

# **PROJECT REPORT**

**Of**

# **BAMBOO PELLETS**

## **PURPOSE OF THE DOCUMENT**

This particular pre-feasibility is regarding Bamboo Pellets Manufacturing unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



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**PROJECT AT A GLANCE**

- 1 Name of the Entrepreneur : xxxxxxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxxxxxx
- 3 Father / Spouse Name : xxxxxxxxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxxx
- District : xxxxxxxx
- Pin: xxxxxxxx State: xxxxx
- Mobile xxxxxxxx
- 5 Product and By Product : **BAMBOO PELLETS**
- 6 Name of the project / business activity proposed : **BAMBOO PELLETS MANUFACTURING UNIT**
- 7 Cost of Project : Rs.20.07 Lakhs
- 8 Means of Finance
- Term Loan Rs.13.07 Lakhs
- Own Capital Rs.2.01 Lakhs
- Working Capital Rs.5 Lakhs
- 9 Debt Service Coverage Ratio : 3.02
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 28%
- 13 Employment : 15 Persons
- 14 Power Requirement : 20.00 HP
- 15 Major Raw materials : Wood
- 16 Estimated Annual Sales Turnover (Max Capacity) : 185.08 Lakhs
- 17 Detailed Cost of Project & Means of Finance

**COST OF PROJECT**

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Plant & Machinery	13.72
Furniture & Fixtures	0.80
Working Capital	5.55
<b>Total</b>	<b>20.07</b>

**MEANS OF FINANCE**

Particulars	Amount
Own Contribution	2.01
Working Capital(Finance)	5.00
Term Loan	13.07
<b>Total</b>	<b>20.07</b>

# **BAMBOO PELLETS MANUFACTURING UNIT**

## **Introduction:**

Pelletizing is the process of compressing material into solid waste. The most common products of pelletizing are wood pellets. This is because wood pellets are easily available and are made from different types of agro-forestry waste including soybean husks, tea waste, palm husks, wheat straw, and bamboo dust. Bamboo pellets are small and look like enlarged capsules, they are often shiny and appear as furnished wood pieces. Bamboo pellets are created from bamboo trunks, bamboo leaves, and recycling bamboo powders after the creation of other bamboo products, by mashing the bamboo into powder and clasp them concurrently into pellets of 5 to 11mm size. Bamboos are a subfamily of perennial evergreen flowering plants in the family of Poaceae. The largest members of the family are referred to as giant bamboos, the intermodal parts of the stem are hollow while vascular bundles are scattered throughout the stem rather than a cylindrical arrangement. The lack of secondary growth has prompted the bamboos to have a columnar shape rather than tapers. Bamboos are known to be some of the fastest-growing grass because of the special rhizome-dependent system. Some species can grow 0.89 meters within a day. Bamboos are widely known for their cultural and economic significance in the southeast and eastern parts of the Asian continent. They are used as a source of food, building materials among others in Asia.



### **Uses & Market Potential:**

Bamboo pellets are used as a source of biomass energy production. They can be used in industrial steam furnaces, heating, and cooking. They can also be used for Medicinal extracts. Bamboo pellets are used in animal feed. They have a crisp nature, lightly sweet flavor as well as exceptional nutritional value. The global bamboo pellets market size is predicted to extend US\$ 110.5 million by 2025, at a CAGR of 4.2% during 2021-2025. The wood pellet market is growing at a faster pace with substantial growth rates over the last few years and is estimated that the market will grow significantly in the forecasted period. The market for bamboo pellets has grown unexpectedly in the last few years. Previously large-scale production, Europe, Asia, and America grabbed the largest market share of biomass pellets. Between them, the preceding stays further substantial, reaching more than 9 million in 2011. When the factories realized their economic and environmental advantages, production and transaction in Latin America and Asia started to emerge. In 2018, the Asia Pacific bamboos pellets demand calculated for over 30% of the profit share and are predicted to glimpse the increased expansion over the forecast time. Presently, various govt programs focus on promoting bamboo products and rattan cultivation to navigate enduring earnings for farmers. These govt strategies are predicted to relate new

avenues for the market growth of bamboo pellets. The bamboo pellet has been gaining attention and awareness over the recent 2 eras for its financial and environmental importance.

## **Product:**

Bamboo Pellets

## **Raw Material:**

The raw material that is required for bamboo pellets is:

**Wood:** Bamboo trunks or stalks, leaves, and powders, or other bamboo products. The entire bamboo plant, including the stem, branch, and rhizome, can be used to produce bamboo pellets, making it highly resource-efficient, with limited wastage. Residues produced from bamboo products or furniture manufacturing such as sawdust and shavings also serve as an important raw material source.

## **Manufacturing Process:**

The steps are:

- ✓ Raw material procurement
- ✓ Production Process
- ✓ Testing
- ✓ Packaging

## **Area:**

The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and polishing area. Also, some of the area of building is

required for office staff facilities, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 1500-2000Sqft.

### **Cost of Machines:**

<b>Machine</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
Pelletizing Machine	1	350000	350000
Hammer Mill	1	207000	207000
Bamboo Cutting Machine	1	180000	180000
Dryer	1	320000	320000
Weighing & Packaging Machine	1	315000	315000
<b>Total Amount</b>			<b>1372000</b>

**Power Requirement-** The estimated Power requirement is taken at 20 HP.

**Manpower Requirement-** Following manpower is required:

- Machine operator-3
- Skilled/unskilled worker-4
- Helper-5
- Manager cum Accountant-1
- Sales Personnel-2

# **FINANCIALS**



**PROJECTED PROFITABILITY STATEMENT**

<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b><u>A) SALES</u></b>					
Gross Sale	95.70	118.40	139.46	161.67	185.08
<b>Total (A)</b>	<b>95.70</b>	<b>118.40</b>	<b>139.46</b>	<b>161.67</b>	<b>185.08</b>
<b><u>B) COST OF SALES</u></b>					
Raw Material Consumed	57.60	68.54	79.90	91.69	103.92
Electricity Expenses	1.34	1.57	1.79	2.01	2.24
Repair & Maintenance	1.44	1.78	2.09	2.43	2.78
Labour & Wages	18.02	22.52	27.03	31.35	36.05
Depreciation	2.14	1.82	1.55	1.32	1.13
<b>Cost of Production</b>	<b>80.53</b>	<b>96.23</b>	<b>112.36</b>	<b>128.80</b>	<b>146.12</b>
<b>Add: Opening Stock /WIP</b>	<b>-</b>	<b>2.68</b>	<b>3.21</b>	<b>3.75</b>	<b>4.29</b>
<b>Less: Closing Stock /WIP</b>	<b>2.68</b>	<b>3.21</b>	<b>3.75</b>	<b>4.29</b>	<b>4.87</b>
Cost of Sales (B)	77.85	95.71	111.82	128.26	145.54
<b>C) GROSS PROFIT (A-B)</b>	<b>17.85</b>	<b>22.69</b>	<b>27.64</b>	<b>33.41</b>	<b>39.54</b>
	<b>18.65%</b>	<b>19.17%</b>	<b>19.82%</b>	<b>20.67%</b>	<b>21.37%</b>
D) Bank Interest i) (Term Loan )	1.42	1.16	0.84	0.52	0.20
ii) Interest On Working Capital	0.55	0.55	0.55	0.55	0.55
E) Salary to Staff	8.19	10.65	13.31	16.24	19.81
F) Selling & Adm Expenses Exp.	2.39	3.32	4.18	5.17	5.92
<b>G) TOTAL (D+E+F)</b>	<b>12.55</b>	<b>15.67</b>	<b>18.88</b>	<b>22.48</b>	<b>26.48</b>
<b>H) NET PROFIT</b>	<b>5.30</b>	<b>7.02</b>	<b>8.76</b>	<b>10.93</b>	<b>13.06</b>
	<b>5.5%</b>	<b>5.9%</b>	<b>6.3%</b>	<b>6.8%</b>	<b>7.1%</b>
I) Taxation	0.19	0.55	0.91	1.46	2.13
<b>J) PROFIT (After Tax)</b>	<b>5.11</b>	<b>6.47</b>	<b>7.85</b>	<b>9.47</b>	<b>10.94</b>



**PROJECTED CASH FLOW STATEMENT**

<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b><u>SOURCES OF FUND</u></b>					
Own Contribution	2.01	-	-	-	-
Reserve & Surplus	5.30	7.02	8.76	10.93	13.06
Depreciation & Exp. W/off	2.14	1.82	1.55	1.32	1.13
Increase In Cash Credit	5.00	-	-	-	-
Increase In Term Loan	13.07	-	-	-	-
Increase in Creditors	2.88	0.55	0.57	0.59	0.61
<b>TOTAL :</b>	<b>30.39</b>	<b>9.39</b>	<b>10.88</b>	<b>12.85</b>	<b>14.80</b>
<b><u>APPLICATION OF FUND</u></b>					
Increase in Fixed Assets	14.52	-	-	-	-
Increase in Stock	4.60	2.03	1.11	1.14	1.19
Increase in Debtors	3.83	0.91	0.84	0.89	0.94
Repayment of Term Loan	1.45	2.90	2.90	2.90	2.90
Taxation	0.19	0.55	0.91	1.46	2.13
Drawings	4.00	4.50	5.00	6.00	7.00
<b>TOTAL :</b>	<b>28.60</b>	<b>10.89</b>	<b>10.76</b>	<b>12.39</b>	<b>14.15</b>
Opening Cash & Bank Balance	-	1.79	0.29	0.40	0.86
Add : Surplus	1.79	- 1.50	0.11	0.45	0.65
Closing Cash & Bank Balance	<b>1.79</b>	<b>0.29</b>	<b>0.40</b>	<b>0.86</b>	<b>1.50</b>

**COMPUTATION OF CLOSING STOCK & WORKING CAPITAL**

<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b><u>Finished Goods</u></b>					
(10 Days requirement)	2.68	3.21	3.75	4.29	4.87
<b><u>Raw Material</u></b>					
(10 Days requirement)	1.92	3.43	3.99	4.58	5.20
<b>Closing Stock</b>	<b>4.60</b>	<b>6.63</b>	<b>7.74</b>	<b>8.88</b>	<b>10.07</b>

**COMPUTATION OF WORKING CAPITAL REQUIREMENT**

<b>Particulars</b>	<b>Amount</b>	<b>Margin(10%)</b>	<b>Net Amount</b>
Stock in Hand	4.60		
Less:			
Sundry Creditors	2.88		
<b>Paid Stock</b>	<b>1.72</b>	<b>0.17</b>	<b>1.55</b>
Sundry Debtors	3.83	0.38	3.45
<b>Working Capital Requirement</b>			<b>5.00</b>
<b>Margin</b>			0.56
<b>MPBF</b>			<b>5.00</b>
<b>Working Capital Demand</b>			<b>5.00</b>

**REPAYMENT SCHEDULE OF TERM LOAN**

11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
<b>I</b>	Opening Balance						
	Ist Quarter	-	13.07	13.07	0.36	-	13.07
	Iind Quarter	13.07	-	13.07	0.36	-	13.07
	IIIrd Quarter	13.07	-	13.07	0.36	0.73	12.34
	Ivth Quarter	12.34	-	12.34	0.34	0.73	11.62
					1.42	1.45	
<b>II</b>	Opening Balance						
	Ist Quarter	11.62	-	11.62	0.32	0.73	10.89
	Iind Quarter	10.89	-	10.89	0.30	0.73	10.16
	IIIrd Quarter	10.16	-	10.16	0.28	0.73	9.44
	Ivth Quarter	9.44		9.44	0.26	0.73	8.71
					1.16	2.90	
<b>III</b>	Opening Balance						
	Ist Quarter	8.71	-	8.71	0.24	0.73	7.99
	Iind Quarter	7.99	-	7.99	0.22	0.73	7.26
	IIIrd Quarter	7.26	-	7.26	0.20	0.73	6.53
	Ivth Quarter	6.53		6.53	0.18	0.73	5.81
					0.84	2.90	
<b>IV</b>	Opening Balance						
	Ist Quarter	5.81	-	5.81	0.16	0.73	5.08
	Iind Quarter	5.08	-	5.08	0.14	0.73	4.36
	IIIrd Quarter	4.36	-	4.36	0.12	0.73	3.63
	Ivth Quarter	3.63		3.63	0.10	0.73	2.90
					0.52	2.90	
<b>V</b>	Opening Balance						
	Ist Quarter	2.90	-	2.90	0.08	0.73	2.18
	Iind Quarter	2.18	-	2.18	0.06	0.73	1.45
	IIIrd Quarter	1.45	-	1.45	0.04	0.73	0.73
	Ivth Quarter	0.73		0.73	0.02	0.73	- 0.00
					0.20	2.90	

Door to Door Period      60 Months  
Moratorium Period        6 Months  
Repayment Period         54 Months

**CALCULATION OF D.S.C.R**

<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b><u>CASH ACCRUALS</u></b>	7.25	8.29	9.40	10.79	12.06
Interest on Term Loan	1.42	1.16	0.84	0.52	0.20
Total	8.66	9.45	10.24	11.31	12.26
<b><u>REPAYMENT</u></b>					
Repayment of Term Loan	1.45	2.90	2.90	2.90	2.90
Interest on Term Loan	1.42	1.16	0.84	0.52	0.20
Total	2.87	4.06	3.74	3.42	3.10
<b>DEBT SERVICE COVERAGE RATIO</b>	<b>3.02</b>	<b>2.33</b>	<b>2.73</b>	<b>3.31</b>	<b>3.95</b>
<b>AVERAGE D.S.C.R.</b>			<b>3.02</b>		

### **Assumptions:**

1. Production Capacity of Bamboo Pellets Manufacturing unit is taken at 2000 KG per day. First year, Capacity has been taken @ 30%.
2. Working shift of 10 hours per day has been considered.
3. Raw Material stock and Finished goods closing stock has been taken for 10 days.
4. Credit period to Sundry Debtors has been given for 12 days.
5. Credit period by the Sundry Creditors has been provided for 15 days.
6. Depreciation and Income tax has been taken as per the Income tax Act,1961.
7. Interest on working Capital Loan and Term loan has been taken at 11%.
8. Salary and wages rates are taken as per the Current Market Scenario.
9. Power Consumption has been taken at 20 HP.
10. Selling Prices & Raw material costing has been increased by 3% & 2% respectively in the subsequent years.

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