



# **BUSINESS ADMINISTRATION**

## **“Coastwoods Farming”**

### **BUSINESS PLAN BY**

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**MSc. Energy Systems**


**WS 2013-2014**



# PROJECT OVERVIEW

...the School, Rajinder Nagar play as climate ambassador  
**pen is the way**

# Project Description



Cultivation of Casuarina Plant  
(Commonly known as  
“She-Oak”)



Supply of harvested  
Casuarina Wood as a raw  
material for pulp to Paper  
Mill industry.



# Product Description

## Casuarina equisetifolia

<b>Family</b>	Casuarinaceae		Mean annual temperature 28 <sup>o</sup> C
			Monthly range - 15 <sup>o</sup> C - 33 <sup>o</sup> C
			Maximum sustainable temperature : 41 <sup>o</sup>
<b>Origin</b>	Bangladesh, Australia, Indonesia, India, Sri Lanka (coastal regions)	<b>Temperature</b>	Minimum sustainable temperature : 7 <sup>o</sup>
<b>Distribution</b>	India, Pakistan, East, Central & West Africa, West Indies, Florida and Gulf of Mexico		
	Tropical & hot subtropical regions	<b>Rainfall</b>	Natural Habitat : 700 to 2,500 mm; with dry periods of 6-8 months
	Unaffected by cyclones		Can be grown in regions with 200 to 5,000 mm rainfall
<b>Climate</b>	It is not frost hardy but can withstand low temperature.	<b>Altitude</b>	This is a low land tree that can be planted from sea level upto 1,500 m.
	It is light demander requiring bright sunshine for best growth and development.	<b>Soil</b>	The tree thrives best on loose sandy soils, laterite, rich loamy soils & some marshy places in open areas, where pH varies between 4.8 and 8.4



# MARKET STUDY

# Market Study



- 📌 Overview
- 📌 Location
- 📌 Current and Future Demand
- 📌 Current Market Value
- 📌 Potential Customers

# Overview

- ❏ Eucalyptus and Casuarina are the two main trees used as raw materials by the Indian paper industry.
- ❏ Since the 'Forest (Conservation) Act' came into existence in October 1980, the use of forest lands for raw materials became regulated.
- ❏ As a result, through the Agro Forestry initiative of the Paper industry , thousands of hectares of land has been brought under cultivation of these trees.

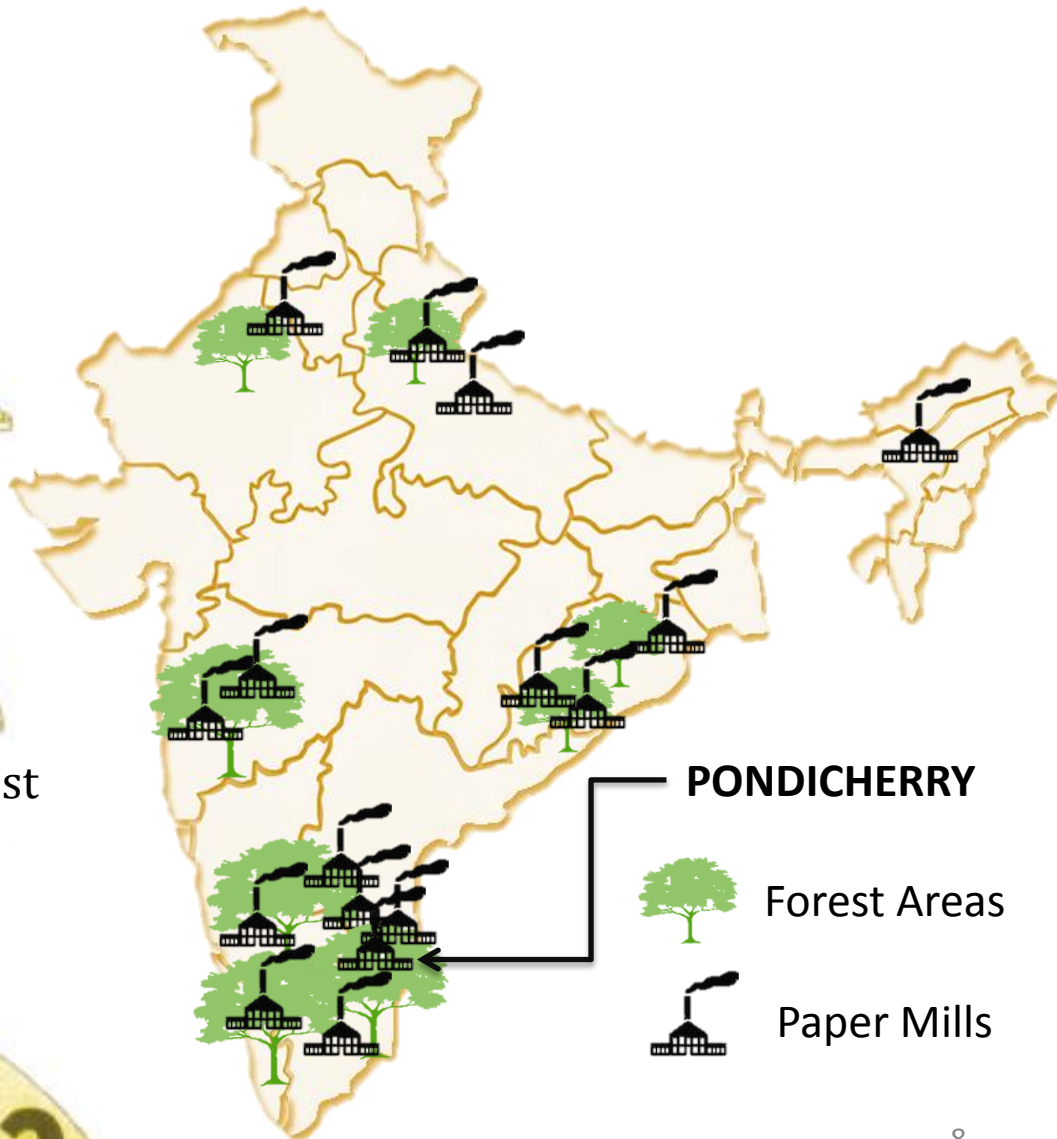
# Location

✔ **Pondicherry, Tamil Nadu, India**

✔ Suitable climate and soil conditions for the plant

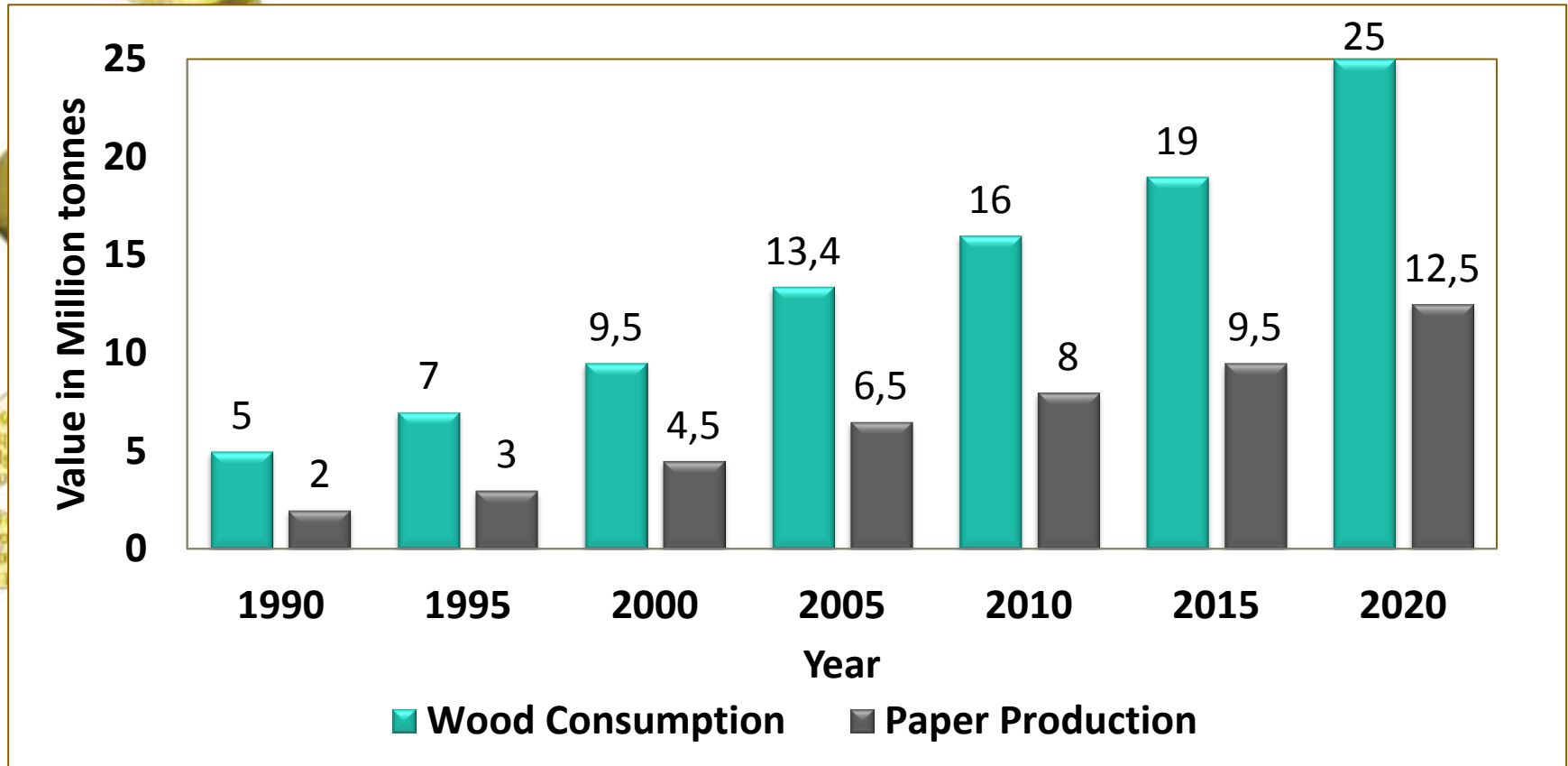
✔ Various Paper mills in a 500 kilometre radius

✔ Reasonable land and labour cost





# Current and Future Demand



- At present, there is a considerable fraction of raw material demand that is fulfilled by imports, which would only increase with the increase in paper demand.
- This deficit provides a window of opportunity to enter the field for cultivation and supply of primary paper pulp raw material.

# Current Market Value

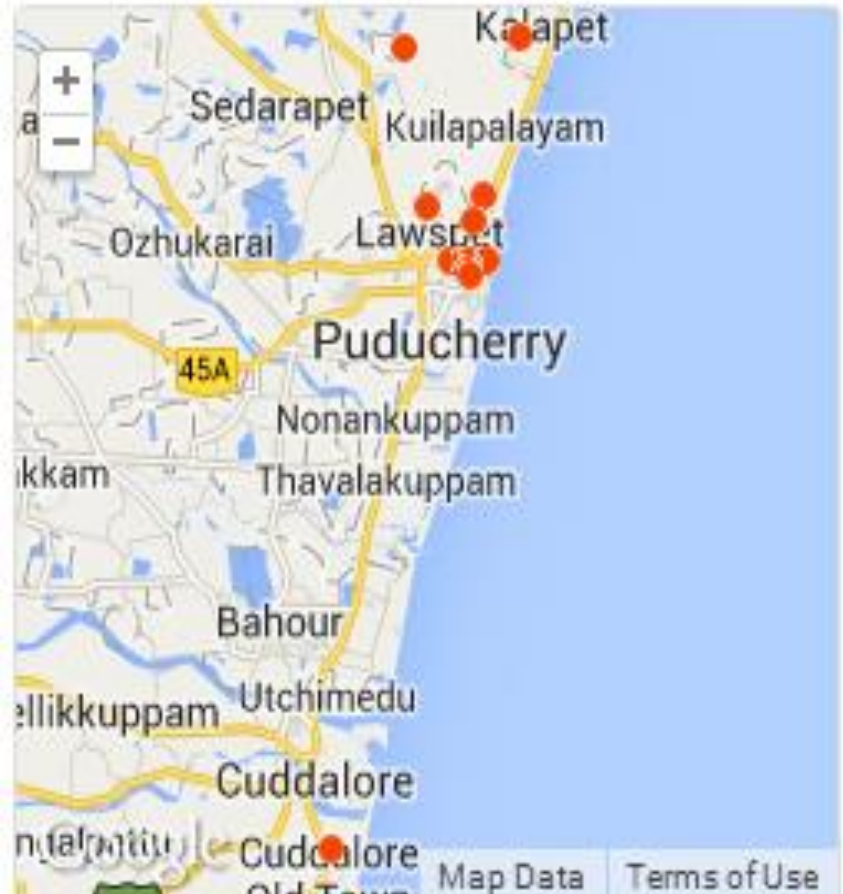
## Current selling price for Casuarina in Southern India

Registered Farmer	Un-registered Farmer	Traders
₹ 3250 / tonne	₹ 3000 / tonne	₹ 2900 / tonne
€ 38.23	€ 35.29	€ 34.12

\* 1 Euro (€) = 85 INR (₹)

# Potential Customers

- ✦ The paper mills at a close proximity to our plantation have been highlighted.
- ✦ In addition, on a large part of this south eastern coast, a number of big paper mills exist, posing as potential customers.





# THE COMPANY

# The Company

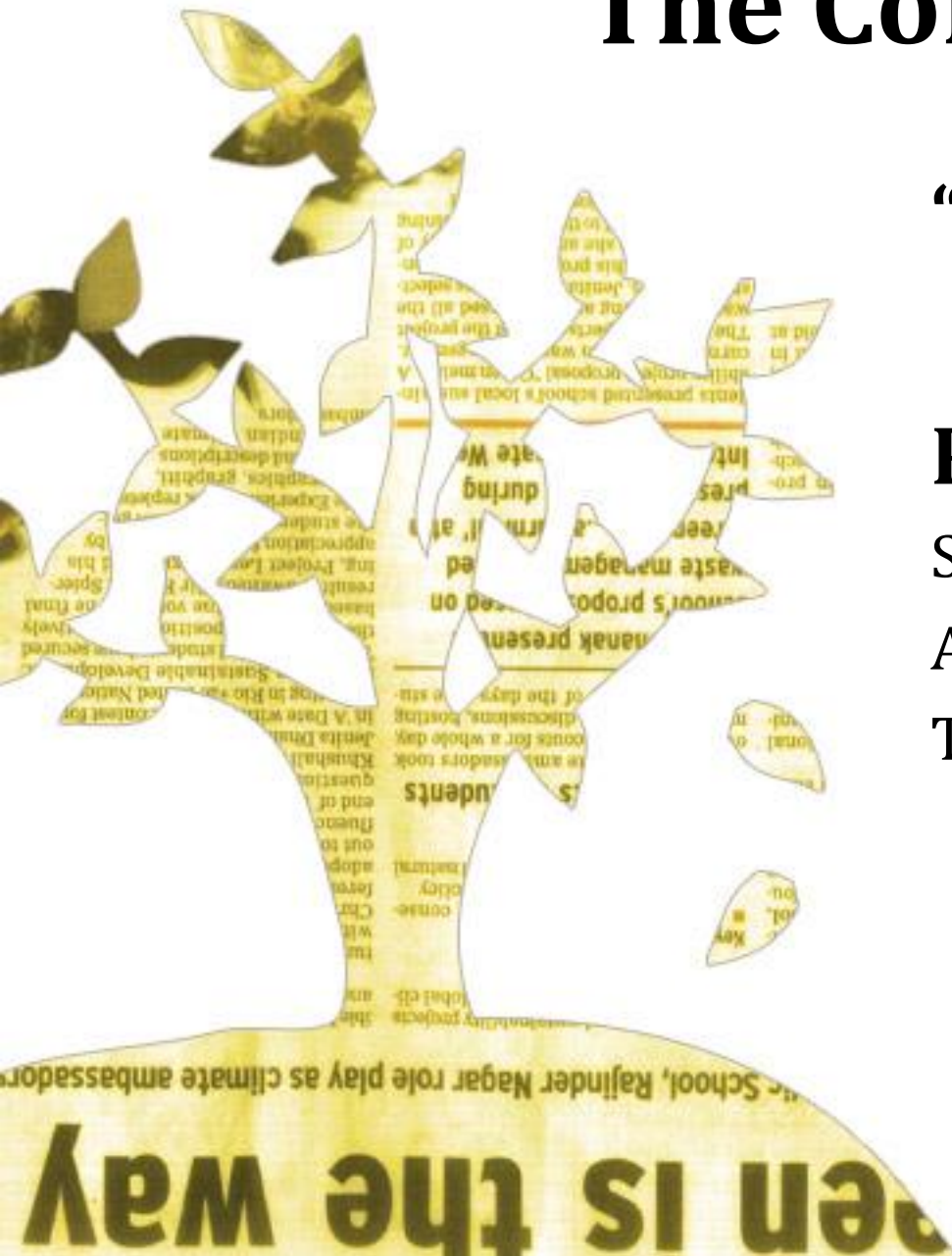
**“Coastwoods Farming”**

**Partners –**

Stefan Ohlenschläger

Aravind Sivalingam

Tejaswini Purohit



# Coastwoods - Profile

<b>Type of Company</b>	Partnership
<b>Company Law and Other Requirements</b>	<ul style="list-style-type: none"><li>- No specific company act for a farming business</li><li>- A farming business is privately owned, with complete liability on the cultivators</li><li>- No capital requirement necessary</li></ul>
<b>Taxation</b>	<ul style="list-style-type: none"><li>- Agriculture Income is exempted under the Indian Income Tax Act.</li><li>- Cultivation and sale of trees/crops (regardless of purpose of use after sale), falls under the definition of Agriculture Income.</li></ul>
<b>Procedures and Licensing</b>	<ul style="list-style-type: none"><li>- Registration of Land details (Land and Owner) with the State and District Agriculture Department</li><li>- No specific license issue procedure existing</li></ul>

# Plantation Details

## Land size -

- 75 acres

## Stocking -

- 1 tree / 4 m<sup>2</sup>
- 1000 trees / acre

## Harvest Cycle -

- Every 3 years

## Cultivation plan divided into 3 phases

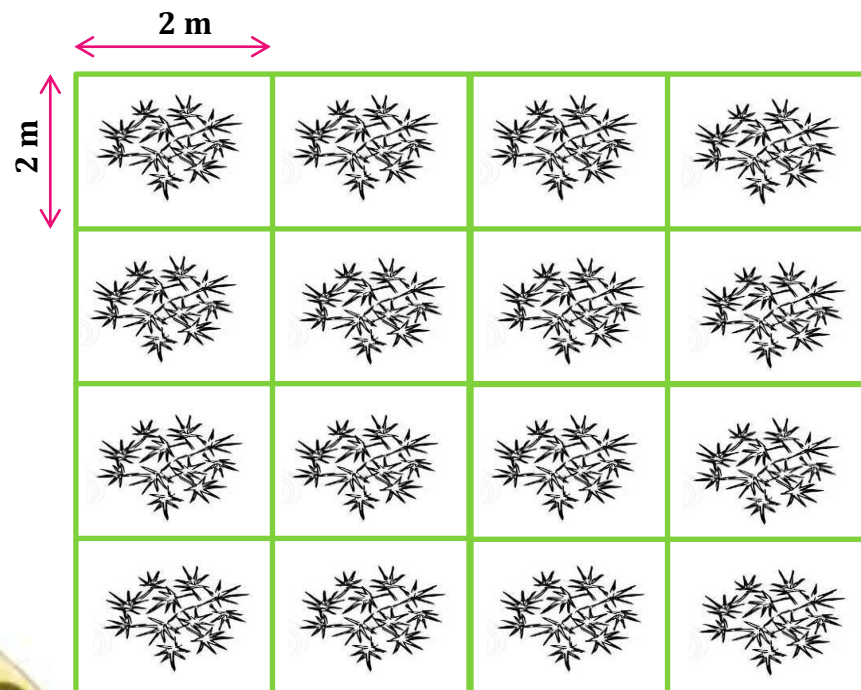
- 25 acres EACH

## Yield -

- 40 tonnes / acre

## Total Yield -

- 1000 tonnes / field / year



# Operational Plan

Year I (Plantation Phase I, 25 acres)															
Month	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Land acquisition															
Land registration															
Land tilling (area 1)															
Procure saplings (area 1)															
Plant saplings (area 1)					25000 saplings										
Irrigation (area 1)															
Fertilizing (area 1)					once every three months(for 1st year)										

Year II (Plantation Phase II, 25 acres)															
Month				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Land tilling (area 2)															
Procure saplings (area 2)															
Plant saplings (area 2)					25000 saplings										
Irrigation (area 2)															
Irrigation (area 1)															
Fertilizing (area 2)															
Fertilizing (area 1)				once every 6 months (for 2nd year)											

Year III (Plantation phase III, 25 acres)															
Month				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Land tilling (area 3)															
Procure saplings (area 3)															
Plant saplings (area 3)					25000 saplings										
Irrigation (area 3)															
Irrigation (area 2)															
Fertilizing (area 3)															
Fertilizing (area 2)															
Harvesting (area 1)															





# COST CALCULATION

# Cost Calculation - Overview

- ◆ Investment period set to 20 years, usage of land at least for 20 years possible
- ◆ Private investors give venture capital to buy the land
  - ◆ They receive an interest only in profitable years (unrealistic!)
  - ◆ The land is signed over to the investors after 20 years
- ◆ This is necessary due to the low turnover and the missing income in the first years
- ◆ Labour/Material costs and wood price increases 2% p.a.
- ◆ Average Farming Processes Labour cost - 150 per day (€ 1.80)

# Financing Strategy

<b>Total Investment</b>	<b>833.900,00 €</b>	
<b>Finance By Bank</b>	0,00 €	0%
<b>Own Capital</b>	160.000,00 €	19%
<b>Venture Capital</b>	673.900,00 €	81%

**Interest Rate  
5,0%**

# Investment & Depreciation Costs

Description	Investment [€]	Depreciation Time [Years]	Annual Depreciation [€/Year]
<b>Land</b>			
Property 75 Acres	750.000,00	-	-
Fees 0,5%	3.750,00	-	-
<b>Total Land</b>	<b>753.750,00</b>		<b>0,00</b>
<b>Others</b>			
Tools	250,00	10,00	25,00
Shed For Tools	4.000,00	20,00	200,00
<b>Total Others</b>	<b>4.250,00</b>		<b>225,00</b>
<b>Contingencies 5 %</b>	<b>37.900,00</b>		
Costs In First Two Years (No Income)	38.000,00		
<b>Total Investment</b>	<b>833.900,00</b>	<b>Total Depreccation</b>	<b>225,00</b>

# Annual Costs

Annual Fees	Info	Quantity	Costs In Year 1 [€]	Costs In Year 2 [€]	Costs In Year 3 And Following [€]
<b>Labor Costs</b>					
Site Preparation	4 MD/ha	40	70,59	70,59	70,59
Initial Ploughing	Lump sum	LS	360,00	360,00	360,00
Alignment & Stacking	4 MD/ha	40	70,59	70,59	70,59
Digging Of Pits & Refilling Of Pits After Mixing FYM & Insecticides	50 pits/MD	500	882,35	882,35	882,35
Planting @ 100 Plants Per MD	90 MD	250	441,18	441,18	441,18
Weeding & Soil Working	10 MD per working/ha		529,41	882,35	1235,29
Pruning / Tending	10 MD/ha	100	176,47	352,94	529,41
Irrigation @ 5 Times / Yr. During Dry Months Only (Life Saving Irrigation)	250 Rs/irrigation/ha		147,06	294,12	441,18
Harvesting	20 MD/ha	200	-	-	352,94
<b>Materials</b>					
Materials	Info	Quantity	Costs In Year 1 [€]	Costs In Year 2 [€]	Costs In Year 3 And Following [€]
Cost Of FYM @ 3kg/Pit	150 Rs/t	75	132,35	132,35	132,35
Cost Of Fertilizer @ 100 G/Plant	5 Rs/kg	2,5	147,06	147,06	147,06
Cost Of Insecticides / Pesticides @ 5 G/ Plant	Lump sum	LS	5,88	11,76	17,65
Cost Of Plants Including Transport	1,5Rs per plant	25000	441,18	441,18	441,18
Contingencies		10%	340,41	408,65	512,18
<b>Total</b>			<b>3744,53</b>	<b>4495,12</b>	<b>5633,94</b>

# Financing

## Interest On Venture Capital

Year	Venture Capital [€]	Interests Paid [€]	Interest %
1	673.900,00	0,00	0%
2	673.900,00	0,00	0%
3	673.900,00	0,00	0%
4	673.900,00	0,00	0%
5	673.900,00	0,00	0%
6	673.900,00	0,00	0%
7	673.900,00	0,00	0%
8	673.900,00	33.695,00	5,00%
9	673.900,00	33.695,00	5,00%
10	673.900,00	33.695,00	5,00%
11	673.900,00	33.695,00	5,00%
12	673.900,00	33.695,00	5,00%
13	673.900,00	33.695,00	5,00%
14	673.900,00	33.695,00	5,00%
15	673.900,00	33.695,00	5,00%
16	673.900,00	33.695,00	5,00%
17	673.900,00	33.695,00	5,00%
18	673.900,00	33.695,00	5,00%
19	673.900,00	33.695,00	5,00%
20	673.900,00	33.695,00	5,00%
<b>Total Interest Paid</b>		<b>101.085,00</b>	

# Self Costs, Revenue, Cash Flow, Equity

Year	1	2	3	4	5	6	7	8	9	10
<b>Production Capacity</b>	0%	0%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Wood Produced [T]</b>			1000	1000	1000	1000	1000	1000	1000	1000
<b>Price [€/ T]</b>	35,3	36,006	36,72612	37,4606424	38,2098552	38,9740524	39,7535334	40,5486041	41,3595761	42,18676767
<b>Turnover/Revenue</b>	<b>0,00</b>	<b>0,00</b>	<b>36.726,12</b>	<b>37.460,64</b>	<b>38.209,86</b>	<b>38.974,05</b>	<b>39.753,53</b>	<b>40.548,60</b>	<b>41.359,58</b>	<b>42.186,77</b>
<b>Costs [€]</b>										
<b>Depreciation Costs</b>	225,00	225,00	225,00	225,00	225,00	225,00	225,00	225,00	225,00	225,00
<b>Financing Costs</b>	0	0	0	0	0	0	0	33695	33695	33695
<b>Annual Fees</b>	3744,53	4495,12	5633,94	5746,62	5861,55	5978,78	6098,36	6220,33	6344,73	6471,63
<b>Total Of Costs</b>	<b>3.969,53</b>	<b>4.720,12</b>	<b>5.858,94</b>	<b>5.971,62</b>	<b>6.086,55</b>	<b>6.203,78</b>	<b>6.323,36</b>	<b>40.140,33</b>	<b>40.264,73</b>	<b>40.391,63</b>
<b>Loss Carried Forward</b>	0,00	3.969,53	8.689,65	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>Profit Before Taxes</b>	-3.969,53	-8.689,65	22.177,53	31.489,02	32.123,30	32.770,27	33.430,17	408,28	1.094,84	1.795,14
<b>Tax Free</b>	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>Profit After Taxes</b>	-3.969,53	-8.689,65	22.177,53	31.489,02	32.123,30	32.770,27	33.430,17	408,28	1.094,84	1.795,14
<b>Cash-flow (Net Profit + Depreciation)</b>	-3.744,53	-8.464,65	22.402,53	31.714,02	32.348,30	32.995,27	33.655,17	633,28	1.319,84	2.020,14
Repayment Credit	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>Dividend</b>	-3.744,53	-8.464,65	22.402,53	31.714,02	32.348,30	32.995,27	33.655,17	633,28	1.319,84	2.020,14
<b>Equity Profitability</b>										
Equity	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00
<b>Interest On Equity</b>	-2,34%	-5,29%	14,00%	19,82%	20,22%	20,62%	21,03%	0,40%	0,82%	1,26%

# Self Costs, Revenue, Cash Flow, Equity

Year	11	12	13	14	15	16	17	18	19	20
<b>Production Capacity</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Wood Produced [T]</b>	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
<b>Price [€/ T]</b>	43,030503	43,8911131	44,7689353	45,6643141	46,5776003	47,5091523	48,4593354	49,4285221	50,4170925	51,4254344
<b>Turnover</b>	<b>43.030,50</b>	<b>43.891,11</b>	<b>44.768,94</b>	<b>45.664,31</b>	<b>46.577,60</b>	<b>47.509,15</b>	<b>48.459,34</b>	<b>49.428,52</b>	<b>50.417,09</b>	<b>51.425,43</b>
<b>Costs [€]</b>										
<b>Depreciation Costs</b>	225,00	225,00	225,00	225,00	225,00	225,00	225,00	225,00	225,00	225,00
<b>Financing Costs</b>	33695	33695	33695	33695	33695	33695	33695	33695	33695	33695
<b>Annual Fees</b>	6601,06	6733,08	6867,74	7005,10	7145,20	7288,10	7433,87	7582,54	7734,19	7888,88
<b>Total Of Costs</b>	<b>40.521,06</b>	<b>40.653,08</b>	<b>40.787,74</b>	<b>40.925,10</b>	<b>41.065,20</b>	<b>41.208,10</b>	<b>41.353,87</b>	<b>41.502,54</b>	<b>41.654,19</b>	<b>41.808,88</b>
<b>Loss Carried Forward</b>	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>Profit Before Taxes</b>	2.509,44	3.238,03	3.981,19	4.739,22	5.512,40	6.301,05	7.105,47	7.925,98	8.762,90	9.616,56
<b>Tax Free</b>	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>Profit After Taxes</b>	2.509,44	3.238,03	3.981,19	4.739,22	5.512,40	6.301,05	7.105,47	7.925,98	8.762,90	9.616,56
<b>Cash-flow (Net Profit + Depreciation)</b>	2.734,44	3.463,03	4.206,19	4.964,22	5.737,40	6.526,05	7.330,47	8.150,98	8.987,90	9.841,56
<b>Repayment Credit</b>	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>Dividend</b>	2.734,44	3.463,03	4.206,19	4.964,22	5.737,40	6.526,05	7.330,47	8.150,98	8.987,90	9.841,56
<b>Equity Profitability</b>										
<b>Equity</b>	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00	160.000,00
<b>Interest On Equity</b>	<b>1,71%</b>	<b>2,16%</b>	<b>2,63%</b>	<b>3,10%</b>	<b>3,59%</b>	<b>4,08%</b>	<b>4,58%</b>	<b>5,09%</b>	<b>5,62%</b>	<b>6,15%</b>








# CONCLUSIONS

# Conclusions



- ❖ **After comparative study of different financing methods, venture capital investment seems to be the most profitable option, with quicker returns.**
- ❖ **With every year, increasing support is being extended for the cultivation of Casuarina and Eucalyptus farms by the Indian Government and Agroforestry department, providing more opportunities for the expansion of our current scope.**
- ❖ **Market Analysis shows that when produced in larger quantities, these raw materials have a high Export value.**
- ❖ **Only thick branches and the stem of the Casuarina tree is used as a raw material for the paper industry. According to various literature and journalistic studies, a number of ways can be implemented to utilize, treat and re-use the non-usable parts of the harvested trees. For example, for making bio-charcoal.**

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