

BAMBOO SHOOT PROCESSING



1.0 INTRODUCTION

Bamboo shoots find an important place in the South-east Asian cuisine. In north-east India, it is consumed either raw or processed because of its exotic taste and flavour. Bamboo shoots are low in fat and calories but rich in fibre with about 90% water. Shoots are used as raw material in the manufacture of steroidal drugs. They are used as extenders because they take on the flavour of the ingredients they are cooked with. Fresh shoots have a crisp and sweet flavour with limited shelf-life and have to be sold immediately. The peak availability period is June to October. To cater to the metro markets, the shoots need to be processed and preserved properly. Being a lesser known food product, bamboo shoot processing has potential to be developed as an innovative and promising enterprise. Annually, over two million tonnes of edible shoots are consumed all over the world, mostly in Asia.

This project profile is for setting up of a Bamboo Shoot processing unit with installed processing capacity of 180 Ton per annum, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

In India, bamboo shoots, either processed or raw, have a high demand. There is a ready market as there are very

few processing units whereas demand is increasing. Apart from individual households, processed bamboo shoots have very good demand from restaurants, caterers, other caterers etc. Product can be sold through provisional stores and super markets in consumer packs and to bulk buyers in large packing. Placement of the product at strategic outlets and publicity in local media would boost sales.

3.0 PROCESS DETAILS

The process flow chart is as under:

Cutting, Chopping and Slicing

Grading

Bringing and draining

Canning

Sealing, labelling and packing

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	4.54
Plant & Machinery	6.04
Misc. Fixed assets	0.83
Preliminary & pre-operative expenses	0.78
Contingencies & escalation @ 3%	0.34
Working capital	1.62
TOTAL	14.15

4.1 Land & Site Development: Nil. Covered Area: 1,500 Sq. Ft.

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

Particulars	Area (Sq ft)	Rate (Rs)	Amount (Rs)
Work-shed, store house cum Office	1500	275	412500
Sub total			412500
Add: Electrification, water supply and sanitation @ 10%			41250
TOTAL			453750
Say (Rs. in lacs)			4.54

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

Particulars	Qty	Amount (Rs)
Heat furnace with burners	1	473000
Boiler with accessories	1	
Slicing Machine	1	
SS Vessels	1	
Automatic Form, Fill and Sealing machine	1	
Weighing Scales	1	
Cutter grinder machine with accessories	1	
Miscellaneous Tools and Equipment	LS	40000
Sub total		513000
Add: Installation, transportation, etc @ 10%		51300
TOTAL		604300
Say (Rs. in lacs)		6.04

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	--	50000
Sub total			75000
Add: Installation, transportation, etc @ 10%			7500
TOTAL			82500
Say (Rs. in lacs)			0.83

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	10000	
Professional & other fees	16000	
Interest during implementation	31886	
Miscellaneous expenses	20000	
TOTAL	77886	
Say (Rs. in lacs)	0.78	

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	0.90	1.05	1.20
Power & Utility	30	0.06	0.07	0.08
Salary	30	0.55	0.56	0.56
Finished Goods	15	1.22	1.38	1.54
Receivables	15	1.33	1.55	1.78
Total		4.06	4.60	5.14
Working capital margin in Year 1 (40%)	1.62			

5.0 MEANS OF FINANCE

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

		(Rs. in lacs)
Particulars	Percent	Amount
<u>EQUITY</u>		
A. Equity from Promoters	40%	5.66
B. Subsidy from Central/State Govt.	-	
<u>DEBT</u>		
Term Loan from Banks/Financial Institutions	60%	8.49
TOTAL	100%	14.15

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
<u>A. INCOME</u>						
Production Capacity (Ton/annum)	180	180	180	180	180	180
Capacity utilisation	60%	70%	80%	80%	80%	80%
Production/annum at capacity utilisation	108	126	144	144	144	144
Total income/annum	32.40	37.80	43.20	43.20	43.20	43.20
<u>B. OPERATING EXPENSES</u>						
Raw Materials	21.83	25.46	29.10	29.10	29.10	29.10
Power & Utility	0.69	0.80	0.92	0.92	0.92	0.92
Salary	6.72	6.75	6.79	6.82	6.86	6.89
Repair & Maintenance	0.18	0.18	0.19	0.19	0.19	0.20
Other Expenses	0.32	0.38	0.43	0.43	0.43	0.43
Total Operating Expenses	29.73	33.58	37.42	37.46	37.50	37.53
Operating profit	2.67	4.22	5.78	5.74	5.70	5.67
<u>C. FINANCIAL EXPENSES</u>						
Depreciation	0.52	0.52	0.52	0.52	0.52	0.52

Interest on Term Loan	0.68	0.62	0.48	0.35	0.21	0.07
Interest on Working Capital Loan	0.19	0.22	0.25	0.25	0.25	0.25
Net Profit	1.27	2.86	4.53	4.63	4.73	4.82
Net cash accruals	1.79	3.39	5.05	5.15	5.25	5.35
Principal Repayment	0.00	1.70	1.70	1.70	1.70	1.70

6.1 Production capacity and Sales Realisation: Total production of Processed Bamboo Shoot at 100% capacity utilization is estimated as below.

Processed Bamboo Shoot	180 Ton
Total production per annum at 100% capacity	180 Ton

Products	Qty	Average Rate Per Unit (Rs.)	Amount (Rs)
Processed Bamboo Shoot	180	30000	5400000
Total Sales per annum at 100% capacity			5400000

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)
Raw Bamboo Shoot	200 Ton	7000	1400000
Salt	35 Ton	12500	437500
Packaging Materials like Plastic Jar, Poly Bags, Card Board Boxes, Labels etc	LS	10000 per ton of processed Bamboo Shoot	1800000

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 (Total HP of 15)	—	11.19	11.19
General Lighting	10	0.10	1.00
Total power requirement/day (Kw)			12.19
No. of hrs/day	8		
No. of days/annum	300		
Annual power requirement (kwh)	29256		
Rate per unit (Rs)	3.50		
Expenses on power (Rs)	102396		
Expenses on other Utility (Rs)	12000		
Expenses on power & utility at 100% capacity (Rs)	114396		

6.4 Salary: Total expenses on salary in the 1st 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	10000	120000
Sales Persons	2	6000	144000
Machine operators	2	5000	120000
Semi skilled workers	3	4000	144000
Unskilled workers	4	3000	144000
Expenses on salary in the 1st year (Rs)			672000

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st 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	4.54	1.00%	0.05
Plant & Machinery	6.04	2.00%	0.12
Misc. Fixed assets	0.83	1.50%	0.01
Expenses on repair & maintenance in year 1			0.18

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	4.54	3.34%	0.15
Plant & Machinery	6.04	5.28%	0.32
Misc. Fixed assets	0.83	6.33%	0.05
TOTAL			0.52

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 6 years including moratorium period of 12 months with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)							
Month	Year	1	2	3	4	5	6
Month 1	Opening balance	8.49	8.49	6.79	5.09	3.40	1.70
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest (8%)	0.06	0.06	0.05	0.03	0.02	0.01
	Closing balance	8.49	8.35	6.65	4.95	3.25	1.56
Month 2	Opening balance	8.49	8.35	6.65	4.95	3.25	1.56
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.06	0.04	0.03	0.02	0.01
	Closing balance	8.49	8.21	6.51	4.81	3.11	1.41
Month 3	Opening balance	8.49	8.21	6.51	4.81	3.11	1.41
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	8.49	8.06	6.37	4.67	2.97	1.27

Month 4	Opening balance	8.49	8.06	6.37	4.67	2.97	1.27
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	8.49	7.92	6.22	4.53	2.83	1.13
Month 5	Opening balance	8.49	7.92	6.22	4.53	2.83	1.13
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	8.49	7.78	6.08	4.39	2.69	0.99
Month 6	Opening balance	8.49	7.78	6.08	4.39	2.69	0.99
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	8.49	7.64	5.94	4.24	2.55	0.85
Month 7	Opening balance	8.49	7.64	5.94	4.24	2.55	0.85
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	8.49	7.50	5.80	4.10	2.41	0.71
Month 8	Opening balance	8.49	7.50	5.80	4.10	2.41	0.71
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.00
	Closing balance	8.49	7.36	5.66	3.96	2.26	0.57
Month 9	Opening balance	8.49	7.36	5.66	3.96	2.26	0.57
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.00
	Closing balance	8.49	7.22	5.52	3.82	2.12	0.42
Month 10	Opening balance	8.49	7.22	5.52	3.82	2.12	0.42
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.01	0.00
	Closing balance	8.49	7.07	5.38	3.68	1.98	0.28
Month 11	Opening balance	8.49	7.07	5.38	3.68	1.98	0.28
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.02	0.01	0.00
	Closing balance	8.49	6.93	5.23	3.54	1.84	0.14
Month 12	Opening balance	8.49	6.93	5.23	3.54	1.84	0.14
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.03	0.02	0.01	0.00
	Closing balance	8.49	6.79	5.09	3.40	1.70	0.00
Principal Repayment		0.00	1.70	1.70	1.70	1.70	1.70
Interest		0.68	0.62	0.48	0.35	0.21	0.07

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6
Profit After Tax (Net Profit)	1.27	2.86	4.53	4.63	4.73	4.82
Depreciation	0.52	0.52	0.52	0.52	0.52	0.52
Interest	0.68	0.62	0.48	0.35	0.21	0.07
Total	2.47	4.00	5.53	5.50	5.46	5.42
Interest	0.68	0.62	0.48	0.35	0.21	0.07
Loan repayment	0.00	1.70	1.70	1.70	1.70	1.70
Total	0.68	2.31	2.18	2.04	1.91	1.77
DSCR	3.64	1.73	2.54	2.69	2.86	3.06

Average DSCR = 2.61

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	32.40	37.80	43.20
B. Variable cost			
Raw Materials	21.83	25.46	29.10
Power & Utility	0.69	0.80	0.92
Other expenses	0.32	0.38	0.43
Interest on Working Capital Loan	0.19	0.22	0.25
Total variable cost	23.03	26.86	30.69
C. Contribution (A-B)	9.37	10.94	12.51
D. Fixed & Semi-fixed Costs			
Salary	6.72	6.75	6.79
Repair & maintenance	0.18	0.18	0.19
Interest on Term Loan	0.68	0.62	0.48
Depreciation	0.52	0.52	0.52
Total fixed cost	8.10	8.08	7.98
E. BREAK EVEN POINT	86.45%	73.83%	63.78%
F. BEP at operating capacity	51.87%	51.68%	51.03%
G. Cash BEP	48.52%	48.33%	47.68%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6
CASH OUTFLOW							
Capital Expenditure	11.74	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	4.06	0.54	0.54	0.00	0.00	0.00
Total (A)	11.74	4.06	0.54	0.54	0.00	0.00	0.00
CASH INFLOW							
Profit After Tax		1.27	2.86	4.53	4.63	4.73	4.82
Add: Depreciation		0.52	0.52	0.52	0.52	0.52	0.52
Add: Interest		0.68	0.62	0.48	0.35	0.21	0.07
Add: Salvage Value							
Total (B)	0.00	2.47	4.00	5.53	5.50	5.46	5.42
NET FLOW (B-A)	-11.74	-1.59	3.46	4.99	5.50	5.46	5.42

IRR = 26%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Chatariya Food Pvt. Ltd.	Mahuva, Dist- Bhavnagar, Gujarat, Pin- 364 290.
2.	M/s Shriram Temp & Changers (India)	991/2/A, GIDC, Opp Makarpura Bus Depot, Vadodra, Pin-390010.
3.	M/s Bajaj Maschinen Pvt. Ltd.	C-582, New Friends Colony, New Delhi, Pin-110 065.