-14.916	-16
Road Maintenance	ha	1.272	-106.056	-83	1.177	-10.584	-9	932	-12.397	-13
Sprout Control	ha	0	0	0	0	0	0	0	0	0
Ant Control	ha	1.272	-2.561	-2	1.177	-9.572	-8	932	-1.183	-1
Weed Control	ha	0	0	0	0	0	0	0	0	0
Pruning	ha	0	0	0	0	0	0	0	0	0
Inventory	parc	1.272	-8.060	-6	1.177	-3.267	-3	932	-2.887	-3
Planting	ha	0	0	0	0	0	0	0	0	0
Soil Preparation	ha	0	0	0	0	0	0	0	0	0
Operational Support	-	-	-80.880	0	-	-12.858	0	-	-11.969	0
Tax over Forestry Services	-	-	0	0	-	0	0	-	0	0
Total	ha	5.088	-239.204	-47	4.708	-53.160	-11	3.726	-43.352	-12

Here we comment show the main silvicultural activities planned for the MP time horizon for 2020-21, per farm / project. Additional information on the decision-making process for these activities is provided in Appendix 1.

Table 3.1.3 Silviculture / Forestry 2020 breakdown per project:

Activity	Project	2020					
		Units	BRL/Ano	BRL/Unit	Units	USD/Ano	USD/Unit
Firebreak Maintenance	-	460	-284.775	619	460	-74.548	162
Road Maintenance	-	196	-579.000	2.954	196	-151.571	773
Sprout Control	SAJ2007	603	-251.272	417	603	-65.778	109
	DLG2005	104	-43.297	417	104	-11.334	109
	DLG2006	117	-48.762	417	117	-12.765	109
	MUT2007	270	-112.413	417	270	-29.428	109
	SMJ2002	1.002	-298.179	298	1.002	-78.057	78
	SMJ2003	282	-71.233	253	282	-18.647	66
	CMB2002	556	-161.376	290	556	-42.245	76
	SMJII2008	200	-83.287	417	200	-21.803	109
	TST2004	1.102	-216.941	197	1.102	-56.791	52
	CMB2003	5	-2.125	417	5	-556	109
Ant Control	MUT2007	1.618	-42.324	26	1.618	-11.080	7
	SMJ2002	3.256	-85.184	26	3.256	-22.299	7
	SMJ2003	624	-16.317	26	624	-4.272	7
	SMJII2008	300	-7.840	26	300	-2.052	7
	TST2004	3.430	-89.736	26	3.430	-23.491	7
Weed Control	SMJ2002	612	-137.773	225	612	-36.066	59
	SMJ2003	89	-20.036	225	89	-5.245	59
	CMB2002	270	-60.782	225	270	-15.912	59
	TST2004	932	-209.811	225	932	-54.924	59
	PAI1997	162	-36.469	225	162	-9.547	59
	CPB1999	300	-67.536	225	300	-17.679	59
	BAM1999	673	-151.505	225	673	-39.661	59
	PAI1998	115	-25.889	225	115	-6.777	59
	VDO1999	48	-10.806	225	48	-2.829	59
	PAR1997	525	-118.187	225	525	-30.939	59
	SMJII2009	27	-6.078	225	27	-1.591	59
	Pruning	SAJ2007	301	-201.736	670	301	-52.810
DLG2005		52	-34.761	670	52	-9.100	175
DLG2006		58	-39.149	670	58	-10.248	175
MUT2007		135	-90.252	670	135	-23.626	175
SMJ2002		271	-181.646	670	271	-47.551	175
SMJ2003		52	-34.795	670	52	-9.109	175
CMB2002		143	-95.592	670	143	-25.024	175
SMJII2008		100	-66.868	670	100	-17.505	175
TST2004		85	-56.912	670	85	-14.898	175
CMB2003		3	-1.706	670	3	-447	175
Inventory	-	1.612	-127.479	79	64	-33.372	21
Operational Support	-	-	-2.544.692	1	-	-666.150	0
Total	ha	14.075	-6.714.519	-477	14.075	-1.757.728	-125

4 MARKET OUTLOOK AND PRICE FORECAST

This section updates the trends in global import supply and demand for the tropical hardwoods and teak markets, followed by a focused look at the Indian market, the largest and most import for teak. We then show the updated evolution of roadside teak prices.

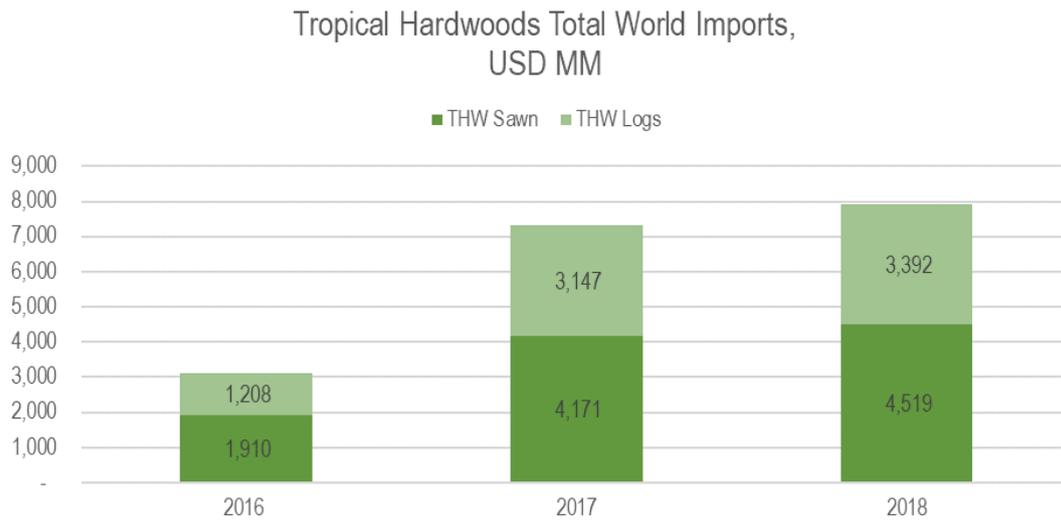
4.1 TROPICAL HARDWOODS WORLD IMPORT DEMAND

Demand

Annual global tropical hardwoods (THW) imports, which include teak wood along with other mainly natural forest tropical hardwoods, totaled USD 5.8 billion in 2018, according to the Global Trade Atlas (GTA), divided nearly equally between logs and sawn products. Figure 4.1.1 below presents the total THW imports since 2003 between logs and sawn products and shows sharp rise from 2017 due to the restructuring of the Harmonized System (HS) code system - responsible for standardizing and recording trading values and volumes of specific products worldwide. According to the World Customs Organization (WCO), this amendments for trade in forestry products was largely aimed at widening the coverage of wood species in order to more accurately reflect trade patterns, including endangered species. Separating the data on tropical wood trade serves both to focus attention on the important issue of tropical wood use and clarify data on non-tropical hardwoods.

The overall result of this change is a far higher estimate of the tropical hardwood trade – the 2016 estimate (prior to the change) estimated total global tropical hardwoods imports at just over USD 3.2 billion, with the 2017 estimate representing more than doubled to USD 7.2 billion. This change appears to have been most acute for China, whose log and sawn tropical timber imports increased five-fold (see below).

Figure 4.1.1

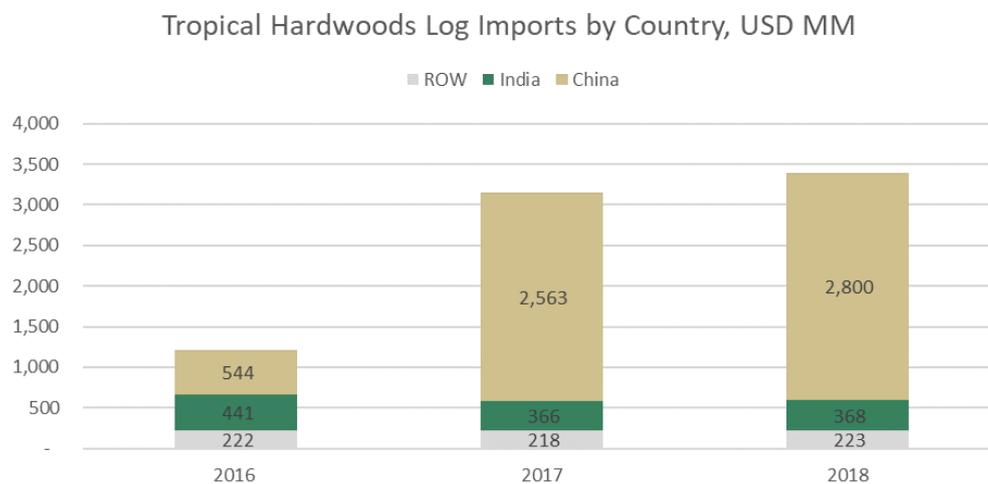


Source: International Tropical Timber Organization

Markets

The THW log import markets are dominated by China and India, the largest individual consumer markets, with 83% and 11% respectively of the total world imports, as shown in figure 4.1.2 below. Note that China's imports of THW logs experience a surge from 2017, nearly doubling. This is the result of amendments to the WCO's HS structure as mentioned above, which have included a wider list of traded tropical hardwoods, and is intended to more accurately capture the traded volume and value of tropical hardwoods. The overall size of the log market thus more than doubled from 2016 to 2017, and further grew in 2018. Note that that India and the rest of the world, (ROW, mostly other Asia and Europe) imports showed relative stability, and do not appear to have been materially affected by the change in the HS structure.

Figure 4.1.2



Source: United Nations Trade Statistics - Comtrade

In contrast to THW log imports, THW sawn imports are more evenly spread over a larger range of countries. In table 4.1.3 below, we show the top 5 importing countries by value, as reported by United Nations International Trade Statistics Database. Data for China, historically the largest THW sawn products market, is not yet available. China is the top market, followed by Belgium

(the biggest of the EU ports of entry), with the USA in third place, and India placing 4th (with 3% of total global imports).

Figure 4.1.3

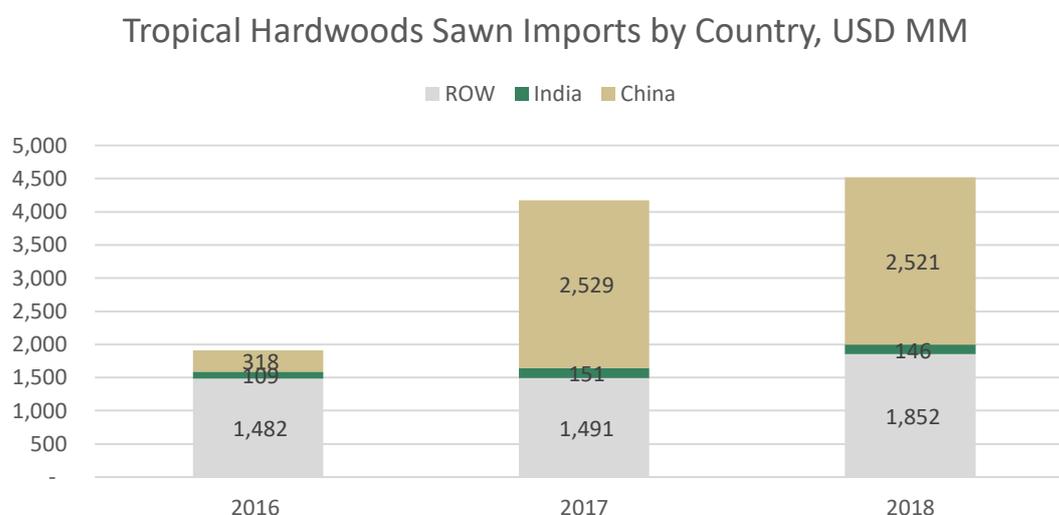


Table 4.1.4

Tropical Hardwoods Sawn Products Imports			
<i>USD MM</i>	2016	2017	2018
World Total	1.910	4.171	4.240
China	318	2.529	2.521
Belgium	224	196	240
USA	188	196	205
India	109	151	146
Netherlands	97	107	135
Italy	66	73	92

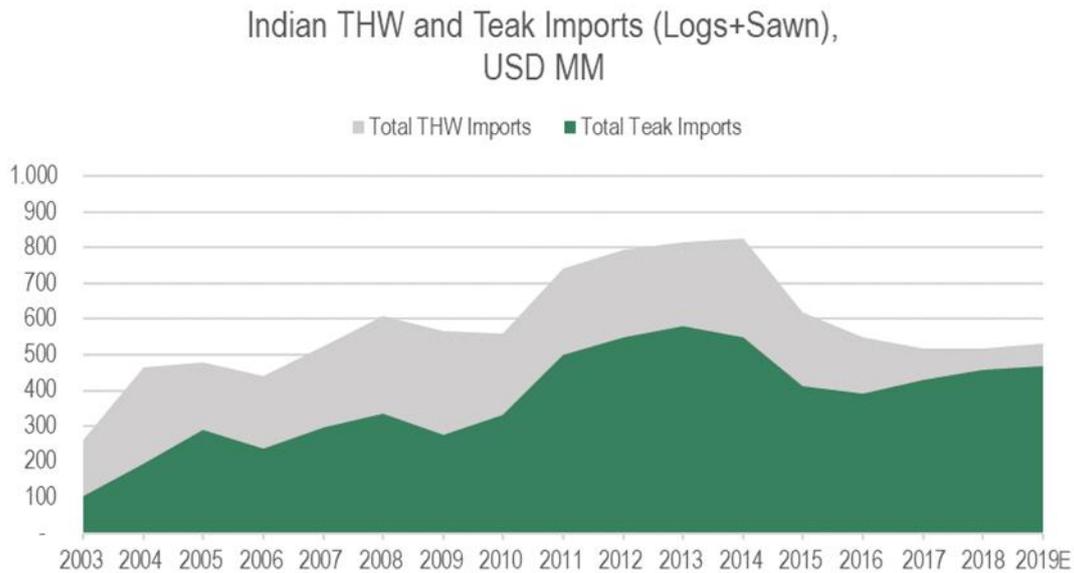
Source: United Nations International Trade Statistics Database

World teak imports are a fraction of total tropical hardwood imports, and only a few countries have a specific HS customs code for as a specific, separate import product (at the 8-digit level). India is known to be the largest market for teak logs, as China's imports of tropical hardwoods are spread over a wider number of wood species (but both have specific HS codes for teak logs and sawn products at the 8-digit level). We thus turn our attention to India, the largest market for teak, and the main determinant of world teak prices.

Indian THW imports vs Teak imports

Teak accounts for most of total Indian imports of tropical hardwoods and represents a consistently higher share over the last decade. The total THW market (including both logs and sawn products) was around USD 500 million in 2018, down from the 2014 peak at over USD 800 million (though as will be shown below, the fall in total imports is mostly due to supply factors). Teak imports have followed a similar path, down from the 2014 highs, but over USD 469 million in 2018, and slightly higher in value than 2016 and 2017. The 2019 value is estimated from published data through August 2019.

Figure 4.1.5

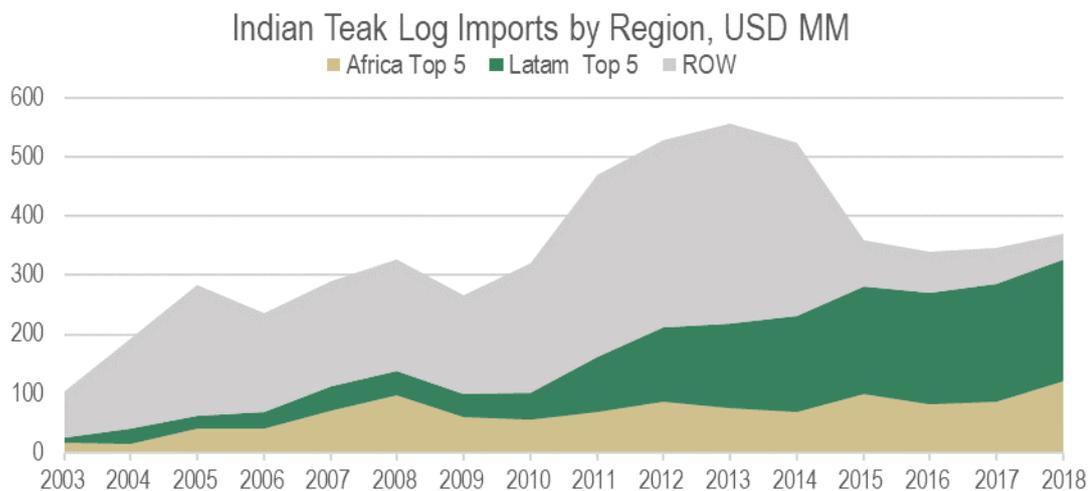


Source: GTA - Global Trade Atlas

4.2 INDIAN TEAK LOG IMPORTS

Indian teak log imports have increased in 2017 and 2018 in value terms, following several years of decline after the 2014 log import ban in Myanmar, previously the largest supplier of teak logs. The Myanmar log ban was a supply shock, and underlying demand for teak has in fact continued with robust growth. Log imports from the main Latin American exporting countries has grown in total in the 2014-18 period, by 8% in value terms, and 10% in volume terms on average.

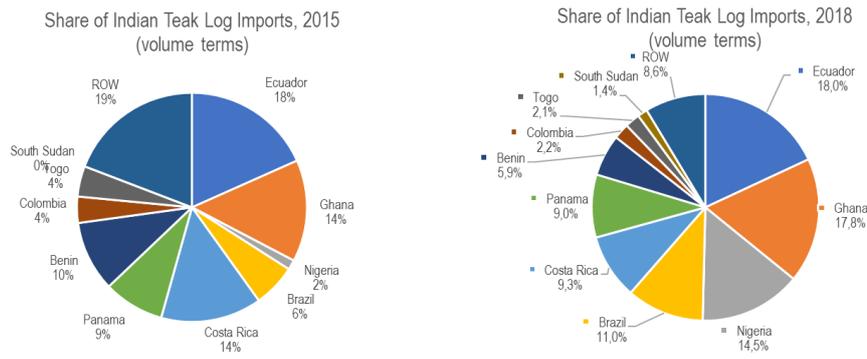
Figure 4.2.1



Source: GTA - Global Trade Atlas

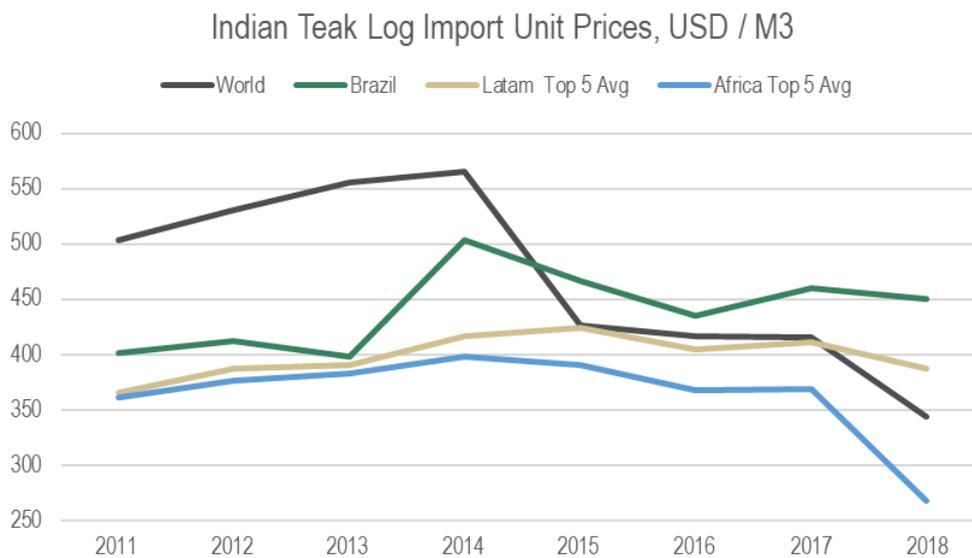
Moreover, the overall share of the market supplied by the top Latam export countries has grown continuously, and accounts for 50% of total Indian teak log import volume in 2018, and slightly more in value terms. Asian supply (from old growth natural forests) has been the biggest reason for the overall drop in imports, but African supply has also steadily increased as well. This can be seen in figure 4.2.2, which compares the log imports (by volume) in 2014 and in 2018 (Jan to Oct figures):

Figure 4.2.2



An analysis of unit pricing by area of origin (figure 4.2.3) shows that, while overall prices declined after 2014, they have remained relatively stable, with Latam and Brazil prices sustained, while logs from the rest of the world (ROW) and Africa have strongly fallen in 2018.

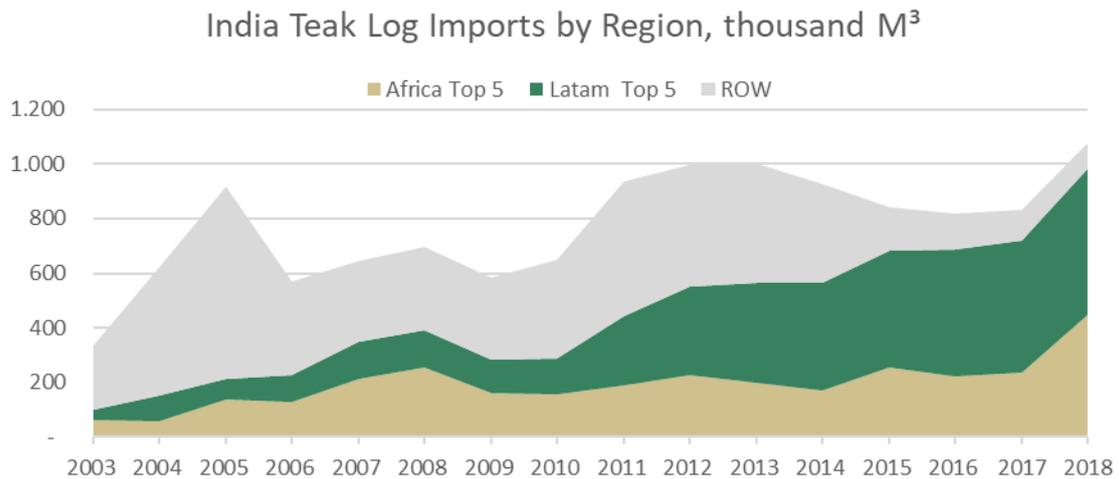
Figure 4.2.3



Source: GTA - Global Trade Atlas

Unit prices do not control for mix, so should not be taken necessarily as a precise indicator of prices in a specific period, though the general trends clarify relative supply and demand factors (i.e., whether countries typically export lower grade logs, and the overall demand in India for such lower grade logs vs higher grade (unit price) logs). Indeed, the main reason for the fall in prices in 2018 reflects the substantial increase in supply from Central American and African suppliers, whose supplies are of thinner logs generally, as shown in figure 4.2.4 below:

Figure 4.2.4



Source: GTA - Global Trade Atlas

Market Developments

Over the course of 2019, India has seen a reversion in expectations of economic growth, reporting 3Q2019 GDP of 6.1% on an annual basis, lower than the market expectations of 7.6%. The IMF, World Bank and Moody's have all recently updated their forecasts for India, and signal growth, lower than expected from previous years, in the 7 to 7.5% range for the next several years, following growth of 7.2% in 2017 and 6.8% in 2018.

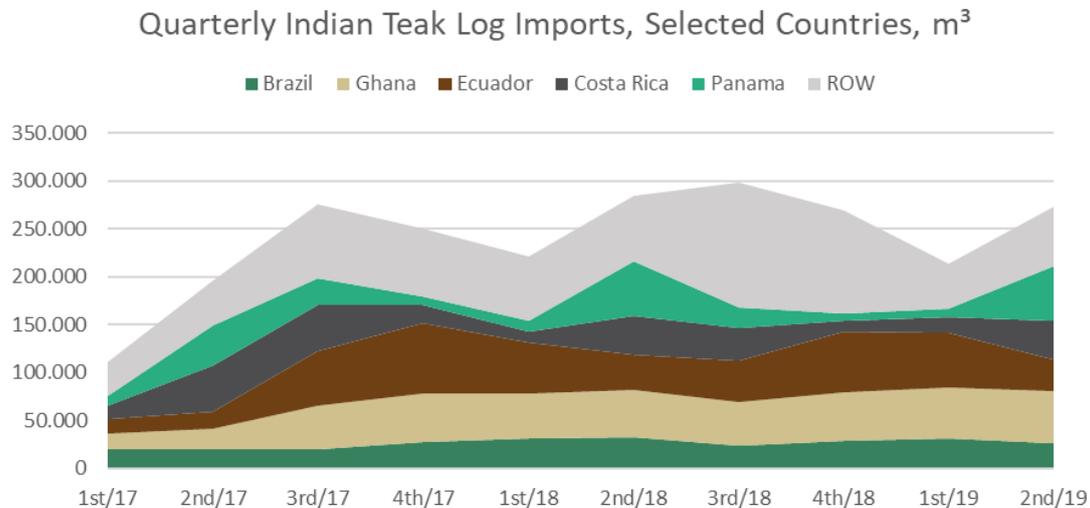
This lower growth represents a significant reversion in expectations. Although the Modi administration fortified its position following 2019's elections in the latter months of 1S2019, and had promised and increased focus on public investment, and some directed tax relief for electorally significant segments. However, private consumption in India has weakened over the course of the year, business investment has been tepid, and together these factors have led to a widening current account deficit, putting pressure on the fiscal front. The need to shore up the fiscal accounts, including measures to increase tax revenue, as well as credible reports of overstated historical GDP growth and employment data, have resulted led to an attenuation of optimism, and a drag on economic growth.

More directly related to the demand for teak has been the continued weakness in the Indian banking sector. The banks system continues to carry a high level of nonperforming loans, and fresh banking failures and scares continue to weigh on credit conditions. Overall, non-performing loans as a percentage of total financial system assets has started declining, reaching around 9% in the Reserve Bank of India's most recent accounting after the creation of a bankruptcy code. This was the result of a general tightening of credit conditions causing less working capital being made available in certain segments, and at higher rates.

Construction investment, which accounts for around 8% of Indian GDP, has been a big focus of the Modi government. India does not produce a central, national accounting of construction investment, and only private and anecdotal information is available for specific cities. The overall tone of these stories is that the market is oversupplied, with many completed and unoccupied housing units available in most of India's largest cities. The tougher credit conditions also weigh on this sector. Until the elimination of this overhang, it seems that construction growth will be tepid, which will also weigh the demand for teak logs which are used in construction.

This general backdrop of weaker demand can be seen in the volume of Indian teak log imports in figure 4.2.5 below. Total teak log imports declined from 3Q2019 to 1Q2019, though they did recover in 2Q2019. Partial data from 3Q2019 (not shown here), suggests continued weakness in teak demand, and resulted in some decreases in CIF teak prices (from October).

Figure 4.2.8



Source: GTA - Global Trade Atlas

In the 2018 full year, Ghana has become the main teak wood supplier in India surpassing Ecuador. Imports from Costa Rica and Panama increased seasonally in 2Q2018 and 2Q2019, together accounting for 33% of Indian imports, a slight increase of imports from those two countries when comparing 2019 to 2018. The top 5 exporters (Ghana, Ecuador, Brazil, Panama and Costa Rica), were responsible for 77% of all Indian teak log imports in the 2Q2019. Brazilian teak logs continue to maintain a consistent share of the overall teak log import market, and as shown in figure 4.2.3 earlier, occupy a different space as well, with unit log prices much higher than those of Ghana and Ecuador.

Market Outlook for 2020 and Beyond

The Indian economy will need some time to recover from the various item discussed above which have weakened overall demand. We estimate that this will mean subdued demand through 2020, and possibly extending into the following year, though the current government appears to be acting energetically to address the problems. On the supply side, we expect the pressure of higher competing supply, especially from Ghana, Ecuador and Central America will continue in 2020 and the coming years. The effect will be the greatest on the lowest log grades, which are produced in greater abundance from these countries.

4.3 PLANTATION PRODUCTION AND SALES ASSUMPTIONS

Here we present the current volume distribution per product class for 2020 vs the prior volume from 2019 Management Plan. Compared to the 2019 MP, the updated 2020 sales mix includes thinning on Terra Santa, that should have been harvested 2019, but due to legal issues, will be harvest plan 2020, in which corresponds to almost 43% of the expected thinning volume in 2020.

Table 4.3.1: 2020 Volume Comparison Current vs Prior MP*

Length	Intervention	2020 Prior	2020 Current	Var.
Short	FC	25,871	35,832	9,961
Semi Long	FC	23,788	10,469	-13,319
Long	FC	3,341	23,834	20,493
Total	FC	53,000	70,135	17,135
Short	TH	19,582	19,453	-129
Semi Long	TH	5,741	13,355	7,613
Long	TH	3,526	1,716	-1,810
Total	TH	28,850	34,524	5,674
Gran Total		81,850	104,659	22,809

*TH = thinning; FC = Final Cut

As commented in Section 2.1, overall volume in 2020 is 27% higher than the prior MP. For 2020, volume from thinnings will represent 33% of the total volume and in the 2019 MP they were responsible for 36%.

Taking into consideration the market outlook as outlined earlier in this section, here we present the production flow for the next 5 years, detailing the overall volume figures presented in Section 2.1. We have reflected the full effect of selling short, semi-long and long longs in the planned final harvest and regular thinnings for the 5 years, per the budget and plan.

Figure 4.3.2 2020 – 24 forecast harvesting / sales volume

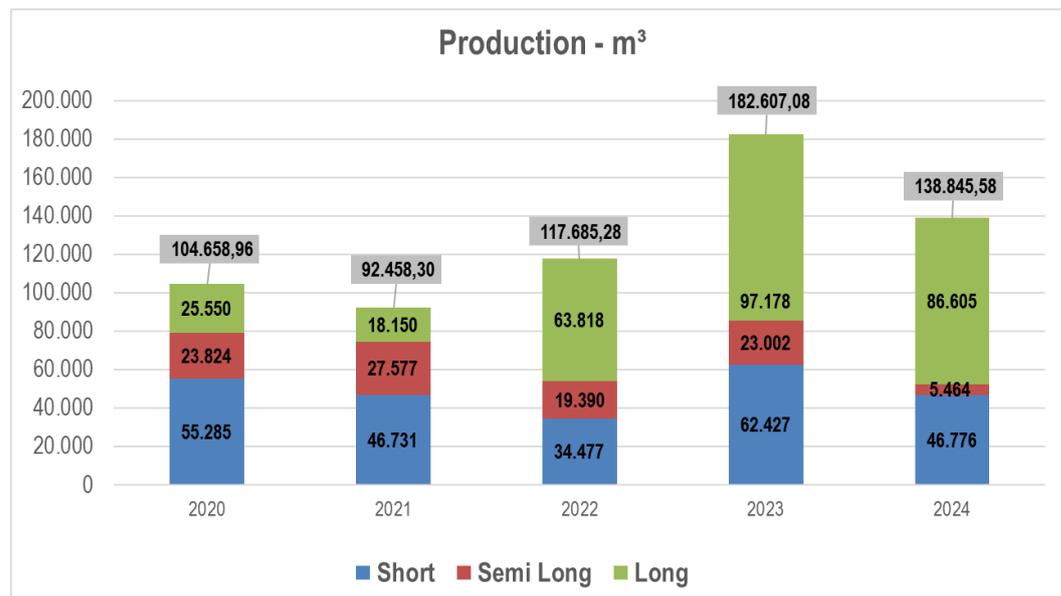


Table 4.3.3 Average Roadside Price USD/m³

	2020	2021	2022	2023	2024
AVG Roadside Price	89.1	89.5	93.7	104.1	127.3

New Proposed Pricing Criteria for FSA Log Sales

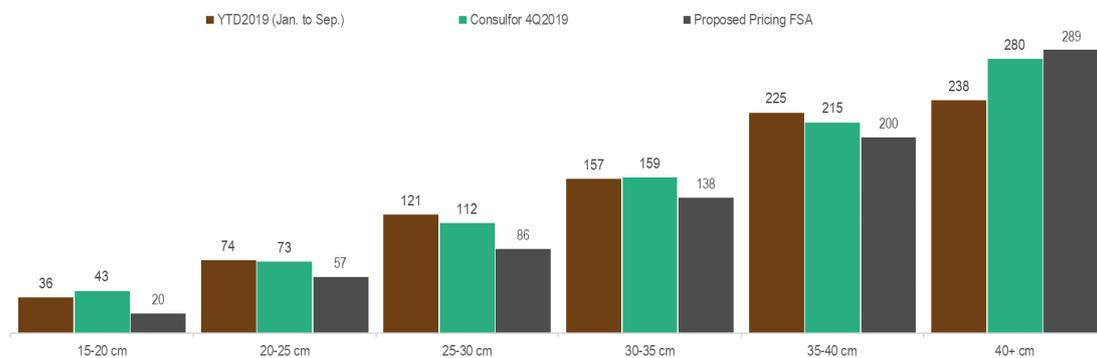
Under the current pricing convention, FSA logs sales do not make any distinction between thinning and final harvests, nor does it consider (discount) for channels / fluting. However, both are factors which result in lower prices in market practice, as the amount of usable heartwood is lower for thinning and channel logs. To continue to fully purchase all merchantable timber from FSA, TRC proposes to modify the existing pricing convention to take account of these market factors, but within the scope of the existing report. For final harvest export logs and sawmill logs, there is no price difference. For thinning logs, the proposal is to use the lower end of the survey price range, and for channel logs, apply a market based discount to the equivalent non-channel log grade (different for final cut and thinning logs) The difference between the current and proposed pricing criteria is shown below:

Figure 4.3.4 Current and Proposed Log Pricing Criteria

Current		Proposal for 2020 forward		
Log Type	Criteria	Final Harvests	Thinning	Channel Logs
Sawmill	Up to 20 cm - Consufor Lower End of Range From 20-23 cm Consufor Curve	same as current	same as current	Not applicable
Export	Consufor Curve	Consufor Curve	Lower end of Range	Discount of 30% for Final Cuts and 40% for thinnings

Prices in the proposed FSA Budget for 2020 reflect the new proposed pricing criteria, based on Oct 2019 Consufor Report (the most recent). Prices will continue to be updated quarterly based on the Consufor reports, and the prices will remain valid for the following quarter. In the figure 4.2.7 below, show the actual YTD 2019 prices for FSA, the 4Q2019 Consufor prices, and 2020 budget prices, reflecting the new pricing criteria and log mix (thinning and final cut), and an estimate of the percentage of logs subject to the channel discount (approximately 5% of final harvest logs).

Figure 4.3.5 Comparison of Pricing Criteria



The main difference between the Consufor and the proposed 2020 budget prices is down to the log mix, with approximately 1/3 of the overall sales mix consisting of thinning logs. For the 40+ cm logs, which are essentially only final harvest logs, prices are expected to be higher.

5 HARVEST SCHEDULE & OPERATIONS, AND GROWTH AND YIELDS

5.1 HARVEST SCHEDULE

To maximize returns to investors, TRC annually updates its plans to account for the new inventory data and current market and operational characteristics and constraints. To be able to correctly represent in-stand competition given different alternative ages for each thinning and clear fell, we are using a basal area model, developed internally, for short term planning. This decision is made with the aid of Remsoft 's Woodstock, a specialized software for forest planning.

With this process, it is possible to achieve the best schedule for each operation on each stand, maximizing total net present value, given that it complies with the considered constraints. These constraints include levelling year-to-year volumes to avoid unfeasible variations, and a maximum harvesting capacity for the rainy season. The list of stands is then input for more detailed calculations and discussed with the operational manager to come to the final estimates that are the basis for the first 2 years of this 5-year plan. These first 2 years of detailed harvesting and thinning are then fed back into the 5-year Woodstock model to optimize the decisions for the other 3 years.

For the coming year TRC suggests reviewing the growth curves used for these long-term projections. The last time this was done was in 2015, as there was little inventory information on projects of 15 years or more. With addition of new measurements since then, we believe there the accuracy of our estimates should improve.

Table 5.1.1 shows the harvesting schedule by quarter for 2020. In the beginning of the year, we will continue thinning Cacimba (2002) and Santa Maria do Jauru (2002), from January to May, and April respectively. In April, thinning at Santa Maria do Jauru (2003) will occur. Terra Santa (2004) thinning will happen in the second and third quarter (May to August). Final harvest operations start at Paiolândia (1997), Paraíso (1997) and Capim Branco (1999), in the first two projects operation will end in 2020, in CPB it is expected to finish in 2021. From June to July we will perform final harvester on the whole Vale Dourado (1999). After that operations start at Bambu (1999 and 2000), and will continue in 2021.

Table 5.1.1 2020 Harvesting by Project:

Project	Final Harvest					Thining					Gran Total
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	
BAM1999	0	0	2,877	0	2,877	0	0	0	0	0	2,877
BAM2000	0	0	898	6,900	7,798	0	0	0	0	0	7,798
BAR2004	0	0	0	0	0	0	0	0	0	0	0
CMB2002	0	0	0	0	0	5,200	4,169	0	0	9,369	9,369
CPB1999	3,001	2,200	3,001	5,322	13,523	0	0	0	0	0	13,523
DLG2000	0	0	0	0	0	0	0	0	0	0	0
PAI1997	6,399	6,900	6,768	0	20,066	0	0	0	0	0	20,066
PAI1998	0	0	633	6,079	6,712	0	0	0	0	0	6,712
PAR1997	6,067	6,067	2,022	0	14,156	0	0	0	0	0	14,156
SAJ2007	0	0	0	0	0	0	0	0	0	0	0
SMJ2002	0	0	0	0	0	7,500	134	0	0	7,634	7,634
SMJ2003	0	0	0	0	0	0	2,504	0	0	2,504	2,504
STF2003	0	0	0	0	0	0	0	0	0	0	0
TST2004	0	0	0	0	0	0	8,000	7,017	0	15,017	15,017
VDO1999	0	2,502	2,501	0	5,003	0	0	0	0	0	5,003
Gran Total	15,466	17,668	18,700	18,301	70,135	12,700	14,807	7,017	0	34,524	104,659

In 2021, the plan is to continue the final harvest on Bambu (1999 and 2000) and Capim Branco (1999), and start the final harvest in Duas Lagoas (2000) as well as thinning of Barranquinho (2004), São José (2007) and Santa Fé (2003).

5.2 COST OF PRODUCTION (COP)

The cost of production (COP) for the 2020 harvesting is shown in the table below and is forecast to be USD 23.87 per cubic meter (commercial volume). At the assumed FX rate of BRL 3.82/USD used throughout the management plan, this corresponds to BRL 91.18 per cubic meter. For comparison, in 2019, COP should be around USD 24.01 per cubic meter, essentially the same as forecast for 2020.

5.2.1 Management Plan Forecast Cost of Production

Table 5.2.1.1 Management Plan Forecast Cost of Production (USD):

	2020	Cost	m ³	Unit/m ³
Tree Selection	USD	27,765	104,660	0.27
Harvesting	USD	660,179	104,660	6.31
Forwarding	USD	908,145	104,660	8.68
Lot Formation	USD	449,102	104,660	4.29
Loading	USD	181,860	104,660	1.74
Tax	USD	271,408	104,660	2.59
Total	USD	2,498,458	104,660	23.87

Note: all unitary costs are calculated using the total sales volume.

5.2.2 Cleaning

Once a farm has completed its final harvest, the land must be cleaned prior to returning it to the landowner. The cleaning process involves extracting the roots, and their subsequent removal from the property, and finally a grading to level the land. Cleaning is included in the Harvesting

+ Depletion in the P&L. The total cost is estimated as BRL 3,200 / hectare, in current BRL terms, and is shown in USD at the budget FX rate:

Table 5.2.1.2 Cleaning area and cost (USD):

Year	Units	USD	USD/Unit
2020	1,028	878,560	854
2021	1,401	1,243,842	888

6 ANNUAL INVENTORY SUMMARY

Inventory and Project Overview

The monitoring of the development of the forest is done through annual inventory measurement, which is usually carried out during the dry season between May and August. Measurements may happen at different times for specific needs or due to operational constraints of our field team. The results from the latest available inventory are shown below (2018 and 2019 measurements). This year 11 projects were measured, those are: Paiolândia 1997 and 1998, Paraíso 1997, Serra das Araras 1999, Bambu 1999 and 2000, Barranquinho 2002, 2003 and 2004, Santa Fé 2003 e Terra Santa 2004.

It is important to observe that, at 15 years old, Terra Santa is growing on average almost 2.1 cm/year (diameter), with 92% of the farm classified as site I (S1 – Best sites). Compared to the 2017 inventory TST have grown 2,3 cm. Duas Lagoas, planting year 2002, is growing on average 2.5 cm/year (diameter).

Cáceres Region Plantations - 2019 Inventory Data

Project	Planting Year	Area (ha)	Age	DBH (cm)	Height (m)	Dominant Height (m)	Basal Area (m ² /ha)	Trees/ha	Total Volume (m ³ /ha)	Individual Vol (m ³ /ha)	Total Volume (m ³)
BAM	1999	549,1	19,1	19,6	14,2	15,3	11,3	366	66,8	0,18	36.668
	2000	513,8	18,1	23,4	16,5	17,3	12,4	285	84,6	0,30	43.446
BAR	2002	970,2	16,5	24,9	19,4	20,6	16,0	325	128,5	0,40	124.627
	2003	12,9	15,7	30,0	24,4	25,3	23,1	326	226,2	0,69	2.930
	2004	1.021,0	14,6	23,6	19,1	20,4	16,6	380	133,8	0,35	136.572
Total geral											344.242

Cáceres Region Plantations - 2018 Inventory Data

Project	Planting Year	Area (ha)	Age	DBH (cm)	Height (m)	Dominant Height (m)	Basal Area (m ² /ha)	Trees/ha	Total Volume (m ³ /ha)	Individual Vol (m ³ /ha)	Total Volume (m ³)
DLG	2000	1.527,5	17,5	28,5	19,0	19,6	11,1	173	84,1	0,49	128.492
	2001	1.764,3	16,4	24,6	16,1	16,8	10,1	235	67,0	0,28	118.174
	2002	48,4	15,2	37,2	22,8	23,0	16,2	145	134,3	0,92	6.501
	2005	207,7	12,3	23,3	15,6	16,9	14,3	329	94,4	0,29	19.604
	2006	233,9	11,2	26,3	17,3	18,0	16,6	298	113,4	0,38	26.528
SMG	2001	97,5	16,3	24,9	17,4	18,0	11,3	233	81,3	0,35	7.925
	2002	5,7	15,2	27,6	21,1	21,6	12,3	203	105,8	0,52	604
Total geral											307.828

Jangada Region Plantations - 2019 Inventory Data

Project	Planting Year	Area (ha)	Age	DBH (cm)	Height (m)	Dominant Height (m)	Basal Area (m ² /ha)	Trees/ha	Total Volume (m ³ /ha)	Individual Vol (m ³ /ha)	Total Volume (m ³)
PAI	1997	297,9	21,3	28,3	19,9	20,6	12,0	204	99,3	0,49	29.578
	1998	93,4	20,5	30,4	21,6	22,1	11,8	161	101,7	0,63	9.505
PAR	1997	555,0	21,5	21,9	16,8	17,7	10,4	271	73,2	0,27	40.615
SER	1999	105,0	19,5	26,9	21,0	21,9	14,4	241	122,5	0,51	12.863
Total geral											92.561

Jangada Region Plantations - 2018 Inventory Data

Project	Planting Year	Area (ha)	Age	DBH (cm)	Height (m)	Dominant Height (m)	Basal Area (m ² /ha)	Trees/ha	Total Volume (m ³ /ha)	Individual Vol (m ³ /ha)	Total Volume (m ³)
BOC	1998	431,6	19,5	37,8	25,6	25,7	11,8	106	111,6	1,05	48.166
	1999	108,2	18,8	38,9	25,0	25,0	10,9	92	101,7	1,11	11.003
CAS	1999	88,5	18,9	30,5	21,8	22,1	11,0	148	95,8	0,65	8.481
CPB	1999	507,9	18,6	35,2	23,5	23,5	10,3	106	91,4	0,86	46.419
SJT	1998	26,8	19,7	34,7	24,2	24,4	12,7	136	113,8	0,84	3.045
VDO	1999	48,6	17,4	34,1	23,1	23,7	13,9	152	124,3	0,82	6.040
Total geral											123.154

Porto Esperidião Region Plantations - 2019 Inventory Data

Project	Planting Year	Area (ha)	Age	DBH (cm)	Height (m)	Dominant Height (m)	Basal Area (m ² /ha)	Trees/ha	Total Volume (m ³ /ha)	Individual Vol (m ³ /ha)	Total Volume (m ³)
STF	2003	2.562,7	15,5	25,6	18,7	19,5	12,9	272	95,6	0,35	245.070
TST	2004	1.143,2	14,8	30,8	22,9	23,6	15,8	222	138,0	0,62	157.710
Total geral											402.780

Porto Esperidião Region Plantations - 2018 Inventory Data

Project	Planting Year	Area (ha)	Age	DBH (cm)	Height (m)	Dominant Height (m)	Basal Area (m ² /ha)	Trees/ha	Total Volume (m ³ /ha)	Individual Vol (m ³ /ha)	Total Volume (m ³)
CMB	2002	571,1	15,4	30,3	21,3	21,8	14,7	203	120,4	0,59	68.763
	2003	10,2	14,3	32,3	23,6	24,2	17,5	211	153,5	0,73	1.564
MUT	2007	539,2	10,0	22,7	16,4	17,1	14,8	385	100,2	0,26	54.038
SAJ	2007	301,3	10,3	28,0	20,3	20,6	15,6	252	123,0	0,49	37.049
SMJ	2002	1.085,2	15,3	25,4	18,3	19,3	12,9	265	93,7	0,35	101.663
	2003	207,9	14,4	30,2	21,0	21,8	15,9	223	129,4	0,58	26.889
SMJII	2008	99,9	9,1	20,8	14,5	15,3	14,1	395	82,5	0,21	8.241
Total geral											298.206

7 G&A EXPENSES

7.1 GENERAL AND ADMINISTRATIVE OVERHEAD EXPENSES

Table 7.1.1 Management Fee and Owner Expenses (USD):

(in USD 0,00)

	1Q2020	2Q2020	3Q2020	4Q2020	2020	2021	2022	2023	2024
G&A: owner expenses	(64.253)	(49.668)	(78.298)	(57.975)	(250.194)	(260.202)	(270.610)	(281.434)	(292.692)
G&A: Annual Management Fee	(445.177)	(449.639)	(454.146)	(458.698)	(1.807.661)	(1.750.310)	(1.629.912)	(1.400.964)	(1.075.854)
Property Management	(214.672)	(202.159)	(205.609)	(201.626)	(824.067)	(857.029)	(891.310)	(926.963)	(964.041)
Total Expenses	(724.102)	(701.467)	(738.054)	(718.299)	(2.881.922)	(2.867.541)	(2.791.832)	(2.609.361)	(2.332.587)

Note: both G&A expenses are combined in the P&L

7.1.1 Management Fee

According to the Management Services Agreement between Floresteca S/A and TRC the annual management fee comprise a fixed value per hectare (BRL 448, or USD 117 for 2020) for the administrative services (e.g. treasury, legal, forest planning, IT etc.). This is paid on monthly basis and is updated per Brazilian CPI inflation. The budget assumes that G&A increases by expected BRL inflation for 2021 onwards, as measured by the IPCA index. Note that as the hectares under management fall (as final harvesting is completed) the total G&A expenses fall, as the Variable Management Services Fees are proportional to the hectares under management. In 2019, Management Fees are expected to total USD 1.9 million, compared to USD 1.8 million in 2020, and USD 1.6 million in 2021.

7.1.2 Property Management

These expenses refer to local property management related staff and infrastructure maintenance. In 2020, these expenses come to USD 708 k and USD 737 k for 2021. In 2019, property management expenses should total USD 430 k.

7.1.3 Own Overhead Expenses

Own overhead expenses include General and administrative costs specific to FSA, and include the remuneration of the administrators, financial statements audit, among others. In 2019 the own overhead expenses should total USD 590 k, while in 2020 and 2021 they will total USD 250k and USD 260k respectively.

8 ENVIRONMENTAL, SAFETY & GOVERNANCE

8.1 FSC

The certification of the FSA assets were maintained in 2019 audit and the certificate is valid until March 7, 2023. Next audit is scheduled to begin in January 28, 2020. Paraiso 1997, Santa Maria do Jauru 2002, Santa Maria do Jauru 2003 and Mutum 2007 do not have FSC certification.

8.2 SOCIO-ENVIRONMENTAL PROGRAMS

8.2.1 *Fauna Monitoring*

The purpose of monitoring the fauna is to study the wealth, the abundance and the spatial distribution of the fauna and how it interacts with the local flora and teak forestry management. The Company seeks to minimize its impact on local fauna.

8.2.2 *Monitoring of Water*

The water quality within the plantations is monitored, and the water consumed by the staff is analysed chemically and physically every six months on all company properties.

8.2.3 *Operating Activities Impact Analysis*

This monitoring focuses on environmental and social aspects, to gauge the effect of operations. On the environmental side, before the start of activities with significant impacts (and specifically harvesting), Floresteca conducts a survey of management unit before and after this activity. This allows preventative actions and prior identification of areas which will require mitigation and correction of negative impacts should they occur.

On the social side, a health and safety survey is conducted on the management unit level, taking into consideration the surrounding communities. The survey looks to identify and prevent or correct problems that may arise from the greater movement of people, trucks and machinery on and around the plantations, and maintain good relations with the local community.

8.2.4 *Waste Collection and Recycling*

Floresteca has a waste recycling program that separates, stores and disposes of waste generated in its activities in an environmentally and legally appropriate manner. Waste is separated at source by type, and stored on site in waste bays, and later sent away for recycling. Non-recyclable waste is disposed of according to the assessment criteria set by suppliers and in conformity with local regulations.

9 APPENDICES

9.1 APPENDIX 1: TREE CROP STRATEGY

Core strategy concepts

The main objective of our project is to ensure a silvicultural regime which will maximize the net present value of the investment, through the production of high-quality Teak logs for final harvest, assuming a market consensus discount rate, in line with appraisals performed on similar plantations in Brazil.

Decision making

All decision making, especially that related to thinning and harvesting, is based on a comprehensive optimization process to ensure the most favourable financial alternative is selected, based on our current view on the market and within our operational constraints. This process is focused on delivering the highest possible net present value for the assets.

This decision-making process is done annually, though a reforecast may be done for shorter periods. The plans are adjusted during the year in view of new market information, or whenever any significant market shifts occur which justifies a change in plans.

The unit considered for decision making is the stand, which we consider as a piece of homogenous forest that gets a uniform treatment throughout its whole area. Neighbouring stands may have different treatments depending on their development conditions.

As another important guideline, all present actions should work in our favour and never harm our future development potential.

Knowledge base

FSA is managed by a company with over 24 years of experience in the Teak business. The knowledge and history behind this is kept in a well-organized and secure database. All past information on growth, silvicultural management, research and other aspects of our forest management is stored and new data is loaded on a continuous basis.

This information provides us with a solid and consistent framework for decision making and for the development of our current assets, as well as helping us make the most well-informed decisions possible.

Decision Making Regime

Pre-planting decision criteria

Not applicable for FSA.

Planting decision criteria

Not applicable for FSA.

Weed control decision criteria

A). Site selection

Three main factors affect the decision of controlling weeds:

Type of infestation: if either grasses or broadleaves are present. Usually the presence of grasses is worst for the crop since they present negative allelopathy on the Teak plants. The exception on broadleaves is liana, which, if not controlled, can deform or even break the trees.

Intensity of infestation: visual analysis of how much area is proportionally being dominated by weeds.

Location of infestation: can happen in the planting line or between lines. Weeds inside the planting lines should be controlled earlier, while when occurring between lines it can be left longer to avoid soil erosion and provide shelter for natural predators of pests, as long as it does not compete with the crown or root system of the Teak plants.

The combination of these three factors will determine the control requirement. As a rule, grasses inside the planting lines or taking over more than a third of the area should be controlled.

B). Operations

We currently use a combination of chemical (glyphosate) and mechanical control, depending on the height and vigour of the weed present in the area. They both can be done manually, using sickles or backpack sprayers, or by tractors with proper implements, depending on the conditions of the area.

Pruning decision criteria

A). Site selection

Areas presenting branches thicker than 4 cm up to 6 m high or 50% of tree height, whichever is lower.

B). Operations

This operation is done by field workers with the aid of pruning chainsaws adapted to a long metal pole to reach the upper branches up to 4.5 m. If higher branches up to 6m need to be removed, then a regular pruning saw is used.

Fertilizing decision criteria

A). Site selection

Forests presenting poor development are an indication of P insufficiency given that minimum physical requirements of the soils are met (depth and drainage).

B). Operations

Current operational fertilization scheme is based on application of 250 kg/ha of mono-ammonium phosphate (MAP) + 2 kg/ha of Boron on total area with the aid of broadcast spreaders pulled by tractors.

Pest and Disease Monitoring - Ant Control Decision Criteria

The forest inventory staff inspects all planting sites on a yearly basis and evaluates the occurrence of potential pests and diseases. Regular monitoring allows the company to take measures to guard against and control pests and disease. To date, disease occurrence has not been significant (<5%). As a rule, the Company always thins / eliminates trees with any sign of relevant disease, to preserve the remaining trees.

Among all potential pests, the combatting of the leaf cutter ants is a priority. Leaf cutter ants defoliate the tree crown and cut the main stem top, resulting in lower wood production, and cause stem forking. These leaf cutter ants are monitored year-round over the full teak cultivation cycle. When ant control is required, it is carried out manually by applying products containing deltamethrin and sulfluramid, in strict compliance with worker health and the environmental regulations.

Forest Monitoring and Inventory Methods

The main purpose of a forest inventory is to gather precise information on the current stock of timber, and on the quantitative and qualitative development of the stands. A forest inventory makes it possible to assess current productivity and evaluate the changes throughout the years, thus allowing the planning of harvest activities and the supply of forest products. Inventory also provides valuable information for forecasting, to better optimize thinning decisions and schedules, and of the expected production by site index. This activity is conducted on a yearly basis from the third year of planting until the final cut.

The inventory was planned and structuralized as a Continuous Forest Inventory, making possible the periodic determination of the quantitative and qualitative characteristics of the forest and guaranteeing the return to the same sample plot in future measurements. Before 2013, all plots were located on a regular grid of 1 plot for every 5 hectares of planted Teak and they had fixed sizes, those being: 10.70 m radius for 3x3 m spacing and 12.60 m radius for 4x3m.

From 2013, the inventory methodology was changed to improve our data quality and be more cost effective, while maintaining the same statistical accuracy of the information. Under this methodology, in areas without prior measurements, the initial plot location is still done by systematic sampling, however, now based on a grid of 1 circular plot for every 10 hectares of planted area and as thinnings occur, the plot size is increased to keep approximately the same number of trees inside each plot. In this way, the information improves as the number of total trees declines.

Where past measurements have already been performed, were conducted a stratification of the area based on classes of total standing volume of the last available inventory. Inside each stratum, a selection of the plots is made so that we have a significant and sufficient sample set, considering a margin of error of 10% at a 95% confidence level. In this way, the number of plots measured can be reduced while guaranteeing the same statistical quality of the assessment.

In 2018, another change in methodology was done, with the modification of the sample plots from circular to rectangular. The main reasons was simplify the field work and to facilitate the recording and tracking of measurements at tree level when plot size is increased after thinning. On areas where the 3rd thinning has occurred, no changes to the plot form were done (since there is not additional benefit, as the final population of trees has already been determined). The

area stratification now is based on five variables: Project – Planting Year – Thinning – Clone/Seed – Site Class.

Each sample plot is located according to a rectangular grid point inside the blocks, as follows:

- The beginning of the sample plot is the intersection point of the lines in the grid, as determined with GPS tools.
- The sample plot outset is identified in the field using props settled in the line of the plantation to the side of the initial tree, which has its number painted on the trunk.
- The bordering trees of the plots are identified with blue latex paint, facilitating the visual localization for the periodic measurement or any another purpose.

In the table below, we show the evolution of the plot size for each thinning, to the main spacing.

Table A.1.1 – Variation of Plot Size Following Thinnings

Thinning	AREA (m ²)	Side 1 (Number of Planting Spots)	Side 2 (Number of Planting Spots)
No thinning	315,00	5	7
1P	630,00	5	14
1T	1.080,00	10	12
2D	1.620,00	10	18
3D	2.250,00	10	25
Initial Spacing: 3 x 3 m			

Thinning	AREA (m ²)	Side 1 (Number of Planting Spots)	Side 2 (Number of Planting Spots)
No thinning	420,00	5	7
1D	840,00	5	14
2D	1.680,00	10	14
3D	2.160,00	10	18
Initial Spacing: 4 x 3 m			

Thinning	AREA (m ²)	Side 1 (Number of Planting Spots)	Side 2 (Number of Planting Spots)
No thinning	576,00	6	6
1D	864,00	6	9
2D	1.440,00	9	10
3D	2.304,00	9	16
Initial Spacing: 4 x 4 m			

Forest Harvesting

Forest harvesting consists of all the activities of thinning and final cuts.

Thinning consists of the felling of trees with the worst growth in their growing area, and the felling is to eliminate the competition of these trees with the remaining trees (with the best growth and quality characteristics).

Final cut is the clear-cutting of all remaining trees at the end of the cycle, which are the best of all original trees in the area.

The actual process of harvesting involves several specific procedures which occur before and following the felling. In the remainder of this section, we describe these procedures in some detail, as they all have an impact on harvesting costs.

Selection and marking

This process consists of selecting and marking the trees to be felled with latex paint. Trees that are diseased, crooked, forked and of small diameter (for their age) are marked, taking into consideration the need for an evenly spaced distribution of the remaining trees. This activity is carried manually, requiring workers to concentrate, observe and have a good sense of spacing. The selecting and marking process enables the best trees to be selected for the future, i.e., those having the best timber quality and yielding the best economic results.

Felling

This activity can be performed manually with chainsaw operators or mechanically by a forest tractor called a Harvester or Feller. The trees are felled, the branches are removed and they are sectioned into logs of a predetermined length.

After the trees are felled, the logs are piled up between planting rows for subsequent forwarding. The felling (whether manual or mechanized) is always directed toward spaces that are free of obstacles so as to prevent damage to the remaining trees and is performed systematically to expedite the activities that follow.

The branches and leaves remain on the ground protecting the soil from the traffic of the harvesting machinery, thus diminishing the compacting effect caused by machinery traffic during harvesting activities, and providing natural compost.

Forwarding

This activity is carried out by a tractor equipped with a forest loader and a forest cart (forwarder) designed to remove the logs from the blocks and haul them to the roadside. The tractor has tongs driven by a hydraulic system that carries the logs piled up in the field to the forest cart and then unloads the logs from the tractor to the roadside, forming piles of timber.

The piles of timber are separated according to diameter and block, making it easier to transport the logs according to different end use purposes (export, sawmill biomass) and to keep track of the timber.

Some of the timber, while of commercial dimensions, is not viable for export due to the logistics costs involved in getting them from Mato Grosso to final markets Asia. In this case, the best value for the wood involves sawmill processing, into blocks and boards.

Thinning and Harvesting Decision Criteria

A). Site selection

Decision on thinning is based on a future cash flow NPV optimization process that considers biological growth projections together with commercial and operational constraints. Future alternatives for harvesting on each stand are simulated and the best option for the discounted cash flow which complies with all restrictions is considered as the optimal solution for the long term. The discount rate applied should reflect the risks of this specific timberland investment and country risk. Usually this involves a calculation which considers a “risk free” benchmark rate (usually assumed to be 10 year USD Treasury yield), or alternatively an investment hurdle rate for similar assets of the same class, plus an appropriate risk premium based on type of asset and its relative risk to other assets, as well as liquidity, an important factor in the case of forestry assets.

The main constraints used here are steady wood flows, respecting a maximum variation in production between years, and acceptable production level for sawmill and export grades. For short term operational planning (12 months), we use a further set of restrictions which are not contemplated in the long-term model.

First, we currently consider that only areas with basal area above 12 m²/ha are eligible for thinning, ignoring less stocked areas that might have been set for thinning in the previous model. Then, we consider restrictions for wet season operations, since not all areas are workable during this 6-month period (Dec-May) due to heavier soils.

Lastly, we try as much as possible to group all stands of the same site class in each farm as a harvesting unit, to both maintain consistency in management as well as gain scale economies from harvesting larger areas and minimizing transport of machinery and field crews.

B). Operations

Thinning can be done either with the aid of a harvester / feller or by field workers equipped with chainsaws. Forwarding is done with adapted self-loadable tractors or skidders, depending on the size of the trees and length of desired final products.

Building and Maintaining the Infrastructure

Building and maintaining roads and safety strips

The building of roads and safety strips defines the size and shape of the units of area called blocks. However, soil conservation, protection of the trees, and harvesting are factors that must be considered.

The function of roads is to allow access and traffic of machinery, people and timber removal. and the function of safety strips is to isolate the growing blocks to prevent fire from spreading in the event of a possible forest fire in the area.

Well-located roads and safety strips allow a crop layout that optimizes soil use and facilitates future forest maintenance and harvesting operations.

Roads and safety strips are opened mechanically using crawler tractors and moto- graders, among other machinery, using criteria for soil conservation, forest protection and optimization of vehicle and heavy machinery traffic.

The primary roads receive a layer of gravel that is leveled and then compacted to provide greater stability so that it can bear the more intense and heavier traffic of the vehicles and heavy machinery.

The secondary roads and safety strips are only leveled. In the case of the safety strips, the vegetable (grasses) and other vegetable residues which are combustible, are kept under control or removed.

The maintenance of roads and safety strips is performed only as necessary, to maintain adequate traffic flow and fire protection. These maintenance actions depend mostly on the characteristics of the topography, soil, extent of road use, and rainfall rates of the region.

Building and maintenance of infrastructure

The building and maintenance of infrastructure at the sites includes buildings (mess halls, housing, workshops, storehouses, offices and other support facilities), electrical and telecommunications installations (extension of transmission lines, telephone and radio communication networks, etc.), hydraulic installations (wells, water pipelines, water tanks, etc.) and security fences.

9.2 APPENDIX 2: CHANGE IN THE ACCOUNTING BASIS OF PROFIT AND LOSS

The main methodology differences from the previous Management Plan are:

- CoGS (Cost of Goods Sold): includes both the operational costs for harvesting/thinning and for depletion (capitalized forest costs from planting to date).
- Financial Expenses: consider the interest on the loans / financial leases of the forest / harvesting machines (when applicable), plus bank fees;
- Income Tax: is estimated under the Real Profit Method;

For continuity with the prior account plan and results, we calculate the EBITDA and the Adjusted EBITDA (this latter item considering the cash effect of the capitalized forestry and farm/property related expenses).

The specific adjustments from net profit to EBITDA are:

- Interest;
- (Forest) Depletion (part of CoGs) and Depreciation;
- Income Tax;
- Other accounting rules, if applicable.

From an IFRS accounting standpoint, all forestry and property related cost are considered as Biological Assets and therefore capitalized as non-current assets. This cost will be realized in the P&L solely when the depleting of the Biological Assets. As the presumed method will be used for tax purposes, there is no economic consequence of this treatment.

To more accurately capture the forestry and property related costs in cash flow, we have created a line called “Adjusted EBITDA”, which deducts those costs from the accounting EBITDA. This value is comparable to the Operational Result that we have been providing the quarterly Management Reports and the prior Management Plan. The forestry activities and property expenses are detailed in specific sections of the MP and accompanying tables.

The Brazilian Real (BRL) is the functional currency of FSA. Practically all costs are denominated in BRL, and revenue is booked in BRL as well (based on the USD log prices at the time of sale). Thus changes can impact final stumping results. Thus we provide below the BRL Profit and Loss figures shown in USD in Table 1.1, as well as the KPIs from table 1.2. Finally, the Cash flow is provided in BRL in Table 9.2.3, presented in table 2.4.1 in USD.

Table 9.2.1 Floresteca S.A Profit and Loss (BRL):

FSA									
Profit and Loss									
<i>(In BRL 0,00)</i>									
	1Q2020	2Q2020	3Q2020	4Q2020	2020	2021	2022	2023	2024
Log Sales	8.426.981	10.568.784	9.211.380	7.776.542	35.983.688	32.368.692	44.062.350	74.194.642	68.918.784
Internal Market	1.052.253	995.035	778.119	269.365	3.094.772	2.625.955	1.099.442	2.099.012	177.754
External Market	7.374.729	9.573.749	8.433.261	7.507.177	32.888.916	29.742.737	42.962.908	72.095.629	68.741.030
(-) Sales Deductions	(118.401)	(118.463)	(95.004)	(44.358)	(376.226)	(744.044)	(936.976)	(1.585.325)	(1.418.283)
Net Sales	8.308.580	10.450.322	9.116.376	7.732.185	35.607.462	31.624.649	43.125.374	72.609.317	67.500.500
CoGS									
Harvesting + Depletion	(17.015.057)	(17.920.145)	(13.545.183)	(9.084.116)	(57.564.501)	(30.866.582)	(41.713.886)	(57.520.340)	(48.393.779)
Total CoGS	(17.015.057)	(17.920.145)	(13.545.183)	(9.084.116)	(57.564.501)	(30.866.582)	(41.713.886)	(57.520.340)	(48.393.779)
Gross Profit	(8.706.477)	(7.469.823)	(4.428.807)	(1.351.931)	(21.957.039)	758.067	1.411.488	15.088.977	19.106.722
% Gross Margin	-105%	-71%	-49%	-17%	-62%	2%	3%	21%	28%
Operational Expenses									
G&A: owner expenses	(245.446)	(189.733)	(299.099)	(221.463)	(955.741)	(993.971)	(1.033.730)	(1.075.079)	(1.118.082)
G&A: Annual Management Fee	(1.700.577)	(1.717.623)	(1.734.839)	(1.752.228)	(6.905.267)	(6.686.185)	(6.226.262)	(5.351.683)	(4.109.762)
Other operational income/expenses	(19.829)	(19.829)	(19.829)	(19.829)	(79.314)	(82.487)	(85.786)	(89.218)	(92.786)
Operational Result	(10.672.329)	(9.397.008)	(6.482.573)	(3.345.451)	(29.897.361)	(7.004.576)	(5.934.291)	8.572.998	13.786.091
Financial Expenses	(25.190)	(26.965)	(20.307)	(23.348)	(95.809)	(73.531)	(72.791)	(73.135)	(73.596)
Financial Result	(25.190)	(26.965)	(20.307)	(23.348)	(95.809)	(73.531)	(72.791)	(73.135)	(73.596)
EBT	(10.697.518)	(9.423.972)	(6.502.880)	(3.368.799)	(29.993.169)	(7.078.107)	(6.007.082)	8.499.863	13.712.495
Income Tax	0	0	0	0	0	0	0	0	0
Profit & Loss	(10.697.518)	(9.423.972)	(6.502.880)	(3.368.799)	(29.993.169)	(7.078.107)	(6.007.082)	8.499.863	13.712.495
% R.E / R.L	-129%	-90%	-71%	-44%	-84%	-22%	-14%	12%	20%
Profit & Loss Adjusted	2.338.330	3.826.202	4.067.479	3.353.863	13.585.874	11.068.652	18.018.784	39.960.663	44.698.957
Financial Expenses	25.190	26.965	20.307	23.348	95.809	73.531	72.791	73.135	73.596
Depreciation and Amortization	29.543	21.895	5.140	5.005	61.582	0	0	0	0
Depletion	13.035.848	13.250.174	10.570.359	6.722.862	43.579.043	18.146.780	24.025.866	31.460.800	30.986.462
EBITDA	2.393.062	3.875.061	4.092.926	3.382.216	13.743.265	11.142.183	18.091.575	40.033.798	44.772.553
Capitalized Costs									
Forestry	(1.571.122)	(2.283.473)	(1.612.305)	(1.247.697)	(6.714.597)	(5.569.138)	(913.761)	(203.070)	(165.604)
Land Use Deals	0	(1.028.340)	0	0	1.028.340	0	0	0	0
Depreciation	(209.911)	(208.894)	(188.289)	(170.127)	(777.221)	(266.341)	(171.571)	(89.796)	(57.914)
Property Management	(820.048)	(772.248)	(785.428)	(770.211)	(3.147.935)	(3.273.852)	(3.404.806)	(3.540.998)	(3.682.638)
EBITDA adjusted	(208.018)	(417.895)	1.506.904	1.194.181	4.131.852	2.032.852	13.601.437	36.199.934	40.866.397

Table 9.2.2 Floresteca S.A BRL Cash Flow

Cash Flow									
<i>(In BRL 0,00)</i>									
	1Q2020	2Q2020	3Q2020	4Q2020	2020	2021	2022	2023	2024
Initial Balance	3,121,093	3,899,804	181,912	1,310,457	3,121,093	3,775,079	3,570,431	27,529,463	63,797,211
Gross Revenues	8,280,875	8,287,049	10,601,794	9,422,230	36,591,948	30,006,432	54,324,196	74,194,642	68,918,784
Internal Market	2,035,576	912,337	1,028,075	988,958	4,964,946	1,518,471	2,599,334	2,099,012	177,754
External Market	6,245,299	7,374,713	9,573,719	8,433,272	31,627,002	28,487,962	51,724,862	72,095,629	68,741,030
(-) Sales Deductions	(108,312)	(119,272)	(118,174)	(43,716)	(389,474)	(744,044)	(936,976)	(1,585,325)	(1,418,283)
Net Revenues	8,172,563	8,167,777	10,483,620	9,378,514	36,202,474	29,262,389	53,387,220	72,609,317	67,500,500
Operational expenses	(6,654,064)	(10,933,160)	(6,389,537)	(6,269,481)	(32,226,243)	(29,242,969)	(29,286,580)	(36,230,370)	(26,483,403)
Financial expenses	(135,036)	(277,915)	(28,532)	(44,261)	(485,743)	(224,068)	(161,609)	(111,200)	(73,596)
Income tax	0	0	0	0	0	0	0	0	0
Transfers	(604,751)	(674,594)	(957,006)	(600,150)	(2,836,502)	0	0	0	0
Operational Cash Generation	1,518,498	(2,765,383)	2,114,083	3,109,033	3,976,231	19,420	24,120,641	36,378,947	41,017,098
Closing Balance	3,899,804	181,912	1,310,457	3,775,079	3,775,079	3,570,431	27,529,463	63,797,211	104,740,712