

TOMATO KETCHUP



1.0 INTRODUCTION

Tomato Ketchup is a table product used in households, restaurants, canteens etc. It is used with sandwiches, snack food items and while cooking many vegetarian and non-vegetarian dishes. Tomatoes are not available throughout the year and their prices shoot-up during lean season. Further, tomatoes cannot be conveniently utilised on or with certain products whereas tomato sauce, ketchup and puree can. Tomatoes are perishable but ketchup has shelf life of 10-12 months. Hence, this product has become very popular and is used in large quantity.

This project profile is for setting up of a Tomato Ketchup producing unit with installed capacity of 20 MT per annum of Tomato Ketchup.

2.0 MARKET POTENTIAL

Tomatoes are extensively used for making fresh soup, as additives with many prepared vegetables and making salads. But they cannot be used as table enrichers due to their availability only during season, transportation bottlenecks and perishable nature. Tomato ketchup has become extremely popular and is extensively used for making many fastfood items, as additive in many

vegetarian and non-vegetarian food preparations. It has already made in-roads in urban, semi-urban and in rural areas as well.

Many established national and international brands are eyeing this huge Indian market. Their presence is still limited to urban and elite markets. Semi-urban and rural markets still provide an opportunity especially to a small scale entrepreneur as it can offer a low cost good product due to its distinct edge over large units. Apart from a growing household market, there are many bulk buyers like canteens, restaurants, roadside eateries, fast food joints, caterers etc. Proper marketing strategy has to be planned before launching the product.

3.0 PROCESS DETAILS

Matured and ripe tomatoes are thoroughly washed and then they are boiled in a steamjacketed kettle for smooth pulping. Pulping enables extraction of juice and separation of juice and seeds, fibres and other solid materials. Many ingredients like ginger, garlic, clove, pepper, salt, sugar, vinegar and preservatives are added to the juice and this mixture is once again cooked to make it thicker and then packed. Recovery of juice varies from 40% to 45% depending upon quality of tomatoes.

4.0 COST OF THE PROJECT

The estimated project cost is given below.

Particulars	Amount (Rs lacs)
Land & Site Development	-
Building & Civil Works	5.94
Machinery & Equipment	3.26
Misc. Fixed Assets	1.70
Preliminary & Pre-operative Expenses	0.68
Contingencies & Escalation @ 3%	0.33
Working Capital	1.24
TOTAL	13.15

4.1 Land & Site Development: No. cost has been considered for land & site development. It is assumed that the unit will be set up in own land.

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

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Work Shed cum Store (Brick wall, CGI sheet roofings, Concrete Floor)	120	4500	540000
Add: Electrification, water supply, etc @ 10%			54000
TOTAL			594000
Say (Rs. in lacs)			5.94

4.3 Machinery & Equipment: Details of machinery & equipment are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Baby Boiler	1	60000	60000
Steam Jacketed Kettle	1	40000	40000
Pulper	1	30000	30000
Stirrer	1	20000	20000
Bottle Washing & Filling Machine	1	75000	75000
Concentration Tank	1	20000	20000
Washing Tank	1	10000	10000
Weighing scale	1	10000	10000
Miscellaneous items	LS	LS	10000
Sub total			275000
Add: Transportation, taxes, etc. @ 15%			41250
TOTAL			326250
Say (Rs. in lacs)			3.26

4.4 Misc. Fixed Assets: Details of miscellaneous fixed assets are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Water supply system (STW boring, 3 HP pump set, storage, pipes & fittings)	1	100000	100000
40 HP power connection	LS	LS	50000
Furniture & Fixtures	LS	LS	10000
Miscellaneous items	LS	LS	10000
TOTAL			170000
Say (Rs. in lacs)			1.70

4.5 Preliminary & Pre-operative Expenses: Details of preliminary & pre-operative expenses are given below.

Particulars	Amount (Rs lacs)
Travelling expenses	0.20
Professional & other fees	0.20
Interest during implementation	0.18
Miscellaneous expenses	0.10
TOTAL	0.68

4.6 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of the cost of building & civil works, machinery & equipment and miscellaneous fixed assets.**4.7 Working Capital:** Details of working capital are given below.

Particulars	Period (days)	Amount (Rs lacs)		
		Yr 1	Yr 2	Yr 3
Raw Materials & Consumables	7	0.08	0.09	0.10
Power	30	0.03	0.04	0.05
Salary	30	0.33	0.33	0.33
Finished Goods	15	0.36	0.39	0.43
Receivables	15	0.44	0.52	0.59
Total		1.24	1.37	1.50
Working Capital Margin in Yr 1 (100%)	1.24			

5.0 MEANS OF FINANCE

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

Particulars	Percent	Amount (Rs lacs)
<u>EQUITY</u>		
A. Equity from Promoters	40%	5.26
B. Subsidy from Central/State Govt.	-	
<u>DEBT</u>		
Term Loan from Banks/FIs	60%	7.89
TOTAL	100%	13.15

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
<u>A. INCOME</u>					
Sales at installed capacity	18	18	18	18	18
Capacity utilisation	60%	70%	80%	80%	80%
Income from sales/annum	10.80	12.60	14.40	14.40	14.40
<u>B. OPERATING EXPENSES</u>					
Raw Materials & Consumables	4.07	4.74	5.42	5.42	5.42
Power	0.42	0.49	0.56	0.56	0.56
Salary	3.98	4.02	4.06	4.10	4.14
Repair & Maintenance	0.11	0.13	0.14	0.17	0.19
Selling Expenses	0.11	0.13	0.14	0.14	0.14
Miscellaneous Expenses	0.05	0.06	0.07	0.07	0.07
Total Operating Expenses	8.74	9.57	10.40	10.47	10.53
Less: Working expenses capitalised	1.24	0.00	0.00	0.00	0.00
Operating profit	3.30	3.03	4.00	3.93	3.87

C. FINANCIAL EXPENSES					
Depreciation	0.53	0.53	0.53	0.53	0.53
Interest on Term Loan	0.63	0.53	0.38	0.23	0.08
Net Profit	2.14	1.97	3.08	3.17	3.25
Net cash accruals	2.68	2.50	3.62	3.70	3.79
Principal Repayment	0.46	1.86	1.86	1.86	1.86

6.1 Estimation of Production Capacity: Production of tomato ketchup at installed capacity is estimated as below.

Processing capacity (kg/day in single shift of 8 hrs)	400
No. of months/annum (seasonal production)	5
No. of days/month	25
Total working days	125
Quantity of raw materials processed/annum (kg)	50000
Recovery of tomato sauce from fresh tomato (%)	40%
Total production/annum at installed capacity (MT)	20.00

6.2. Sales: Income from sales at installed capacity is estimated as below.

Particulars	%	Quantity (Nos.)	Rate (Rs)	Amount (Rs)
<u>Sale of tomato sauce bottles</u>				
(a) 1 kg	50%	10000	80	800000
(b) 500 gm	50%	20000	50	1000000
Total sales at installed capacity				1800000

6.3 Raw Materials & Consumables: Expenses on raw materials & consumables at installed capacity is estimated as below.

<u>A: Raw Materials & Additives</u>			
Raw material (fresh tomato) required at installed capacity (kg)	50000		
Total quantity of raw material required (MT)	50		
Price of fresh tomato (Rs/MT)	8000		
Expenses on raw materials & additives at installed capacity (Rs)	400000		
Add: Additives, transportation charges, etc @ 20%	80000		
<u>B: Packing Materials</u>			
Particulars	Quantity required	Rate (Rs)	Amount (Rs)
1 kg bottles	10000	5	50000
500 gms bottles	20000	3	60000
Corrugated boxes	2500	35	87500
Expenses on packing materials (Rs)			197500
Expenses on raw materials & consumables at installed capacity (Rs)			677500

6.4 Power: Expenses on power at installed capacity is estimated as below.

Connected load ((kw)	20
Avg. load factor	70%
Total working days	125
Hrs/day	8
Total power consumption (kwh)	14099
Rate per unit (Rs)	5
Expenses on power per annum at installed capacity (Rs)	70497

6.5 Salary: Expenses on salary in the 1st year is estimated as given below. It is assumed that salary expenses will increase @ 1% every subsequent year.

Particulars of Employee	Numbers	Salary/Month (Rs)	No. of months	Cost/annum (Rs)
Manager	Self	-	-	-
Skilled workers/Machine Operators	3	5000	12	180000
Salesperson	2	4000	12	96000
Helpers	2	3000	12	72000
Casual workers	4	2500	5	50000
Expenses on salary in the 1st year (Rs)				398000

6.6 Repair & Maintenance: Expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 15% every subsequent year.

Particulars	Cost (Rs)	Rate	Amount (Rs lacs)
Building & Civil Works	5.94	1%	0.06
Machinery & Equipments	3.26	1%	0.03
Misc. Fixed Assets	1.70	1%	0.02
Expenses on repair & maintenance in the 1st year (Rs)			0.11

6.7 Selling Expenses: Selling expenses have been assumed at 1% of sales.

6.8 Miscellaneous Expenses: Miscellaneous expenses have been assumed at 0.5% of sales.

6.9 Depreciation: Depreciation has been calculated by straight line method. The details of calculation are given below.

Description	Cost (Rs)	Rate	Amount/annum (Rs lacs)
Building & Civil Works	5.94	3.34%	0.20
Machinery & Equipments	3.26	7.07%	0.23
Misc. Fixed Assets	1.70	6.23%	0.11
TOTAL			0.53

6.10 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 8% per annum. Duration of Loan repayment has been considered for a period of 5 years including moratorium period of 9 months with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5
Month 1	Opening balance	7.89	7.43	5.57	3.71	1.86
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest (8%)	0.05	0.05	0.04	0.02	0.01
	Closing balance	7.89	7.27	5.42	3.56	1.70
Month 2	Opening balance	7.89	7.27	5.42	3.56	1.70
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest	0.05	0.05	0.04	0.02	0.01
	Closing balance	7.89	7.12	5.26	3.40	1.55
Month 3	Opening balance	7.89	7.12	5.26	3.40	1.55
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest	0.05	0.05	0.04	0.02	0.01
	Closing balance	7.89	6.96	5.11	3.25	1.39
Month 4	Opening balance	7.89	6.96	5.11	3.25	1.39
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest	0.05	0.05	0.03	0.02	0.01
	Closing balance	7.89	6.81	4.95	3.10	1.24
Month 5	Opening balance	7.89	6.81	4.95	3.10	1.24
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest	0.05	0.05	0.03	0.02	0.01

	Closing balance	7.89	6.65	4.80	2.94	1.08
Month 6	Opening balance	7.89	6.65	4.80	2.94	1.08
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest	0.05	0.04	0.03	0.02	0.01
	Closing balance	7.89	6.50	4.64	2.79	0.93
Month 7	Opening balance	7.89	6.50	4.64	2.79	0.93
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest	0.05	0.04	0.03	0.02	0.01
	Closing balance	7.89	6.35	4.49	2.63	0.77
Month 8	Opening balance	7.89	6.35	4.49	2.63	0.77
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest	0.05	0.04	0.03	0.02	0.01
	Closing balance	7.89	6.19	4.33	2.48	0.62
Month 9	Opening balance	7.89	6.19	4.33	2.48	0.62
	Repayment	0.00	0.15	0.15	0.15	0.15
	Interest	0.05	0.04	0.03	0.02	0.00
	Closing balance	7.89	6.04	4.18	2.32	0.46
Month 10	Opening balance	7.89	6.04	4.18	2.32	0.46
	Repayment	0.15	0.15	0.15	0.15	0.15
	Interest	0.05	0.04	0.03	0.02	0.00
	Closing balance	7.74	5.88	4.02	2.17	0.31
Month 11	Opening balance	7.74	5.88	4.02	2.17	0.31
	Repayment	0.15	0.15	0.15	0.15	0.15
	Interest	0.05	0.04	0.03	0.01	0.00
	Closing balance	7.58	5.73	3.87	2.01	0.15
Month 12	Opening balance	7.58	5.73	3.87	2.01	0.15
	Repayment	0.15	0.15	0.15	0.15	0.15
	Interest	0.05	0.04	0.03	0.01	0.00
	Closing balance	7.43	5.57	3.71	1.86	0.00
Principal Repayment		0.46	1.86	1.86	1.86	1.86
Interest		0.63	0.53	0.38	0.23	0.08

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	Total
Profit After Tax (Net Profit)	2.14	1.97	3.08	3.17	3.25	
Depreciation	0.53	0.53	0.53	0.53	0.53	
Interest	0.63	0.53	0.38	0.23	0.08	
Total	3.30	3.03	4.00	3.93	3.87	18.13
Interest	0.63	0.53	0.38	0.23	0.08	
Loan repayment	0.46	1.86	1.86	1.86	1.86	
Total	1.09	2.38	2.23	2.09	1.94	9.73
DSCR	3.02	1.27	1.79	1.89	2.00	

Average DSCR = 1.86

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	10.80	12.60	14.40
B. Variable cost			
Raw Materials & Consumables	4.07	4.74	5.42
Power	0.42	0.49	0.56
Selling Expenses	0.11	0.13	0.14
Miscellaneous Expenses	0.05	0.06	0.07
Total variable cost	4.65	5.42	6.20
C. Contribution (A-B)	6.15	7.18	8.20
D. Fixed & Semi-fixed Costs			
Salary	3.98	4.02	4.06
Repair & Maintenance	0.11	0.13	0.14
Interest on Term Loan	0.63	0.53	0.38
Depreciation	0.53	0.53	0.53
Total fixed cost	5.25	5.21	5.12
E. BREAK EVEN POINT	85.40%	72.56%	62.40%
F. BEP at operating capacity	51.24%	50.79%	49.92%
G. Cash BEP	46.02%	45.57%	44.70%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	11.23	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	1.24	0.13	0.13	0.00	0.00
Total (A)	11.23	1.24	0.13	0.13	0.00	0.00
CASH INFLOW						
Profit After Tax		2.14	1.97	3.08	3.17	3.25
Add: Depreciation		0.53	0.53	0.53	0.53	0.53
Add: Interest		0.63	0.53	0.38	0.23	0.08
Add: Salvage Value (15%)						1.68
Total (B)	0.00	3.30	3.03	4.00	3.93	5.55
NET FLOW (B-A)	-11.23	2.06	2.90	3.87	3.93	5.55

IRR = 16%

10.0 MACHINERY SUPPLIERS

- (a) Ok Engineering Work
C- 311, Sector- 10, Noida - 201 301, Uttar Pradesh, India
- (b) Cosmos International Limited
B 313-315, Somdutt Chamber-I, Bhikaji Cama Place, New Delhi - 110001, Delhi, India
- (c) YSM Biotech International
B- 96, Ground Floor, Part-2, Asoka Enclave, Sector- 37, Faridabad - 121 003, Haryana, India