PROJECT REPORT

Of

BAMBOO STICKS PRODUCTION

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Bamboo Sticks Production**.

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 Entreprenuer		xxxxxxxxxx	
2	Constitution (legal Status)	:	xxxxxxxxxx	
3	Father / Spouse Name		xxxxxxxxxxxx	
4	Unit Address	:	xxxxxxxxxxxxxxxxxxxxxxx	
			District : xxxxxxx	
			Pin: xxxxxxx	State: xxxxxxxxxx
			Mobile xxxxxxx	
5	Product and By Product	:	**BAMBOO STICKS**	
6	Name of the project / business activity proposed :		**BAMBOO STICKS PRODUCTION UNIT**	
7	Cost of Project	:	Rs.17.77 Lakhs	
8	Means of Finance			
	Term Loan		Rs.11 Lakhs	
	Own Capital		Rs.1.78 Lakhs	
	Working Capital		Rs.5 Lakhs	
9	Debt Service Coverage Ratio	:	2.53	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	51%	
13	Employment	:	16	Persons
14	Power Requirement	:	25	HP
15	Major Raw materials	:	Bamboo Poles	
16	Estimated Annual Sales Turnover (Max Utilized Capacity)	:	82.97	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

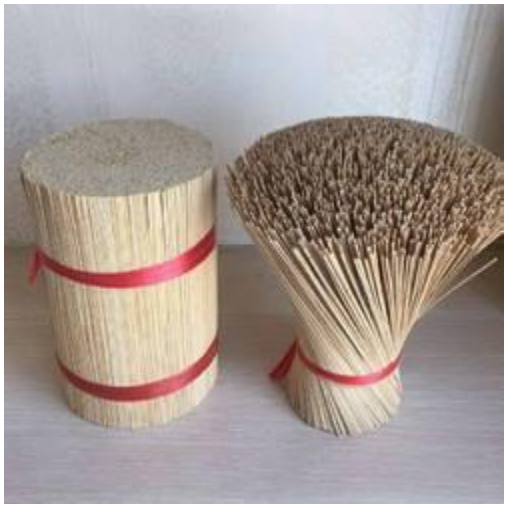
(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Building /Shed 2000 Sq ft	Own/Rented
Plant & Machinery	11.04
Furniture & Fixtures	1.18
Working Capital	5.55
Total	**17.77**

MEANS OF FINANCE

Particulars	Amount
Own Contribution	1.78
Term Loan	11.00
Working Capital	5.00
Total	**17.77**

PROJECT REPORT ON BAMBOO STICKS PRODUCTION UNIT FOR INCENSE STICKS



EXECUTIVE SUMMARY

Agarbatti/Incence Sticks production is a well-established cottage industry and is a 5 crore worth growing market in India. Base material for incense sticks is bamboo stick which accounts for one third of its weight. Cost of bamboo is only about one percent of the final finished product but is the most essential raw material for agarbatti production. However due to shortage of gregarious flowering of the major species of bamboo used in stick production i.e. Muli bamboo, there can be shortage of raw material and decrease in supply of sticks. Further, due to decrease in import duty from 30% to 10% on bamboo sticks, 70% of bamboo needs of agarbatti industry are fulfilled by imported bamboo sticks from China and Vietnam. The imported bamboo sticks are better with respect to uniformity of dimensions and quality because of large scale mechanization.

Bamboo Mission is focusing on development of bamboo sector through encouraging bamboo plantations and introducing mechanization .Now, with focus of Govt. on this sector the Industry move to mechanized stick production process as a full-fledged business activity.

INTRODUCTION

In India, the burning of incense in religious and social functions across all communities is being practiced since early times. Agarbatti which was once a staple feature of Indian devotional activities has now branched out as products associated with aromatherapy, meditation and yoga. Agarbatti sector of India is largest in the world. Agarbatti production is a well-established cottage industry and is a 5 crores worth growing market in India.

Though India is second in bamboo production, a large part of agarbatti industry is importing 70% of its bamboo needs Despite availability of a large number of species of bamboo, the most commonly used species for stick production are *M. Baccifera* (Muli), *Bambusa vulgaris* (Bari), *Bambusa tulda* (Mritinga), *Bambusa balcooa* (Barak) and *Dendrocalamus longispathus* (Rupai) .

As compared to manual sticks produced in India, the imported bamboo sticks on the whole are better with respect to uniformity of dimensions and quality

THE PROJECT

Stick making process in India is moving towards mechanization. However, countries like China and Vietnam are producing mechanized sticks. The present project is for establishment of round bamboo sticks production unit for agarbattis by using mechanized process. Agarbatti industry uses two kinds of bamboo sticks- square and round. By manual process only square sticks are produced. However, with rising exports, demand for round bamboo sticks has risen. The length of sticks vary from 8 to 10 inches, however majority of incense sticks (70 to 80%) is 8 inches (20.32cm). The units shall procure bamboo sticks from the collectors who collect the bamboos from the forest as well as from growers of bamboo plantations and produce round sticks of 8”to 9” by mechanized process as demanded by the Indian agarbatti sector using high processing technology. High processing technology will maximize utilization of bamboo material and produce quality output. This will help the entrepreneur to compete with the sticks imported from China and Vietnam. Still wastage of bamboo (nodes, green strips, fibers etc.) is estimated to be 40%. These wastes can be used as fuel for drying unit of bamboo sticks. Selling the waste to bamboo charcoal unit shall also be explored for effective waste management.

STRATEGIES:

Following strategies shall be followed for implementation of the project:

1. Proper monitoring of quality at each stage from procurement of raw material to packaging of finished product by applying proper supervision and quality checks.
2. Procurement of latest machinery for mechanizing the entire process.
3. Market surveys for production of stick as per market trend at competitive price.
4. Branding of the bamboo sticks.
5. Tie-ups with e-commerce websites and logistic partners.
6. Coordination with various Govt. agencies for Training and support.
7. Participation in trade fairs

FEASIBILITY ASSESSMENT:

Technical Analysis: The location of the Unit near the raw material site is an advantage as the raw material is available in abundance. Secondly, well connected districts with roads will aid in transportation/ distribution of finished goods to be easy as well as cheap. Labour is easily available at a cheaper cost. The labours are involved in manual stick making as a part-time activity therefore transition to mechanized stick making won't be a difficulty as they already know the basic flow of the process.

As per the requirement of agarbatti industry the project aims to produce 8" and 9" round bamboo sticks by following a mechanized process. The process of making bamboo sticks by mechanized process involves the following steps:

Cleaning the culms (Manual)

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Cross cutting of bamboo poles to cylinders

↓

Splitting the cylinders into slats

↓

Making bamboo sticks from slivers

↓

Polishing Bamboo sticks

↓

Making of slivers from slats of uniform thickness

↓

Sizing of bamboo sticks into desired length

↓

Drying of bamboo sticks

↓

Sorting, grading and packaging

The machines used for the above processes are as follows:

Process	Machinery
Cross cutting of bamboo poles to cylinders	Bamboo cross cutting machine
Splitting the cylinders into slats	Bamboo manual splitter machine
Making of slivers from slats of uniform thickness	Bamboo heavy duty sliver making machine
Making bamboo sticks from slivers	Bamboo round stick machine
Polishing Bamboo sticks	Bamboo stick polishing machine
Sizing of bamboo sticks into desired length	Bamboo sticks sizing machine
Drying of bamboo sticks	Open air or Dryer machine

Latest machines with desired parameters will be imported from suppliers of China or Vietnam. List of required machines along with estimated price is given at Annexure I.

Generally, these bamboo sticks will be packed in bundles of one kg. However the packaging can be modified as per precise demand and requirement of the buyers. Heavy rainfall occurs from July to September and as the bamboos regenerate during this period therefore the production activity will only be for 9 months in a year. Capacity utilization of the unit can be 80% for the first 5 years.

- **Commercial Feasibility:** Only raw material for production of bamboo sticks is bamboo pole which is available in abundance. With policy initiatives focusing on bamboo plantations, availability of raw material can be assured.

- **Market Analysis:** There is a huge requirement of bamboo sticks from India agarbatti market and quality bamboo sticks sell like a hot cake. India accounts for over 70% consumption of the world incense stick market. Indian agarbatti market amounts to Rs.6000 crore out of which Rs.2000 crore is in organized market.

- The incense stick makers range from small fragmented units to small factories to FMCG giants. Between FY2012 and FY2016, India exported agarbattis worth $498.02 million. In addition, annual exports witnessed an 11.57% growth during the same period, from $89.64 million in FY2012 to $100.02 million in FY2016.

INDUSTRY ANALYSIS:

SWOT Analysis of bamboo stick industry of India is as follows:

STRENGTHS	**WEAKNESSES**
a. Availability of abundant raw material b. Availability of local skill for making bamboo sticks c. Trade relations already with end user industry d. Low labour cost e. No substitute for bamboo sticks likely to be available for end user industry.	a. Industry in the clutches of a few traders b. Bargaining power of bamboo stick maker is low. c. Lack of entrepreneurial talent to drive a local industry
OPPORTUNITIES	**THREATS**
a. Ever growing domestic market b. Introduction to mechanization for improving the productivity. c. Initiatives of the Govt. for development of the sector through infrastructure development, increasing bamboo plantations and capacity building under its scheme of Bamboo Mission.	a. High Competition from China and Vietnam b. Change in Govt. policies c. Shortage of raw material due to gregarious flowering of Bamboos

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	2.54	3.41	5.49	8.75
Add: Additions	1.78	-	-	-	-
Add: Net Profit	1.76	2.88	5.08	7.26	9.53
Less: Drawings	1.00	2.00	3.00	4.00	6.00
Closing Balance	2.54	3.41	5.49	8.75	12.27
CC Limit	5.00	5.00	5.00	5.00	5.00
Term Loan	9.78	7.33	4.89	2.44	-
Sundry Creditors	0.42	0.48	0.54	0.61	0.68
TOTAL :	**17.73**	**16.22**	**15.91**	**16.80**	**17.95**
APPLICATION OF FUND					
Fixed Assets (Gross)	12.22	12.22	12.22	12.22	12.22
Gross Dep.	1.77	3.29	4.58	5.68	6.62
Net Fixed Assets	10.45	8.93	7.64	6.54	5.60
Current Assets					
Sundry Debtors	3.80	4.46	5.05	5.68	6.36
Stock in Hand	2.43	2.68	3.00	3.35	3.72
Cash and Bank	1.05	0.14	0.22	1.23	2.28
TOTAL :	**17.73**	**16.22**	**15.91**	**16.80**	**17.95**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	49.59	58.20	65.83	74.07	82.97
Total (A)	**49.59**	**58.20**	**65.83**	**74.07**	**82.97**
B) COST OF SALES					
Raw Mateiral Consumed	18.00	20.48	23.18	26.06	29.16
Electricity Expenses	3.24	3.51	3.78	4.05	4.32
Repair & Maintenance	0.25	0.29	0.33	0.37	0.41
Labour & Wages	13.66	15.03	16.53	18.18	20.00
Depreciation	1.77	1.51	1.29	1.10	0.94
Cost of Production	36.92	40.82	45.11	49.76	54.84
Add: Opening Stock /WIP	-	1.23	1.32	1.46	1.61
Less: Closing Stock /WIP	1.23	1.32	1.46	1.61	1.77
Cost of Sales (B)	35.69	40.73	44.98	49.61	54.67
C) GROSS PROFIT (A-B)	13.90	17.48	20.85	24.46	28.30
	28.03%	**30.03%**	**31.68%**	**33.02%**	**34.11%**
D) Bank Interest (Term Loan)	1.19	0.97	0.71	0.44	0.17
ii) Interest On Working Capital	0.55	0.55	0.55	0.55	0.55
E) Salary to Staff	7.92	8.71	9.58	10.54	11.60
F) Selling & Adm Expenses Exp.	2.48	4.37	4.94	5.56	6.22
TOTAL (D+E)	**12.14**	**14.60**	**15.78**	**17.08**	**18.54**
H) NET PROFIT	1.76	2.88	5.08	7.38	9.76
	3.5%	**4.9%**	**7.7%**	**10.0%**	**11.8%**
I) Taxation	-	-	-	0.12	0.24
J) PROFIT (After Tax)	1.76	2.88	5.08	7.26	9.53

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	1.78	-			
Net Profit	1.76	2.88	5.08	7.38	9.76
Depreciation & Exp. W/off	1.77	1.51	1.29	1.10	0.94
Increase In Cash Credit	5.00				
Increase In Term Loan	11.00	-	-	-	-
Increase in Creditors	0.42	0.06	0.06	0.07	0.07
TOTAL :	**21.72**	**4.45**	**6.43**	**8.55**	**10.78**
APPLICATION OF FUND					
Increase in Fixed Assets	12.22	-	-	-	-
Increase in Stock	2.43	0.25	0.32	0.34	0.37
Increase in Debtors	3.80	0.66	0.58	0.63	0.68
Repayment of Term Loan	1.22	2.44	2.44	2.44	2.44
Taxation	-	-	-	0.12	0.24
Drawings	1.00	2.00	3.00	4.00	6.00
TOTAL :	**20.67**	**5.36**	**6.35**	**7.54**	**9.74**
Opening Cash & Bank Balance	-	1.05	0.14	0.22	1.23
Add : Surplus	1.05	- 0.91	0.09	1.01	1.04
Closing Cash & Bank Balance	**1.05**	**0.14**	**0.22**	**1.23**	**2.28**

COMPUTATION OF BAMBOO STICKS PRODUCTION UNIT

Items to be Manufactured BAMBOO STICKS

Manufacturing Capacity per Day		300.00	KG
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		90,000	KG
Year		Capacity	STICKS PRODUCTION UNIT
		Utilisation	
I		60%	54,000
II		65%	58,500
III		70%	63,000
IV		75%	67,500
V		80%	72,000

COMPUTATION OF RAW MATERIAL

Item Name		**Quantity of Raw Material**	**Unit**	**Unit Rate of**	**Total CostPer Annum (100%)**
Bamboo Poles (Approx 6 kg in Weight Total Wt 180000 Kg) (2500 Pole per month for 12 months)		30,000.00	POLES	100.00	3,000,000.00
Total		**30,000.00**			**3,000,000.00**

Total Raw material in Rs lacs	at 100% Capacity		30.00
Average Cost per KG		(In Rs)	**33.33**

Raw Material Consumed	**Capacity Utilisation**	**Rate**	**Amount (Rs.)**
I	60%	33.33	18.00
II	65%	35.00	20.48
III	70%	36.80	23.18
IV	75%	38.60	26.06
V	80%	40.50	29.16

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	1.23	1.32	1.46	1.61	1.77
Raw Material					
(20 Days requirement)	1.20	1.37	1.55	1.74	1.94
Closing Stock	**2.43**	**2.68**	**3.00**	**3.35**	**3.72**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	2.43		
Less:			
Sundry Creditors	0.42		
Paid Stock	**2.01**	**0.20**	**1.81**
Sundry Debtors	3.80	0.38	3.42
Working Capital Requirement			**5.23**
Margin			0.58
MPBF			**5.23**
Working Capital Demand			**5.00**

BREAK UP OF LABOUR

Particulars		Wages Per Month	No of Employees	Total Salary
Supervisor		20,000.00	1	20,000.00
Plant Operator		15,000.00	1	15,000.00
Unskilled Worker		8,500.00	6	51,000.00
Helper		5,000.00	2	10,000.00
Security Guard		7,500.00	1	7,500.00
				103,500.00
Add: 10% Fringe Benefit				10,350.00
Total Labour Cost Per Month				113,850.00
Total Labour Cost for the year (In Rs. Lakhs)			11	13.66

BREAK UP OF SALARY

Particulars		Salary Per Month	No of Employees	Total Salary
Accountant cum store keeper		10,000.00	1	10,000.00
Administrative Staffs		12,500.00	4	50,000.00
Total Salary Per Month				60,000.00
Add: 10% Fringe Benefit				6,000.00
Total Salary for the month				66,000.00
Total Salary for the year (In Rs. Lakhs)			5	7.92

COMPUTATION OF DEPRECIATION

Description	Land	Building/shed	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation			**15.00%**	**10.00%**	
Opening Balance	Own/Rented		-	-	-
Addition	-		11.04	1.18	12.22
	-		11.04	1.18	12.22
TOTAL		-	11.04	1.18	12.22
Less : Depreciation	-	-	1.66	0.12	1.77
WDV at end of Ist year	-	-	9.38	1.06	10.45
Additions During The Year	-	-	-	-	-
	-	-	9.38	1.06	10.45
Less : Depreciation	-	-	1.41	0.11	1.51
WDV at end of IInd Year	-	-	7.98	0.96	8.93
Additions During The Year	-	-	-	-	-
	-	-	7.98	0.96	8.93
Less : Depreciation	-	-	1.20	0.10	1.29
WDV at end of IIIrd year	-	-	6.78	0.86	7.64
Additions During The Year	-	-	-	-	-
	-	-	6.78	0.86	7.64
Less : Depreciation	-	-	1.02	0.09	1.10
WDV at end of IV year	-	-	5.76	0.77	6.54
Additions During The Year	-	-	-	-	-
	-	-	5.76	0.77	6.54
Less : Depreciation	-	-	0.86	0.08	0.94
WDV at end of Vth year	-	-	4.90	0.70	5.60

REPAYMENT SCHEDULE OF TERM LOAN 11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
I	Opening Balance						
	Ist Quarter	-	11.00	11.00	0.30	-	11.00
	Iind Quarter	11.00	-	11.00	0.30	-	11.00
	IIIrd Quarter	11.00	-	11.00	0.30	0.61	10.39
	Ivth Quarter	10.39	-	10.39	0.29	0.61	9.78
					1.19	1.22	
II	Opening Balance						
	Ist Quarter	9.78	-	9.78	0.27	0.61	9.17
	Iind Quarter	9.17	-	9.17	0.25	0.61	8.55
	IIIrd Quarter	8.55	-	8.55	0.24	0.61	7.94
	Ivth Quarter	7.94		7.94	0.22	0.61	7.33
					0.97	2.44	
III	Opening Balance						
	Ist Quarter	7.33	-	7.33	0.20	0.61	6.72
	Iind Quarter	6.72	-	6.72	0.18	0.61	6.11
	IIIrd Quarter	6.11	-	6.11	0.17	0.61	5.50
	Ivth Quarter	5.50		5.50	0.15	0.61	4.89
					0.71	2.44	
IV	Opening Balance						
	Ist Quarter	4.89	-	4.89	0.13	0.61	4.28
	Iind Quarter	4.28	-	4.28	0.12	0.61	3.67
	IIIrd Quarter	3.67	-	3.67	0.10	0.61	3.06
	Ivth Quarter	3.06		3.06	0.08	0.61	2.44
					0.44	2.44	
V	Opening Balance						
	Ist Quarter	2.44	-	2.44	0.07	0.61	1.83
	Iind Quarter	1.83	-	1.83	0.05	0.61	1.22
	IIIrd Quarter	1.22	-	1.22	0.03	0.61	0.61
	Ivth Quarter	0.61		0.61	0.02	0.61	- 0.00
					0.17	2.44	

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

CALCULATION OF D.S.C.R

PARTICULARS	I	II	III	IV	V
CASH ACCRUALS	3.53	4.39	6.37	8.36	10.47
Interest on Term Loan	1.19	0.97	0.71	0.44	0.17
Total	4.73	5.36	7.08	8.80	10.64
REPAYMENT					
Repayment of Term Loan	1.22	2.44	2.44	2.44	2.44
Interest on Term Loan	1.19	0.97	0.71	0.44	0.17
Total	2.41	3.42	3.15	2.88	2.61
DEBT SERVICE COVERAGE RATIO	**1.96**	**1.57**	**2.25**	**3.05**	**4.07**
AVERAGE D.S.C.R.			**2.53**		

COMPUTATION OF SALE

Particulars	I	II	III	IV	V
Op Stock	-	1,800.00	1,950.00	2,100.00	2,250.00
Production	54,000.00	58,500.00	63,000.00	67,500.00	72,000.00
	54,000.00	60,300.00	64,950.00	69,600.00	74,250.00
Less : Closing Stock(10 Days)	1,800.00	1,950.00	2,100.00	2,250.00	2,400.00
Net Sale	52,200.00	58,350.00	62,850.00	67,350.00	71,850.00
Avg Sale Price per KG	95.00	99.75	104.74	109.98	115.48
Sale (in Lacs)	**49.59**	**58.20**	**65.83**	**74.07**	**82.97**

COMPUTATION OF ELECTRICITY

(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		KW	25	
Load Factor				
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				4.50
Add : Minimim Charges (@ 10%)				
(B) DG set				
No. of Working Days			300	days
No of Working Hours			0.5	Hour per day
Total no. of Hour			150	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			1,200	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			0.78	
Add : Lube Cost @15%			0.12	
Total			**0.90**	
Total cost of Power & Fuel at 100%				5.40
Year		**Capacity**		**Amount**
				(in Lacs)
I		60%		3.24
II		65%		3.51
III		70%		3.78
IV		75%		4.05
V		80%		4.32

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