

# CANE AND BAMBOO HANDICRAFT



## 1.0 INTRODUCTION

Cane and Bamboo based industries have been identified as potential sunrise industries in India. Cane is mostly used for furniture making, whereas bamboo is used for making variety of decorative items. These eco-friendly products are light in weight and have their own style and elegance. These products have a high life with minimum maintenance equivalent to wooden products. Strips of bamboo and various types of canes are extensively used to manufacture different utility and decorative items. Mats, lamp shades, trays, baskets are weaved and knitted by the skilled hands of the artisans. Cane and bamboo can also be converted into strong and unique furniture, which are very popular now. Jewellery, bags and handbags are the other popular items of this craft.

This project profile is for setting up of a cane and bamboo furniture and household decorative items unit, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;

Bamboo Furniture's	-	240 Nos.
Cane Furniture's	-	240 Nos.
Cane & Bamboo Decorative Items	-	360 Nos.

Cane and Bamboo decorative items would include flower

basket, light stand, napkin holder, fruit tray, wall hanging etc.

## 2.0 MARKET POTENTIAL

Cane and bamboo have a wide variety of products ranging from baskets, musical instruments to utility items like pen stand, mugs, hair clips, vases, containers. Household furnitures like chairs, sofa sets, moorahs (small stools) are also made out of cane and bamboo. There is tremendous demand of the products in domestic as well as in international market. Furniture and utility items of various designs are exported to the foreign countries as well. Nowadays, the products are also used for Interior Decoration of houses, hotels and offices etc.

## 3.0 PROCESS DETAILS

The production process comprises of the following different process.

**Selection of Cane & Bamboo-** There is not much problem in selecting the cane & bamboo for the work by the handicraft people. Bamboo is easily available in the market & in many forests in Assam. For making different furnishing & decorative items different types of bamboo are used. For making items like Japi, Saloni, Dala, Duli, Tukuri etc different bamboos are used. By using cane

many furniture are made with the combination of bamboo.

**Cutting as per required size-** The bamboos are cut into different shapes & sizes as per required designs. The bamboo is first selected and then it is cut into sizes which are required by the workers to make different items from it. The workers normally cut the bamboo in various lengths as per requirement.

**Drying-** After the bamboo and canes are selected then it is first dried in the sun. As there is moisture present in the bamboo so it is dried for a period and then the actual work is carried out. If the bamboo are not dried properly then it may get damaged by some insects, so first of all this must be properly dried.

**Surface decoration-** Surface decoration is very important for bamboo products. After the product is completed the surface is decorated which gives an attractive look to the

product. The surface is decorated by various means like burning the sides of a bamboo item & colouring it to give a fascinating look. All these ways helps to attract the eyes of the customers.

**Framing & binding as per design (shape)-** To make a product it is very important to cut the bamboo & cane into required size & shapes as per the design of the product. The bamboo is cut into pieces required by the workers & then the different sizes of bamboos are joined or bind together by the means of nails or some adhesive.

**Application of polishing-** Polishing is an important application which is required to give to the finished goods. After polishing the product gives a bright look. When the product is prepared then it is sent for polishing, then it can be sent for marketing. After polishing the furniture or decorative items, they become more smooth.

#### 4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)	
Particulars	Amount (Rs)
Land & Site development	Own Land/On Lease
Building & civil works	3.63
Plant & Machinery	1.54
Misc. Fixed assets	0.50
Preliminary & pre-operative expenses	0.42
Contingencies & escalation @ 3%	0.17
Working capital	0.64
<b>TOTAL</b>	<b>6.90</b>

**4.1 Land & Site Development:** Nil. Total Land: 3,000 Sq. Ft. ; Covered Area: 1,200 Sq. Ft.

**4.2 Building & Civil Works:** Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Work-shed, Store and Showroom (Concrete floor with GI Sheet Roofing)	1200	275	330000
<b>Sub total</b>			<b>330000</b>
Add: Electrification including Load Security and Sanitation @ 10%			33000
<b>TOTAL</b>			<b>363000</b>
<b>Say (Rs. in lacs)</b>			<b>3.63</b>

**4.3 Plant & Machinery:** Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Bamboo & Cane Cutter	2	120000
Splitter	2	
Pipes for bending	10	
Circular Saw	1	
Blow Lamp	10	
Planner	2	
Hand Drill	1	

Tools and equipments like Hand Saw, Pliers, Hammers etc	1	
Miscellaneous items	LS	20000
<b>Sub total</b>		<b>140000</b>
Add: Installation, transportation, etc @ 10%		14000
<b>TOTAL</b>		<b>154000</b>
<b>Say (Rs. in lacs)</b>		<b>1.54</b>

**4.4 Misc. Fixed assets:** Details of miscellaneous fixed assets are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Furniture & Fixtures	LS	--	25000
Miscellaneous items	LS	--	20000
<b>Sub total</b>			<b>45000</b>
Add: Installation, transportation, etc @ 10%			4500
<b>TOTAL</b>			<b>49500</b>
<b>Say (Rs. in lacs)</b>			<b>0.50</b>

**4.5 Contingencies & escalation:** Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

**4.6 Preliminary & pre-operative expenses:** Details of preliminary & pre-operative expenses are given below.

		(Rs. In lacs)
Particulars	Amount (Rs)	
Travelling expenses	6000	
Professional & other fees	10000	
Interest during implementation	11330	
Miscellaneous expenses	15000	
<b>TOTAL</b>	<b>42330</b>	
<b>Say (Rs. in lacs)</b>	<b>0.42</b>	

**4.7. Working capital:** Details of working capital are given below.

		(Rs. in lacs)		
	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw Materials	15	0.25	0.29	0.33
Power & Utility	30	0.01	0.01	0.01
Salary	30	0.38	0.39	0.39
Finished Goods	15	0.45	0.50	0.54
Receivables	15	0.50	0.59	0.67
<b>Total</b>		<b>1.60</b>	<b>1.77</b>	<b>1.94</b>
<b>Working capital margin in Year 1 (40%)</b>	<b>0.64</b>			

**5.0 MEANS OF FINANCE**

The means of finance for the project is estimated as below.

		(Rs. in lacs)
Particulars	Percent	Amount
<b><u>EQUITY</u></b>		
A. Equity from Promoters	40%	2.76
B. Subsidy from Central/State Govt.	-	
<b><u>DEBT</u></b>		
Term Loan from Banks/Financial Institutions	60%	4.14
<b>TOTAL</b>	<b>100%</b>	<b>6.90</b>

**6.0 PROFITABILITY STATEMENT**

						(Rs. in lacs)
Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	
<b><u>A. INCOME</u></b>						
Production capacity (Nos./annum)	840	840	840	840	840	
Capacity utilisation	60%	70%	80%	80%	80%	
Production/annum at capacity utilisation	504	588	672	672	672	
Total income/annum	12.24	14.28	16.32	16.32	16.32	
<b><u>B. OPERATING EXPENSES</u></b>						
Raw Materials	6.01	7.01	8.02	8.02	8.02	
Power & Utility	0.14	0.16	0.18	0.18	0.18	
Salary	4.68	4.70	4.73	4.75	4.77	
Repair & Maintenance	0.07	0.08	0.08	0.08	0.08	
Other Expenses	0.12	0.14	0.16	0.16	0.16	
Total Operating Expenses	11.03	12.10	13.17	13.19	13.22	
Operating profit	1.21	2.18	3.15	3.13	3.10	
<b><u>C. FINANCIAL EXPENSES</u></b>						
Depreciation	0.23	0.23	0.23	0.23	0.23	
Interest on Term Loan	0.32	0.26	0.19	0.11	0.04	
Interest on Working Capital Loan	0.08	0.09	0.09	0.09	0.09	
Net Profit	0.58	1.60	2.64	2.69	2.74	
Net cash accruals	0.81	1.84	2.87	2.92	2.97	
Principal Repayment	0.46	0.92	0.92	0.92	0.92	

**6.1 Production Capacity and Sales Realisation:** Total production of Cane and Bamboo Products at 100% capacity utilization is estimated as below.

Products	Qty
Bamboo Furnitures	240 Nos.
Cane Furnitures	240 Nos.
Cane & Bamboo Decorative Items	360 Nos.
<b>Total production per annum at 100% capacity</b>	<b>840 Nos.</b>

Products	Qty	Average Rate Per Unit (Rs.)	Amount (Rs)
Bamboo Furnitures	240 Nos.	3200	768000
Cane Furnitures	240 Nos.	3500	840000
Cane & Bamboo Decorative Items	360 Nos.	1200	432000
<b>Total Sale Turnover per annum at 100% capacity</b>			<b>2040000</b>

**6.2 Raw materials:** Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qty	Average Rate Per Unit (Rs.)	Amount (Rs)
Cane of Various Sizes	25000 Nos.	18	450000
Bamboo of Various Sizes	8400 Nos.	30	252000
Consumables like Sand Paper, Varnish, Nails, Adhesives, Tapes, Plywoods, Glass etc.	LS	Rs. 25000 Per Month	300000
<b>Expenses on Raw Material at 100% capacity (Rs)</b>			<b>1002000</b>

**6.3 Power & utility:** Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery	--	1.50	1.50
General Lighting	5	0.10	0.50
Total power requirement/ day (Kw)			2.00
No. of hrs/day	8		
No. of days per annum	300		
Annual power requirement (kwh)	4800		
Rate per unit (Rs)	3.50		
Expenses on power (Rs)	16800		
Expenses on Other Utility (Rs)	6000		
<b>Expenses on power &amp; utility at 100% capacity (Rs)</b>		<b>22800</b>	

**6.4 Salary:** Total expenses on salary in the 1<sup>st</sup> year are estimated as given below. It is assumed that salary expenses will increase @ 0.5% every subsequent year.

Particulars of Employees	Numbers	Salary/ Month (Rs)	Cost/ annum (Rs)
Manager	1	5000	60000
Skilled Workers	5	4000	240000
Semi-skilled workers	4	2500	120000
Unskilled workers	2	2000	48000
<b>Expenses on salary in the 1st year (Rs)</b>			<b>468000</b>

**6.5 Repair & Maintenance:** Total expenses on repair & maintenance in the 1<sup>st</sup> year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)			
Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	3.63	1.00%	0.04
Plant & Machinery	1.54	2.00%	0.03
Misc. Fixed assets	0.50	1.50%	0.01
<b>Expenses on repair &amp; maintenance in year 1</b>			<b>0.07</b>

**6.6 Other Expenses:** Other expenses have been assumed at 1% of sales realisation.

**6.7 Depreciation:** Depreciation has been calculated by straight line method. The details of calculation are given below.

(Rs in lacs)			
Description	Cost (Rs)	Rate	Amount/ annum (Rs)
Building & Civil works	3.63	3.34%	0.12
Plant & Machinery	1.54	5.28%	0.08
Misc. Fixed assets	0.50	6.33%	0.03
<b>TOTAL</b>			<b>0.23</b>

**6.8 Interest on term loan & principal repayment:** Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 5 years including moratorium period of 6 months with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)						
Month	Year	1	2	3	4	5
Month 1	Opening balance	4.14	3.68	2.76	1.84	0.92
	Repayment	0.00	0.08	0.08	0.08	0.08
	Interest (8%)	0.03	0.02	0.02	0.01	0.01
	<b>Closing balance</b>	<b>4.14</b>	<b>3.60</b>	<b>2.68</b>	<b>1.76</b>	<b>0.84</b>
Month 2	Opening balance	4.14	3.60	2.68	1.76	0.84
	Repayment	0.00	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.02	0.01	0.01
	<b>Closing balance</b>	<b>4.14</b>	<b>3.53</b>	<b>2.61</b>	<b>1.69</b>	<b>0.77</b>
Month 3	Opening balance	4.14	3.53	2.61	1.69	0.77
	Repayment	0.00	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.02	0.01	0.01
	<b>Closing balance</b>	<b>4.14</b>	<b>3.45</b>	<b>2.53</b>	<b>1.61</b>	<b>0.69</b>
Month 4	Opening balance	4.14	3.45	2.53	1.61	0.69
	Repayment	0.00	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.02	0.01	0.00
	<b>Closing balance</b>	<b>4.14</b>	<b>3.37</b>	<b>2.45</b>	<b>1.53</b>	<b>0.61</b>
Month 5	Opening balance	4.14	3.37	2.45	1.53	0.61
	Repayment	0.00	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.02	0.01	0.00
	<b>Closing balance</b>	<b>4.14</b>	<b>3.30</b>	<b>2.38</b>	<b>1.46</b>	<b>0.54</b>
Month 6	Opening balance	4.14	3.30	2.38	1.46	0.54
	Repayment	0.00	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.02	0.01	0.00
	<b>Closing balance</b>	<b>4.14</b>	<b>3.22</b>	<b>2.30</b>	<b>1.38</b>	<b>0.46</b>

Month 7	Opening balance	4.14	3.22	2.30	1.38	0.46
	Repayment	0.08	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.02	0.01	0.00
	<b>Closing balance</b>	<b>4.06</b>	<b>3.14</b>	<b>2.22</b>	<b>1.30</b>	<b>0.38</b>
Month 8	Opening balance	4.06	3.14	2.22	1.30	0.38
	Repayment	0.08	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.01	0.01	0.00
	<b>Closing balance</b>	<b>3.99</b>	<b>3.07</b>	<b>2.15</b>	<b>1.23</b>	<b>0.31</b>
Month 9	Opening balance	3.99	3.07	2.15	1.23	0.31
	Repayment	0.08	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.01	0.01	0.00
	<b>Closing balance</b>	<b>3.91</b>	<b>2.99</b>	<b>2.07</b>	<b>1.15</b>	<b>0.23</b>
Month 10	Opening balance	3.91	2.99	2.07	1.15	0.23
	Repayment	0.08	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.01	0.01	0.00
	<b>Closing balance</b>	<b>3.83</b>	<b>2.91</b>	<b>1.99</b>	<b>1.07</b>	<b>0.15</b>
Month 11	Opening balance	3.83	2.91	1.99	1.07	0.15
	Repayment	0.08	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.01	0.01	0.00
	<b>Closing balance</b>	<b>3.76</b>	<b>2.84</b>	<b>1.92</b>	<b>1.00</b>	<b>0.08</b>
Month 12	Opening balance	3.76	2.84	1.92	1.00	0.08
	Repayment	0.08	0.08	0.08	0.08	0.08
	Interest	0.03	0.02	0.01	0.01	0.00
	<b>Closing balance</b>	<b>3.68</b>	<b>2.76</b>	<b>1.84</b>	<b>0.92</b>	<b>0.00</b>
<b>Principal Repayment</b>		<b>0.46</b>	<b>0.92</b>	<b>0.92</b>	<b>0.92</b>	<b>0.92</b>
<b>Interest</b>		<b>0.32</b>	<b>0.26</b>	<b>0.19</b>	<b>0.11</b>	<b>0.04</b>

## 7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5
Profit After Tax (Net Profit)	0.58	1.60	2.64	2.69	2.74
Depreciation	0.23	0.23	0.23	0.23	0.23
Interest	0.32	0.26	0.19	0.11	0.04
<b>Total</b>	<b>1.14</b>	<b>2.10</b>	<b>3.06</b>	<b>3.04</b>	<b>3.01</b>
Interest	0.32	0.26	0.19	0.11	0.04
Loan repayment	0.46	0.92	0.92	0.92	0.92
<b>Total</b>	<b>0.78</b>	<b>1.18</b>	<b>1.11</b>	<b>1.03</b>	<b>0.96</b>
<b>DSCR</b>	<b>1.45</b>	<b>1.78</b>	<b>2.77</b>	<b>2.94</b>	<b>3.14</b>

Average DSCR = 2.44

## 8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
<b>A. Net sales</b>	<b>12.24</b>	<b>14.28</b>	<b>16.32</b>
<b>B. Variable cost</b>			
Raw Materials	6.01	7.01	8.02
Power & Utility	0.14	0.16	0.18



Other expenses	0.12	0.14	0.16
Interest on Working Capital Loan	0.08	0.09	0.09
<b>Total variable cost</b>	<b>6.35</b>	<b>7.40</b>	<b>8.45</b>
<b>C. Contribution (A-B)</b>	<b>5.89</b>	<b>6.88</b>	<b>7.87</b>
<b>D. Fixed &amp; Semi-fixed Costs</b>			
Salary	4.68	4.70	4.73
Repair & maintenance	0.07	0.08	0.08
Interest on Term Loan	0.32	0.26	0.19
Depreciation	0.23	0.23	0.23
<b>Total fixed cost</b>	<b>5.31</b>	<b>5.27</b>	<b>5.23</b>
<b>E. BREAK EVEN POINT</b>	<b>90.15%</b>	<b>76.67%</b>	<b>66.44%</b>
<b>F. BEP at operating capacity</b>	<b>54.09%</b>	<b>53.67%</b>	<b>53.15%</b>
<b>G. Cash BEP</b>	<b>51.71%</b>	<b>51.29%</b>	<b>50.77%</b>

## 9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
<b>CASH OUTFLOW</b>						
Capital Expenditure	5.83	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	1.60	0.17	0.17	0.00	0.00
<b>Total (A)</b>	<b>5.83</b>	<b>1.60</b>	<b>0.17</b>	<b>0.17</b>	<b>0.00</b>	<b>0.00</b>
<b>CASH INFLOW</b>						
Profit After Tax		0.58	1.60	2.64	2.69	2.74
Add: Depreciation		0.23	0.23	0.23	0.23	0.23
Add: Interest		0.32	0.26	0.19	0.11	0.04
Add: Salvage Value						
<b>Total (B)</b>	<b>0.00</b>	<b>1.14</b>	<b>2.10</b>	<b>3.06</b>	<b>3.04</b>	<b>3.01</b>
<b>NET FLOW (B-A)</b>	<b>-5.83</b>	<b>-0.46</b>	<b>1.93</b>	<b>2.89</b>	<b>3.04</b>	<b>3.01</b>

IRR = 30%