

# CASHEW/COCONUT FENI



## 1.0 INTRODUCTION

The Indian Made Foreign Liquors (IMFL) are made by blending of spirits whereas Feni is distilled exclusively from the pure fermented juice of either cashew apples or coconut taddy without addition of spirit. Konkan region of Maharashtra grows both cashew fruits as well as coconuts in plenty. Invariably, cashew apples are not further processed after separation of cashewnut. Since cashew apples are not available round the year, coconut taddy can be distilled during off-season. At present, Feni is produced only in Goa and it has become the speciality of this state. This product can be produced in other regions as well.

## 2.0 PRODUCT

### 2.1 Applications

Feni is made from pure juice without addition of spirit. Cashew apple is a valuable source of minerals, sugar and vitamins and coconut juice is also equally nutritious.

### 2.2 Availability of technology, compliances and quality standards

CFTRI, Mysore, has successfully developed the technical know-how. Apart from compliance with FPO and PFA Act, it is necessary to obtain licence from the state as well as the Central Govt. BIS has specified standards vide 5287:1978 and 3752/3:1967

## 3.0 MARKET POTENTIAL

### 3.1 Demand and Supply

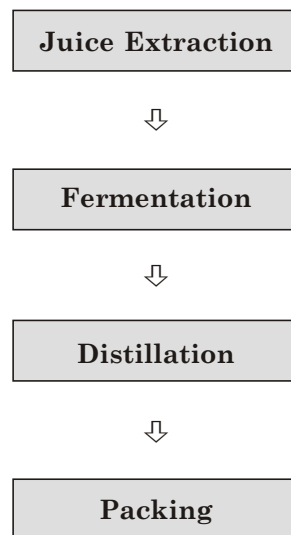
The state of Goa is famous not only for beaches but also for Feni. Feni is now regularly exported to many countries. But somehow, production of Feni is confined only to Goa in spite of domestic as well as export market. Major feature of Feni is, it is distilled directly from fresh juice without blending of spirits. Cashew apples and coconut taddy have considerable nutrients.

### **Marketing Strategy:**

Apart from export market, there is a very large untapped domestic market as well which needs to be tapped systematically. Proper positioning of the product, adequate marketing network and attractive publicity campaign are critical aspects.

## **4.0 MANUFACTURING PROCESS**

Juice is extracted from cashew apples and coconut taddy and it is fermented till formation of a film floating over the juice. Time required for fermentation is 65-70 hours. Around 70 ltrs. of arrack is distilled from 100 ltrs. of fermented juice. Arrack and fermented juice are distilled in the ratio of 1:2 to obtain Feni. To obtain one ltr. of Feni around 30 kgs. of cashew apples or coconut taddy is needed. It is advisable to hire the services of an expert to achieve the desired quality. The Process Flow Chart is as under:



## **5.0 CAPITAL INPUTS**

### **5.1 Land and Building**

Land of around 250 sq.mtrs. with built-up area of 150 sq.mtrs. can accommodate production, packing and storage areas. Land may cost Rs. 75,000/- whereas cost of construction would be Rs. 3.75 lacs.

### **5.2 Machinery**

It is envisaged that the annual rated production capacity would be 72,000 ltrs. on two shift working and 300 working days basis.

This would require following machinery.

Item	Qty.	Price (Rs.)
Distillation still with condensor and other accessories	2	3,20,000
Wooden Fermentation Tanks	20	50,000
Fruit-mill with Electric Motor	1	50,000
Hydraulic Press with Accessories	1	25,000
SS Juice Storage Tanks	3	1,05,000
200 Ltrs. Cap. HDPE Barrels	4	40,000
Bottle Washing & Filling Machines	2	60,000
Cap-sealing Machines	2	30,000
SS Juice Pump	1	30,000
Mini Boiler	1	80,000
Tubular Heat Exchanger	1	60,000
Weighing scales, lab.instruments, plastic tubs/buckets, etc.	--	50,000
	<b>Total</b>	<b>9,00,000</b>

### 5.3 Miscellaneous Assets

Some other assets like furniture and fixtures, packing tables, electricals, office equipments, etc. would need expenditure of Rs. 80,000/-.

### 5.4 Utilities

Power requirement shall be 50 HP whereas daily water requirement would be 2500 ltrs. Coal shall be required for boiler.

### 5.5 Raw and Packing Materials

The most important materials would be cashew apples and coconut taddy or water. Adequate arrangements for regular supplies need to be made. Around 80 tonnes of jaggery shall also be needed. Yeast and certain chemicals in small quantity shall be required. 750 ml. capacity bottles with caps and corrugated boxes, lables, box strapping would be the packing materials.

## 6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Production Manager	1	7,500	7,500
Skilled Workers	2	2,500	5,000
Semi-skilled Workers	2	1,750	3,500
Helpers	4	1,250	5,000
Clerk	1	2,000	2,000
Salesmen	2	2,500	5,000
		<b>Total</b>	<b>28,000</b>

## 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	250	75,000
Building	150	3,75,000
	<b>Total</b>	<b>4,25,000</b>

### 8.2 Machinery

Total cost of machinery would be Rs. 9.00 lacs as spelt out earlier.

### 8.3 Miscellaneous Assets

A provision of Rs.80,000/- is adequate under this head as stated before.

### 8.4 Preliminary & Pre-operative Expenses

There will be many pre-production expenses like market survey, establishment, registration and administrative charges, technical consultation fees, interest during implementation, trial runs etc. for which a provision of Rs. 1.50 lacs is made.

### 8.5 Working Capital Requirements

At 60% capacity utilisation in first year, the working capital needs would be as under.

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw and Packing Materials	½ Month	30%	2.00	1.40	0.60
Stock of Finished Goods	½ Month	25%	2.40	1.80	0.60
Receivables	½ Month	25%	3.50	2.60	0.90
Working Expenses	1 Month	100%	0.50	--	0.50
		<b>Total</b>	<b>8.40</b>	<b>5.80</b>	<b>2.60</b>

**8.6 Cost of the Project & Means of Financing** (Rs. in lacs)

<b>Item</b>	<b>Amount</b>
Land and Building	4.50
Machinery	9.00
Miscellaneous Assets	0.80
P&P Expenses	1.50
Contingencies @ 10% on Land and Building & Plant & Machinery	1.35
Working Capital Margin	2.60
<b>Total</b>	<b>19.75</b>
<b>Means of Finance</b>	
Promoters' Contribution	7.00
Term Loan from Bank/FI	12.75
<b>Total</b>	<b>19.75</b>
Debt Equity Ratio	1.82 : 1
Promoters' Contribution	35%

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**

As against the rated capacity of 72,000 ltrs. per year, actual utilization in the first year is taken as 60% and thereafter it is limited to 75%.

**9.2 Sales Revenue at 100%**

Assuming selling price of 750 ml. bottle at Rs. 145/-, sales income at 100% would be Rs. 139.20 lacs.

**9.3 Raw and Packing Materials Required at 100%** (Rs. in lacs)

<b>Product</b>	<b>Qty. (Tonnes)</b>	<b>Price/Ton (Rs.)</b>	<b>Value</b>
Cashew Apples	1,000	3,000	30.00
Coconut Taddy	1,000	3,000	30.00
Jaggery	80	20,000	16.00
Yeast, Chemicals etc.	--	--	1.50
Packing Materials @ Rs.6/Ltr	--	--	4.32
		<b>Total</b>	<b>81.82</b>

#### 9.4 Utilities

Annual expenditure on utilities at 100% would be Rs. 2.00 lacs.

#### 9.5 Selling Expenses

A provision of 22½% of sales income would take care of selling commission, incentive schemes, publicity, transportation etc.

#### 9.6 Interest

Interest on term loan of Rs. 12.75 lacs is calculated @ 12% per annum assuming repayment in 5 years including a moratorium period of 1 year and on working capital it is computed @ 14% per annum.

#### 9.7 Depreciation

It is computed on WDV basis @ 10% on building and 15% on machinery and miscellaneous assets.

### 10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
<b>A</b>	<b>Installed Capacity</b>	---- 72,0000 Ltrs ----	
	Capacity Utilisation	60%	75%
	Sales Realisation	83.40	104.40
<b>B</b>	<b>Cost of Production</b>		
	Raw and Packing Materials	49.10	61.36
	Utilities	1.20	1.50
	Salaries	3.36	4.10
	Stores and Spares	0.36	0.60
	Repairs & Maintenance	0.55	0.80
	Selling Expenses @ 22.5%	18.80	23.50
	Administrative Expenses	0.72	1.00
	<b>Total</b>	<b>74.09</b>	<b>92.86</b>
<b>C</b>	<b>Profit before Interest &amp; Depreciation</b>	<b>9.41</b>	<b>11.54</b>
	Interest on Term Loan	1.53	1.24
	Interest on Working Capital	0.81	1.00
	Depreciation	1.85	1.59
	Profit before Tax	5.22	7.71
	Income-tax @ 20%	1.05	1.44
	Profit after Tax	4.17	6.27
	Cash Accruals	6.02	7.86
	Repayment of Term Loan	--	3.20

**11.0 BREAK-EVEN ANALYSIS**

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		83.50
[B]	Variable Costs		
	Raw and Packing Materials	49.10	
	Utilities (70%)	0.84	
	Salaries (70%)	2.35	
	Stores & Spares	0.36	
	Selling Expenses (70%)	13.16	
	Admn Expenses (50%)	0.36	
	Interest on WC	0.81	66.98
[C]	Contribution [A] - [B]		16.52
[D]	Fixed Cost		10.30
[E]	Break-Even Point [D] ÷ [C]		62%

**12.0 [A] LEVERAGES****Financial Leverage**

$$= \text{EBIT/EBT}$$

$$= 7.56 \div 5.22$$

$$= 1.45$$

**Operating Leverage**

$$= \text{Contribution/EBT}$$

$$= 16.52 \div 5.22$$

$$= 3.16$$

**Degree of Total Leverage**

$$= \text{FL/OL}$$

$$= 1.45 \div 3.16$$

$$= 0.46$$

**[B] Debt Service Coverage Ratio (DSCR)**

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Cash Accruals	6.02	7.86	8.21	8.68	9.16
Interest on TL	1.53	1.24	0.86	0.48	0.26
<b>Total [A]</b>	<b>7.55</b>	<b>9.10</b>	<b>9.07</b>	<b>9.16</b>	<b>9.42</b>
Interest on TL	1.53	1.24	0.86	0.48	0.26
Repayment of TL	--	3.20	3.20	3.20	3.15
<b>Total [B]</b>	<b>1.53</b>	<b>4.44</b>	<b>4.06</b>	<b>3.68</b>	<b>3.41</b>
<b>DSCR [A] ÷ [B]</b>	<b>4.93</b>	<b>2.05</b>	<b>2.23</b>	<b>2.49</b>	<b>2.76</b>
<b>Average DSCR</b>	----- <b>2.89</b> -----				

**[C] Internal Rate of Return (IRR)**

Cost of the project is Rs. 19.75 lacs.

(Rs. in lacs)

Year	Cash Accruals	24%	28%	32%
1	6.02	4.85	4.70	4.56
2	7.86	5.11	4.79	4.51
3	8.21	4.30	3.92	3.57
4	8.68	3.67	3.24	2.86
5	9.16	3.12	2.67	2.29
	<b>39.93</b>	<b>21.05</b>	<b>19.32</b>	<b>17.79</b>

The IRR is around 27%.

**Some of the machinery suppliers are**

- 1) Hilden Packaging Machine, Andheri, Mumbai 400 093
- 2) Glaswyn & Co., 251, D. N. Road, Fort , Mumbai 400 001
- 3) Motwane Mfg. Co Pvt Ltd, MG Road, Mumbai 400 001
- 4) Techno Equipments, Girgaon, Mumbai 400 004