

COFFEE FLAVOURED MILK



1.0 INTRODUCTION

Since centuries, milk is used for making various products as well as for direct consumption. With the advent of new processing techniques, many products are added in this category. This phenomenal growth is on account of nutritional values present in milk and its acceptance as a "complete food". India has made commendable progress in milk production and is one of the largest producers along with the USA. Milk and Milk products are consumed round the year by people from all age and income groups. Flavoured milk has gained substantial popularity but somehow coffee flavoured milk is still not easily available even though consumption of coffee has steadily increased.

2.0 PRODUCT

2.1 Applications

Milk and milk products figure prominently in the Indian diet including flavoured milk with varieties like elaichi, kesar, chocolate and so on but coffee flavour is not easily available. This note primarily discusses coffee flavoured milk preferably in bottles and pouches. This product has market in urban areas and location has to be selected accordingly. This note considers Maharashtra as the preferred location.

2.2 Compliance with PFA Act is mandatory.

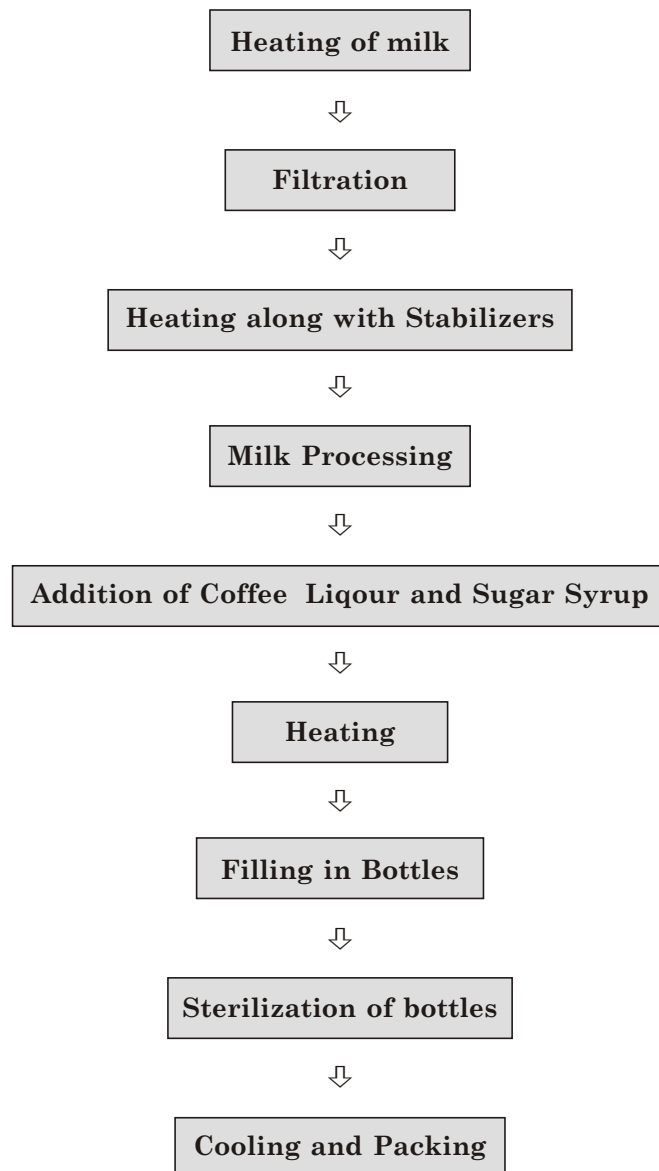
3.0 MARKET POTENTIAL

Milk is considered to be a complete food and over and above direct consumption of hot or cold milk, many milk based products like Khoa, paneer, curd and butter milk, ghee, many sweet items, ice-creams, milk shakes etc. are consumed in large quantity every day across the country. Addition of milk in tea or coffee is the most common and equally popular practice. Flavoured milk is yet another variant. Consumption of coffee is increasing steadily but

availability of coffee flavoured milk is still not very comfortable. With increasing health awareness, many people are switching over to milk and coffee flavoured milk would be an attractive proposition. Railway stations, air-ports, bus-stands, tourist spots, picnic centres, cold drink stalls, hostels, restaurants, coffee bars or fast food restaurants, clubs, school canteens etc. could be the major outlets.

4.0 MANUFACTURING PROCESS

Fresh milk is standardised according to fat contents and then heated at around 40° C and filtered with the help of double muslin cloth. Filtered milk is again heated at about 60-65° C and stabilisers like DSHP or TSC are added in very small quantity. Milk is then processed in homogeniser. Simultaneously 5% concentrated coffee powder is mixed with water and filtered through muslin cloth. Then homogenised milk, sugar syrup and coffee water are heated at around 80-85° C and sterilised for about half an hour and immediately bottled. The Process Flow Chart is as follows:



5.0 CAPITAL INPUTS

5.1 Land and Building

Plot of land of around 400 sq.mtrs. with built up area of 200 sq.mtrs. would be adequate. Main production area would require around 100 sq.mtrs. and balance facilities like storage, packing, laboratory etc. can be accommodated in balance 100 sq.mtrs. Land may cost Rs.1.20 lacs whereas cost of construction would be Rs. 5.00 lacs.

5.2 Machinery

Annual rated processing capacity of 2.5 lac ltrs. with 2 shift working and 340-350 working days would need following set up.

Item	Qty.	Price (Rs.)
Homogeniser	1	1,25,000
Plate-type Heat Exchanger	1	75,000
Milk Sterilisation Plant	1	1,00,000
Electrically-operated Boiler	1	75,000
Automatic Bottle Washing, Filling & Corking Plant	1	1,60,000
SS Milk Storage Tanks	3	60,000
Delivery Van	1	2,00,000
Plastic Crates	--	2,00,000
Laboratory Equipments, Weighing-scale, etc.	--	30,000
	Total	10,25,000

5.3 Miscellaneous Assets

Some other assets like furniture & fixtures, storage racks, SS vessels, plastic tubs, working tables etc. shall be required for which a provision of Rs. 1.25 lacs is made.

5.4 Utilities

Power requirement shall be 75 HP whereas per day water requirement will be 2000 ltrs.

5.5 Raw and Packing Materials

The most important material would be good quality fresh milk for which proper arrangements need to be made. Other materials like sugar, coffee, stabilisers etc. shall be available locally. Adequate arrangements for bottles/pouches and crates must be made.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Plant Operators	2	2,750	5,500
Skilled Workers	2	2,500	5,000
Helpers	4	1,250	5,000
Driver	1	2,000	2,000
Salesman	1	2,500	2,500
		Total	20,000

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	400	1,20,000
Building	200	5,00,000
	Total	6,20,000

8.2 Machinery

Total cost of machinery is expected to be Rs.10.25 lacs as explained earlier.

8.3 Miscellaneous Assets

A provision of Rs.1.25 lacs is made towards other assets as stated before.

8.4 Preliminary & Pre-operative Expenses

There will be many pre-production expenses like establishment, registration, administrative & travelling charges, interest during implementation, trial runs etc. for which an amount of Rs.1.00 lac is earmarked.

8.5 Working Capital Requirements

At 65% capacity utilisation in the first year, the working capital needs shall be as under.

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw and Packing Materials except milk	½ Month	30%	0.60	0.42	0.18
Receivables	½ Month	25%	2.00	1.50	0.50
Working Expenses	1 Month	100%	0.40	--	0.40
		Total	3.00	1.92	1.08

8.6 Cost of the Project & Means of Financing

(Rs. in lacs)

Item	Amount
Land and Building	6.20
Machinery	10.25
Miscellaneous Assets	1.25
P&P Expenses	1.00
Contingencies @ 10% on Land and Building & Plant & Machinery	1.65
Working Capital Margin	1.08
Total	21.43
Means of Finance	
Promoters' Contribution	6.23
Term Loan from Bank/FI	15.20
Total	21.43
Debt Equity Ratio	2.43 : 1
Promoters' Contribution	29%

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 processing capacity of 2,50,000 per year, utilisation in the first year is assumed to be 65% and it is restricted to 75% thereafter.

9.2 Sales Revenue at 100%

Assuming selling price of Rs.6/bottle or pouch of 200 ml annual sales for 12.50 lacs would be Rs. 75.00 lacs.

9.3 Raw and Packing Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Price (Rs.)	Value
Milk	2.35 lac ltrs	Rs.10/ltr	23.50
Sugar, Instant Coffee, Stabilizers etc.	-	-	14.25
Packing Materials @ Rs.2.50/ltr	--	--	6.25
		Total	44.00

9.4 Utilities

Annual cost of utilities at 100% would be Rs. 2.00 lacs.

9.5 Selling Expenses

A provision of 15% of total sales every year would take care of selling commission, transportation, hoardings etc.

9.6 Interest

Interest on term loan of Rs. 15.20 lacs is calculated @ 12% per annum assuming repayment in 5 years including a moratorium period of 1 year whereas on working capital from bank, it is calculated @ 14% per annum.

9.7 Depreciation

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

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	Installed Capacity	--- 2.5 lac ltrs ---	
	Capacity Utilisation	65%	75%
	Sales Realisation	48.75	56.25
B	Cost of Production		
	Raw and Packing Materials	28.60	33.00
	Utilities	1.30	1.50
	Salaries	2.40	2.75
	Stores and Spares	0.24	0.36
	Repairs & Maintenance	0.30	0.42
	Selling Expenses @ 15%	7.31	8.44
	Administrative Expenses	0.48	0.60
	Total	40.63	47.07
C	Profit Before Interest & Depreciation	8.12	9.18
	Interest on Term Loan	1.64	1.34
	Interest on Working Capital	0.27	0.35
	Depreciation	2.22	1.91
	Profit Before Tax	3.99	5.58
	Income-tax @ 20%	0.80	1.10
	Profit After Tax	3.19	4.48
	Cash Accruals	5.41	6.39
	Repayment of Term Loan	--	3.40

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No.	Particulars	Amount	
[A]	Sales		48.75
[B]	Variable Costs		
	Raw and Packing Materials	28.60	
	Utilities (70%)	0.91	
	Salaries (70%)	1.68	
	Stores & Spares	0.24	
	Selling Expenses (70%)	5.12	
	Admn Expenses (50%)	0.24	
	Interest on WC	0.27	37.06
[C]	Contribution [A] - [B]		11.69
[D]	Fixed Cost		7.10
[E]	Break-Even Point [D] ÷ [C]		61%

12.0 [A] LEVERAGES
Financial Leverage
 = EBIT/EBT
 = 5.90 ÷ 3.99
 = 1.48

Operating Leverage
 = Contribution/EBT
 = 11.69 ÷ 3.99
 = 2.93

Degree of Total Leverage
 = FL/OL
 = 1.48 ÷ 2.93
 = 0.51

[B] Debt Service Coverage Ratio (DSCR) (Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Cash Accruals	5.41	6.39	7.10	7.74	8.27
Interest on TL	1.64	1.34	0.93	0.52	0.25
Total [A]	7.05	7.73	8.03	8.26	8.52
Interest on TL	1.64	1.34	0.93	0.52	0.25
Repayment of TL	--	3.80	3.80	3.80	3.80
Total [B]	1.64	5.14	4.73	4.82	4.05
DSCR [A] ÷ [B]	4.30	1.63	1.85	2.11	2.27
Average DSCR	----- 2.43 -----				

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 21.43 lacs. (Rs. in lacs)

Year	Cash Accruals	16%	18%
1	5.41	4.66	4.58
2	6.39	4.75	4.59
3	7.10	4.55	4.32
4	7.74	4.27	3.99
5	8.27	3.94	3.61
	34.91	22.17	21.09

The IRR is around 17%.

Some of the machinery suppliers are

1. De Laval Pvt. Ltd., A-3, Abhimanshree Soc., Pashan Rd., Pune-411008. Tel No. 25675881/882/886
2. Food and Biotech Engg. Pvt Ltd., 291, Sector 37, Faridabad-121002. Tel No. 2272011/2278058
3. Indian Dairy Machinery Company Ltd., 124, GIDC Estate, Vithal Udyog Nagar, Anand-388121. Tel No. 229917/18
4. Sen Barry, 60/34, New Rohatak Rd., New Delhi-110005. Tel No. 25763541/56013312
5. Process Masters, S-97, MIDC Estate, Bhosari, Pune-411026. Tel No. 27123448.