

# UP MSME 1-Connect

## PROJECT REPORT

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**PROJECT:**

**SUGARCANE BAGASSE PARTICLE BOARD MANUFACTURING  
UNIT**

**PROJECT REPORT  
OF  
SUGARCANE BAGASSE PARTICLE  
BOARD MANUFACTURING UNIT  
PURPOSE OF THE DOCUMENT**

This particular pre-feasibility is regarding Sugarcane Bagasse Particle Board 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.]

## PROJECT AT GLANCE

- |   |   |              |
|---|---|--------------|
| <b>1 Name of Proprietor/Director</b>                        | XXXXXXXXXX  |              |
| <b>2 Firm Name</b>  | XXXXXXXXXX  |              |
| <b>3 Registered Address</b>                                 | XXXXXXXXXX  |              |
| <b>4 Nature of Activity</b>                                 | XXXXXXXXXX  |              |
| <b>5 Category of Applicant</b>                              | XXXXXXXXXX  |              |
| <b>6 Location of Unit</b>                                   | XXXXXXXXXX  |              |
| <b>7 Cost of Project</b>                                    | 35.06   | Rs. In Lakhs |
| <b>8 Means of Finance</b>                                   |   |              |
| <b>i) Own Contribution</b>                                  | 3.51  | Rs. In Lakhs |
| <b>ii) Term Loan</b>  | 26.55   | Rs. In Lakhs |
| <b>iii) Working Capital</b>                                 | 5.00  | Rs. In Lakhs |
| <b>9 Debt Service Coverage Ratio</b>                        | 2.44  |              |
| <b>10 Break Even Point</b>                                  | 0.29  |              |
| <b>11 Power Requiremnet</b>                                 | 40  | KW           |
| <b>12 Employment</b>  | 12  | Persons      |
| <b>13 Major Raw Materials</b>                               | Sugarcane residue, glue (wood glue, polyurethane super glues, and cement glues) etc . |              |
| <b>14 Details of Cost of Project &amp; Means of Finance</b> |   |              |

Cost of Project	Amount in Lacs
Particulars	Amount
Land	Owned/Rented
Building & Civil Work	Owned/Rented
Plant & Machinery	27.00
Furniture & Fixture	1.00
Other Misc Assets	1.50
Working Capital Requirement	5.56
<b>Total</b>	<b>35.06</b>

Means of Finance	
Particulars	Amount
Own Contribution 10%	3.51
Term Loan 90%	26.55
Working capital Loan	5.00
<b>Total</b>	<b>35.06</b>

# SUGARCANE BAGASSE PARTICLE BOARD

## MANUFACTURING UNIT

### 1. INTRODUCTION



Particleboard is a classic panel, made from the particles of bagasse. It is a low-density board, with densities ranging from 550 kgs to 750 kgs per cubic meter. Particleboard is an effective alternative of wood & plywood. Besides contributing to timber conservation, the system is designed to minimize the energy costs. Today, Particleboard is well established and fully proven with a track record that includes highly successful installations throughout the world. Industries that use particleboard include construction and packaging. High-quality Particleboard has the strength, durability & screw-holding capacity, which makes it suitable for widespread use in the furniture industry such as bedroom units, fitted kitchens, shelves & tables. It is also used in household electrical appliances, cabinets & floor. Sugarcane bagasse is very useful material for particle board production because when these wastes decompose, they produce methane, and when burnt, they emit carbon dioxide, both gases pollute the environment and contribute towards global warming. The growing demand for soft boards in the construction industry has posed a threat to forest cover since it is the largest source of raw material. The synthetic binders used are expensive and contribute towards environmental degradation through Urea Formaldehyde (UF) and Phenol Formaldehyde (PF) emissions.

## **2. MARKET POTENTIAL:**

The particle board market reached a value of US\$ 19.3 Billion in 2018, growing at a CAGR of 6.1% during 2011-2018. Particle boards are mostly used in places such as recording studios and concert venues due to their excellent sound-absorbing properties. These are also used for making household furniture such as kitchen cabinets, bookcases, doors, windows, and covering the walls and floor. Moreover, particle boards can be painted, wallpapered and laminated which adds to the aesthetic quality of the surroundings. Owing to these factors, the market is expected to reach a value of US\$ 25 Billion by 2024. The particleboard line comprises of material preparation section, drying, screening, resin blending, mat forming, hot pressing, edge trimming and sanding sections. The plants can use either single opening presses or multi-opening presses of old types or continuous presses of new type.

## **3. PRODUCT DESCRIPTION**

### **3.1 PRODUCT USES**

Particle board is used for furniture, flooring underlayment, wood flooring or for carpets.

### **3.2 PRODUCT RAW MATERIAL**

Sugarcane bagasse are semi-liquid made up of residue of sugarcane residue, glue (wood glue, polyurethane super glues, and cement glues) and some color additive used in sugarcane bagasse to get the required product.

### **3.3 MANUFACTURING PROCESS**

This process can be broken down into the following steps-

- Raw material procurement
- Production Process

✓ **Raw Material Procurement:** Procurement is the connection process of purchasing and arranging in bound movement of all items, supplies, materials, parts, finished inventory and general support services from the suppliers into manufacturing process or assembly plants or warehouses.

✓ **Production Process**

- **Crushing**
- **Drying Milling**
- **Blending**
- **Material forming and cold pressing**
- **Painting and Cutting process**

#### **4. PROJECT COMPONENTS**

##### **Plant & Machinery**

This is a semi-automatic type of plant and the production capacity is set to be 100 Sheets per day.

##### **Machines-**

<b>Sr No.</b>	<b>Plant &amp; Machinery</b>
1	Drying and crushing Machine
2	Blending Machine
3	Hot Pressing Machine
4	Automatic Painting machine
5	Automatic Cutting Machine

<b>PROJECTED PROFITABILITY STATEMENT</b>					(in Lacs)
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
Capacity Utilisation %	<b>40%</b>	<b>45%</b>	<b>50%</b>	<b>55%</b>	<b>60%</b>
<b><u>SALES</u></b>					
<b>Gross Sale</b>					
SUGARCANE BAGASSE PARTICLE BOARD	98.60	120.11	140.23	162.03	185.60
<b>Total</b>	<b>98.60</b>	<b>120.11</b>	<b>140.23</b>	<b>162.03</b>	<b>185.60</b>
<b><u>COST OF SALES</u></b>					
Raw Material Consumed	60.00	69.53	79.50	90.09	101.16
Electricity Expenses	3.36	4.54	5.04	5.54	6.05
Depreciation	4.38	3.72	3.17	2.70	2.30
Wages & labour	9.36	10.30	11.33	12.46	14.33
Repair & maintenance	1.48	3.00	4.49	5.19	5.94
Consumables	1.97	2.40	4.21	5.35	6.12
Packaging	2.17	3.36	4.49	6.48	8.35
<b>Cost of Production</b>	<b>82.72</b>	<b>96.85</b>	<b>112.22</b>	<b>127.80</b>	<b>144.25</b>
<b>Add: Opening Stock</b>	<b>-</b>	<b>2.76</b>	<b>3.23</b>	<b>3.74</b>	<b>4.26</b>
<b>Less: Closing Stock</b>	<b>2.76</b>	<b>3.23</b>	<b>3.74</b>	<b>4.26</b>	<b>4.81</b>
Cost of Sales	79.96	96.38	111.70	127.28	143.70
<b>GROSS PROFIT</b>	<b>18.64</b>	<b>23.73</b>	<b>28.53</b>	<b>34.75</b>	<b>41.90</b>
<b>Gross Profit Ratio</b>	<b>18.91%</b>	<b>19.76%</b>	<b>20.34%</b>	<b>21.45%</b>	<b>22.58%</b>
Salary to Staff	6.36	7.63	8.78	10.09	11.61
Interest on Term Loan	2.61	2.30	1.65	1.00	0.35
Interest on working Capital	0.55	0.55	0.55	0.55	0.55
Rent	2.40	2.64	3.04	3.49	4.02
Selling & Administrative Exp.	0.49	1.44	1.68	1.94	2.23
<b>TOTAL</b>	<b>12.41</b>	<b>14.56</b>	<b>15.70</b>	<b>17.08</b>	<b>18.75</b>
NET PROFIT	6.23	9.17	12.83	17.67	23.15
Taxation	0.25	0.63	1.32	2.68	4.32
PROFIT (After Tax)	5.98	8.54	11.51	14.99	18.83
<b>Net Profit Ratio</b>	<b>6.07%</b>	<b>7.11%</b>	<b>8.21%</b>	<b>9.25%</b>	<b>10.15%</b>

<b>PROJECTED BALANCE SHEET</b>					(in Lacs)
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
<b><u>Liabilities</u></b>					
<b>Capital</b>					
Opening balance		5.99	9.53	14.05	19.04
Add: - Own Capital	3.51				
Add: - Retained Profit	5.98	8.54	11.51	14.99	18.83
Less: - Drawings	3.50	5.00	7.00	10.00	13.50
<b>Closing Balance</b>	<b>5.99</b>	<b>9.53</b>	<b>14.05</b>	<b>19.04</b>	<b>24.37</b>
Term Loan	23.60	17.70	11.80	5.90	-
Working Capital Limit	5.00	5.00	5.00	5.00	5.00
Sundry Creditors	3.00	3.48	3.98	4.50	5.06
Provisions & Other Liability	1.00	1.30	1.56	1.87	2.25
<b>TOTAL:</b>	<b>38.59</b>	<b>37.01</b>	<b>36.38</b>	<b>36.32</b>	<b>36.67</b>
<b><u>Assets</u></b>					
<b>Fixed Assets (Gross)</b>					
Gross Dep.	4.38	8.10	11.27	13.97	16.26
<b>Net Fixed Assets</b>	<b>25.13</b>	<b>21.40</b>	<b>18.23</b>	<b>15.53</b>	<b>13.24</b>
<b>Current Assets</b>					
Sundry Debtors	4.93	6.01	7.01	8.10	9.28
Stock in Hand	4.76	5.55	6.39	7.26	8.18
Cash and Bank	2.97	3.05	3.25	3.42	3.68
Loans & Advances	0.80	1.00	1.50	2.00	2.30
<b>TOTAL:</b>	<b>38.59</b>	<b>37.01</b>	<b>36.38</b>	<b>36.32</b>	<b>36.67</b>
	-	-	-	-	-



<b>PROJECTED CASH FLOW STATEMENT</b>					(in Lacs)
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
<b><u>SOURCES OF FUND</u></b>					
Own Margin	3.51				
Net Profit	6.23	9.17	12.83	17.67	23.15
Depreciation & Exp. W/off	4.38	3.72	3.17	2.70	2.30
Increase in Cash Credit	5.00	-	-	-	-
Increase In Term Loan	26.55	-	-	-	-
Increase in Creditors	3.00	0.48	0.50	0.53	0.55
Increase in Provisions & Oth liabilities	1.00	0.30	0.26	0.31	0.37
-	-				
<b>TOTAL:</b>	<b>49.66</b>	<b>13.67</b>	<b>16.76</b>	<b>21.21</b>	<b>26.38</b>
<b><u>APPLICATION OF FUND</u></b>					
Increase in Fixed Assets	29.50				
Increase in Stock	4.76	0.79	0.84	0.87	0.92
Increase in Debtors	4.93	1.08	1.01	1.09	1.18
Repayment of Term Loan	2.95	5.90	5.90	5.90	5.90
Loans & Advances	0.80	0.20	0.50	0.50	0.30
Drawings	3.50	5.00	7.00	10.00	13.50
Taxation	0.25	0.63	1.32	2.68	4.32
<b>TOTAL:</b>	<b>46.69</b>	<b>13.59</b>	<b>16.57</b>	<b>21.04</b>	<b>26.12</b>
Opening Cash & Bank Balance	-	2.97	3.05	3.25	3.42
Add : Surplus	2.97	0.08	0.19	0.17	0.26
Closing Cash & Bank Balance	<b>2.97</b>	<b>3.05</b>	<b>3.25</b>	<b>3.42</b>	<b>3.68</b>

<b><u>CALCULATION OF D.S.C.R.</u></b>					
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
CASH ACCRUALS	10.36	12.27	14.68	17.69	21.13
Interest on Term Loan	2.61	2.30	1.65	1.00	0.35
<b>Total</b>	12.97	14.57	16.33	18.69	21.48
<b><u>REPAYMENT</u></b>					
Instalment of Term Loan	2.95	5.90	5.90	5.90	5.90
Interest on Term Loan	2.61	2.30	1.65	1.00	0.35
Total	5.56	8.20	7.55	6.90	6.25
<b>DEBT SERVICE COVERAGE RATIO</b>	<b>2.33</b>	<b>1.78</b>	<b>2.16</b>	<b>2.71</b>	<b>3.44</b>
<b>AVERAGE D.S.C.R.</b>	<b>2.44</b>				

REPAYMENT SCHEDULE OF TERM LOAN							
Interest						11.00%	
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
<b>1st</b>	Opening Balance						
	1st month	-	26.55	26.55	-	-	26.55
	2nd month	26.55	-	26.55	0.24	-	26.55
	3rd month	26.55	-	26.55	0.24	-	26.55
	4th month	26.55	-	26.55	0.24		26.55
	5th month	26.55	-	26.55	0.24		26.55
	6th month	26.55	-	26.55	0.24		26.55
	7th month	26.55	-	26.55	0.24	0.49	26.06
	8th month	26.06	-	26.06	0.24	0.49	25.57
	9th month	25.57	-	25.57	0.23	0.49	25.08
	10th month	25.08	-	25.08	0.23	0.49	24.58
	11th month	24.58	-	24.58	0.23	0.49	24.09
	12th month	24.09	-	24.09	0.22	0.49	23.60
					<b>2.61</b>	<b>2.95</b>	
<b>2nd</b>	Opening Balance						
	1st month	23.60	-	23.60	0.22	0.49	23.11
	2nd month	23.11	-	23.11	0.21	0.49	22.62
	3rd month	22.62	-	22.62	0.21	0.49	22.13
	4th month	22.13	-	22.13	0.20	0.49	21.63
	5th month	21.63	-	21.63	0.20	0.49	21.14
	6th month	21.14	-	21.14	0.19	0.49	20.65
	7th month	20.65	-	20.65	0.19	0.49	20.16
	8th month	20.16	-	20.16	0.18	0.49	19.67
	9th month	19.67	-	19.67	0.18	0.49	19.18
	10th month	19.18	-	19.18	0.18	0.49	18.68
	11th month	18.68	-	18.68	0.17	0.49	18.19
	12th month	18.19	-	18.19	0.17	0.49	17.70
					<b>2.30</b>	<b>5.90</b>	
<b>3rd</b>	Opening Balance						
	1st month	17.70	-	17.70	0.16	0.49	17.21
	2nd month	17.21	-	17.21	0.16	0.49	16.72
	3rd month	16.72	-	16.72	0.15	0.49	16.23
	4th month	16.23	-	16.23	0.15	0.49	15.73
	5th month	15.73	-	15.73	0.14	0.49	15.24
	6th month	15.24	-	15.24	0.14	0.49	14.75
	7th month	14.75	-	14.75	0.14	0.49	14.26
	8th month	14.26	-	14.26	0.13	0.49	13.77
	9th month	13.77	-	13.77	0.13	0.49	13.28
	10th month	13.28	-	13.28	0.12	0.49	12.78
	11th month	12.78	-	12.78	0.12	0.49	12.29
	12th month	12.29	-	12.29	0.11	0.49	11.80
					<b>1.65</b>	<b>5.90</b>	

<b>4th</b>	Opening Balance					
	1st month	11.80	-	11.80	0.11	0.49
	2nd month	11.31	-	11.31	0.10	0.49
	3rd month	10.82	-	10.82	0.10	0.49
	4th month	10.33	-	10.33	0.09	0.49
	5th month	9.83	-	9.83	0.09	0.49
	6th month	9.34	-	9.34	0.09	0.49
	7th month	8.85	-	8.85	0.08	0.49
	8th month	8.36	-	8.36	0.08	0.49
	9th month	7.87	-	7.87	0.07	0.49
	10th month	7.37	-	7.37	0.07	0.49
	11th month	6.88	-	6.88	0.06	0.49
	12th month	6.39	-	6.39	0.06	0.49
					<b>1.00</b>	<b>5.90</b>
<b>5th</b>	Opening Balance					
	1st month	5.90	-	5.90	0.05	0.49
	2nd month	5.41	-	5.41	0.05	0.49
	3rd month	4.92	-	4.92	0.05	0.49
	4th month	4.42	-	4.42	0.04	0.49
	5th month	3.93	-	3.93	0.04	0.49
	6th month	3.44	-	3.44	0.03	0.49
	7th month	2.95	-	2.95	0.03	0.49
	8th month	2.46	-	2.46	0.02	0.49
	9th month	1.97	-	1.97	0.02	0.49
	10th month	1.47	-	1.47	0.01	0.49
	11th month	0.98	-	0.98	0.01	0.49
	12th month	0.49	-	0.49	0.00	0.49
					<b>0.35</b>	<b>5.90</b>
	DOOR TO DOOR	60	MONTHS			
	MORATORIUM PERIOD	6	MONTHS			
	REPAYMENT PERIOD	54	MONTHS			

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