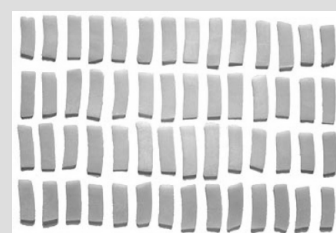


CANNED BAMBOO SHOOTS



1.0 INTRODUCTION

Bamboos are grown in large quantities in many of the North-Eastern states but the available resources are yet to be commercially utilised. Main use is in making houses and mats and baskets. There are many reserved, protected or unclassified forests with huge production of bamboos especially along the low altitude hilly areas where the rainfall is high. Nagaland is not an exception with abundant availability of bamboos. Bamboo shoots are considered as a delicacy in this region and are eaten regularly round the year.

2.0 PRODUCT

Tender bamboo shoots are used in many down the line food preparations and are consumed regularly by many households. The project has to be located in the North-East region of India.

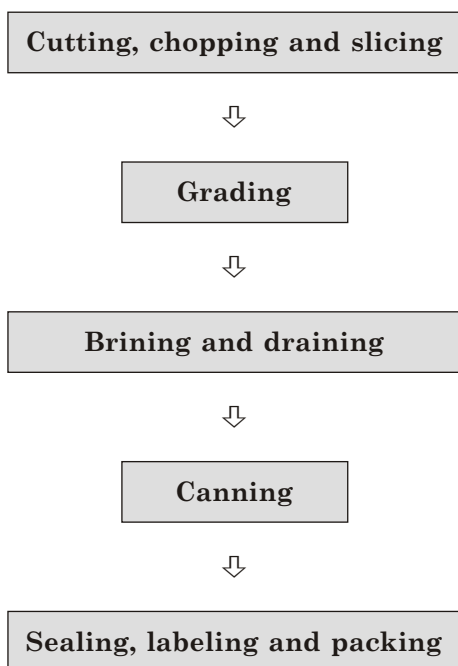
2.1 Compliance under PFA Act is mandatory.

3.0 MARKET POTENTIAL

Bamboo shoots are a favourite amongst the regional people and many delicacies are made from them. There is a ready market as there are very few processing units whereas demand is increasing. Bamboo shoots processed under hygienic conditions have very good market. Apart from individual households, restaurants, caterers, other eateries etc. also require them in large quantities. Product can be sold through provision 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.

4.0 MANUFACTURING PROCESS

Fresh bamboo shoots are cut from head and tail and then chopped and sliced. After grading of pieces they are boiled (brining) and drained and then canned. Salt solution is added in these cans and then it is allowed to evaporate. After that cans are sealed and are processed through retort at a temperature of 100-120° C. After cooling of cans they are labelled and packed. Canning and retorting are critical processes. The input output ratio is 100:85. Process time is around 2 days. The process flow chart is as under:



5.0 CAPITAL INPUTS

5.1 Land and Building

Land requirement will be 200 sq.mtrs. which would cost around Rs. 60,000/-. Requirement of built-up area would be around 75 sq.mtrs. for main factory building including packing and store area whereas balance 25 sq.mtrs. would occupy space for cutting, chopping, grading and washing of bamboo shoots. This space would have two water tanks of around 500 ltrs. capacity. The average cost of construction is taken as Rs. 2,500/- per sq.mtr. The total cost of civil work would be Rs.2.50 lacs.

5.2 Plant and Machinery

The total cost of machinery would be Rs.3.50 lacs which would include boiling vessels, oil fired furnace with burners, canning machine, flanger, evaporation boxes, retort and weighing scales. With the help of this set of machines the annual processing capacity would be 180 tonnes per shift.

Canning facilities can be utilised for canning fruits and vegetables during lean season when bamboo shoots will not be available in sufficient quantity. This would give a further boost to profitability.

5.3 Miscellaneous Assets

Some other assets like furniture & fixtures, cutting knives, plastic baskets, packing tables, storage racks etc. shall be required for which a provision of Rs. 50,000/- is sufficient.

5.4 Utilities

Power requirement shall be 15 HP whereas per day water requirement would be 700-850 ltrs. Furnace oil of around 50-60 ltrs. will be required every day.

5.5 Raw and Packing Materials

The most important raw material will be bamboo shoots. Availability will not be a problem as there are many bamboo forests in the entire North-East region including Nagaland. In any case, the annual requirement even at rated capacity will not be more than 180 tonnes and there will not be any difficulty in procurement. Salt requirement will not be much. Tin cans will be required in large quantity depending upon packing size for which prior arrangements are required. Likewise corrugated boxes will be required for final outer packing.

6.0 MANPOWER REQUIREMENTS

| Particulars | Nos. | Monthly Salary (Rs.) | Total Monthly Salary (Rs.) |
|-----------------|------|----------------------|----------------------------|
| Plant Operators | 2 | 3,000 | 6,000 |
| Skilled Workers | 4 | 2,250 | 9,000 |
| Helpers | 6 | 1,250 | 7,500 |
| Salesman | 1 | 2,500 | 2,500 |
| | | Total | 25,000 |

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

| Activity | Period (in months) |
|--|--------------------|
| Application and sanction of loan | 2 |
| Site selection and commencement of civil work | 2 |
| Completion of civil work and placement of orders for machinery | 6 |
| Erection, installation and trial runs | 2 |

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Land and Building

| Particulars | Area (Sq.Mtrs) | Cost (Rs.) |
|-------------|----------------|-----------------|
| Land | 200 | 60,000 |
| Building | 100 | 2,50,000 |
| | Total | 3,10,000 |

8.2 Machinery

As spelt out earlier, the total cost of machinery will be Rs.3.50 lacs.

8.3 Miscellaneous Assets

A provision of Rs.50, 000/- is sufficient under this head as discussed before.

8.4 Preliminary & Pre-operative Expenses

There will be certain pre-production expenses like registration, establishment and administrative charges, market survey expenditure, interest during implementation, trial run expenses for which an amount of Rs. 75,000/- is earmarked.

8.5 Working Capital Requirements

As against the rated capacity of 180 tonnes, the plant is assumed to run at 60% in the first year for which following funds shall be required.

(Rs. in lacs)

| Particulars | Period | Margin | Total | Bank | Promoters |
|----------------------------|---------|--------------|-------------|-------------|-------------|
| Stock of Packing Materials | 1 Month | 30% | 0.65 | 0.45 | 0.20 |
| Stock of Finished Goods | ½ Month | 25% | 0.90 | 0.68 | 0.22 |
| Receivables | ½ Month | 25% | 1.10 | 0.85 | 0.25 |
| Working Expenses | 1 Month | 100% | 0.50 | -- | 0.50 |
| | | Total | 3.15 | 1.98 | 1.17 |

8.6 Cost of the Project & Means of Financing

(Rs. in lacs)

| Item | Amount |
|--|-------------|
| Land and Building | 3.10 |
| Machinery | 3.50 |
| Miscellaneous Assets | 0.50 |
| P&P Expenses | 0.75 |
| Contingencies @ 10% on Land and Building & Plant & Machinery | 0.65 |
| Working Capital Margin | 1.17 |
| Total | 9.67 |
| Means of Finance | |
| Promoters' Contribution | 3.07 |
| Term Loan from Bank/FI | 6.60 |
| Total | 9.67 |
| Debt Equity Ratio | 2.15 : 1 |
| Promoters' Contribution | 31% |

Financial assistance in the form of grant is available from the Ministry of Food Processing Industries, Govt. of India, towards expenditure on technical civil works and plant and machinery for eligible projects subject to certain terms and conditions.

9.0 PROFITABILITY CALCULATIONS

9.1 Production Capacity & Build-up

The rated capacity of the plant would be 180 tonnes per year whereas actual utilisation in the first year will be 60% and thereafter 75%.

9.2 Sales Revenue at 100%

Considering average selling price of Rs.30/- per kg; annual sales realisation at 100% activity or 150 tonnes would be Rs.45.00 lacs.

9.3 Raw & Packing Materials at 100%

(Rs. in lacs)

| Product | Qty. (Tonnes) | Rate (Rs./Ton) | Value |
|--|--|-------------------|--------------|
| Bamboo Shoots | 180 | 5,000 | 9.00 |
| Salt | 30 | 3,000 | 0.90 |
| Tin cans, corrugated boxes, labels, etc. | @ Rs.8,000/- per Ton of finished goods | -- | 12.40 |
| | | Total | 22.30 |

9.4 Utilities

Individual requirements are already explained. The annual cost at 100% utilisation shall be Rs.90, 000/-.

9.5 Selling Expenses

There will be many expenses like discount to retailers, transportation, free sampling, publicity etc. for which a provision of 17.5% of sales value is made every year.

9.6 Interest

Interest on term loan of Rs. 6.60 lacs is calculated @ 12% per annum assuming repayment in 4 years including a moratorium period of 1 year. Interest on working capital from bank is computed @ 14% per annum.

9.7 Depreciation

It is calculated @ 10% on building and 20% on machinery and miscellaneous assets on WDV basis.

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

| No. | Particulars | 1st Year | 2nd Year |
|----------|--|-------------------|--------------|
| A | Installed Capacity | -- 180 Tonnes --> | |
| | Capacity Utilisation | 60% | 75% |
| | Sales Realisation | 27.00 | 33.75 |
| B | Cost of Production | | |
| | Raw and Packing Materials | 13.40 | 16.75 |
| | Utilities | 0.54 | 0.68 |
| | Salaries | 3.00 | 3.60 |
| | Stores and Spares | 0.42 | 0.60 |
| | Repairs & Maintenance | 0.50 | 0.75 |
| | Selling Expenses @ 17.5% | 4.72 | 5.90 |
| | Administrative Expenses | 0.60 | 0.78 |
| | Total | 23.18 | 29.06 |
| C | Profit before Interest & Depreciation | 3.82 | 4.69 |
| | Interest on Term Loan | 0.74 | 0.53 |
| | Interest on Working Capital | 0.28 | 0.35 |
| | Depreciation | 1.05 | 0.87 |
| | Profit before Tax | 1.75 | 2.94 |
| | Income-tax @ 20% | 0.37 | 0.60 |
| | Profit after Tax | 1.38 | 2.34 |
| | Cash Accruals | 2.43 | 3.21 |
| | Repayment of Term Loan | -- | 2.05 |

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

| No | Particulars | Amount | |
|-----|----------------------------|--------|-------|
| [A] | Sales | | 27.00 |
| [B] | Variable Costs | | |
| | Raw and Packing Materials | 13.40 | |
| | Utilities (60%) | 0.32 | |
| | Salaries (70%) | 2.10 | |
| | Stores & Spares | 0.42 | |
| | Selling Expenses (70%) | 3.30 | |
| | Admn. Expenses (50%) | 0.30 | |
| | Interest on WC | 0.28 | 20.12 |
| [C] | Contribution [A] - [B] | | 6.88 |
| [D] | Fixed Cost | | 4.26 |
| [E] | Break-Even Point [D] ÷ [C] | | 61% |

12.0 [A] LEVERAGES

Financial Leverage

$$\begin{aligned} &= \text{EBIT/EBT} \\ &= 2.77 \div 1.75 \\ &= 1.58 \end{aligned}$$

Operating Leverage

$$\begin{aligned} &= \text{Contribution/EBT} \\ &= 6.88 \div 1.75 \\ &= 3.93 \end{aligned}$$

Degree of Total Leverage

$$\begin{aligned} &= \text{FL/OL} \\ &= 1.58 \div 3.93 \\ &= 0.40 \end{aligned}$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

| Particulars | 1st Yr | 2nd Yr | 3rd Yr | 4th Yr |
|-----------------------|-------------------------|-------------|-------------|-------------|
| Cash Accruals | 2.43 | 3.21 | 3.53 | 3.89 |
| Interest on TL | 0.74 | 0.53 | 0.38 | 0.23 |
| Total [A] | 3.17 | 3.74 | 3.91 | 4.12 |
| Interest on TL | 0.74 | 0.53 | 0.38 | 0.23 |
| Repayment of TL | -- | 2.20 | 2.20 | 2.20 |
| Total [B] | 0.74 | 2.73 | 2.58 | 2.43 |
| DSCR [A] ÷ [B] | 4.28 | 1.36 | 1.51 | 1.69 |
| Average DSCR | ----- 2.21 ----- | | | |

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 9.67 lacs.

(Rs. in lacs)

| Year | Cash Accruals | 16% | 18% | 20% | 24% |
|------|---------------|--------------|--------------|-------------|-------------|
| 1 | 2.43 | 2.09 | 2.06 | 2.02 | 1.96 |
| 2 | 3.21 | 2.39 | 2.30 | 2.23 | 2.09 |
| 3 | 3.53 | 2.26 | 2.15 | 2.04 | 1.85 |
| 4 | 3.89 | 2.15 | 2.01 | 1.88 | 1.65 |
| 5 | 4.33 | 2.06 | 1.89 | 1.74 | 1.48 |
| | 17.39 | 10.95 | 10.41 | 9.91 | 9.03 |

The IRR is around 21%.

Some of the equipments and packing machinery suppliers are

1. B.Sen Berry & Co, 65/11, Rohatak Road Karol Bagh, New Delhi-110005
2. Metal Box (I) Ltd, 17, Parliament Street, New Delhi-110001
3. Cowel Can Ltd. PO Barotiwala Dist. Solan (HP).
4. Nagpal Bros. C-127 Phase II, Mayapuri Industrial Area, New Delhi-110064.
Tel No. 25400407/25402631
5. Gardeners Corporation, 158, Golf Links, New Delhi-110003
6. Raylon Metal Works, PB No. 17426, JB Nagar, Andheri (E)
Mumbai 400 059
7. Auric Techno Services Pvt Ltd, C-101, Shrinath Hermitage, Baner Road,
Pune 411 008, Ph: 25898072, 25899113