

# TAMARIND POWDER



## 1.0 INTRODUCTION

Tamarind trees are grown in almost all parts of the country and India is a leading producer of tamarind fruits. Tamarind is a commonly used condiment in daily culinary practices. It is used in the preparation of sambar, rasams, soups, gravies, modified rice preparations, sweet sour sauce etc. Tamarind fruits are rarely used directly. Instead, they are soaked in water for some time and then juice is extracted manually. This process is not only clumsy but unhygienic as well. With the increasing use of tamarind in food preparations, ready to use tamarind powder has found a market place. This is because it has lesser fibre content and ready for use directly in preparations and is not cumbersome or messy to use. It is for this reason that the product finds acceptance among house wives.

This project profile is for setting up of a Tamarind Powder making unit with installed processing capacity of 200 tonnes per annum of dry tamarind fruits.

## 2.0 MARKET POTENTIAL

Dried tamarind fruits are an integral part of Indian cuisine and are extensively used in many food and snack preparations. It is a mass consumption item used round the year. Apart from individual households, it is used in large quantities in restaurants, dhabas, road-side eateries, hotels and canteens and many such places. Tamarind in powder form is easily soluble, is in compact form and very convenient to transport. With increasing health awareness and improved standards of living, tamarind powder has good market potential.

## 3.0 PROCESS DETAILS

Dried tamarind fruits are cleaned and after soaking them in water they are boiled in steam jacketed kettle for about 40-45 minutes. Then pulp is extracted in pulper and dried in drum type drier and on cooling, the final product is packed. Recovery or yield is around 45%.

## 4.0 COST OF THE PROJECT

The estimated project cost is given below.

Particulars	Amount (Rs lacs)
Land & Site Development	-
Building & Civil Works	3.58
Machinery & Equipment	5.34
Misc. Fixed Assets	2.00
Preliminary & Pre-operative Expenses	0.79
Contingencies & Escalation @ 3%	0.33
Working Capital	1.51
<b>TOTAL</b>	<b>13.55</b>

**4.1 Land & Site Development:** No cost has been considered for land & site development. It is assumed that the project 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 (Open shed, CGI roof, Concrete floor)	50	3500	175000
Store cum office (Brick wall, CGI roof, Concrete floor)	30	5000	150000
Sub-total			325000
Add: Electrification, water supply, etc @ 10%			32500
TOTAL			357500
Say (Rs. in lacs)			3.58

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
SS Jacketed Kettle	1	120000	120000
Pulper	1	60000	60000
Baby Boiler	1	60000	60000
Drum Type Dryer	1	150000	150000
Bag Sealing Machine	1	35000	35000
Miscellaneous items	LS	LS	20000
Sub-total			445000
Add: Transportation, taxes, etc @ 20%			89000
TOTAL			534000
Say (Rs. in lacs)			5.34

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Power connection (30 HP)	1	100000	100000
Water supply system (STW boring, 3 HP pump set, storage, pipes & fittings)	1	80000	80000
Furniture & fixtures	LS	LS	10000
Miscellaneous items	LS	LS	10000
TOTAL			200000
Say (Rs. in lacs)			2.00

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

Particulars	Amount (Rs lacs)
Travelling expenses	0.30
Professional & other fees	0.20
Interest during implementation	0.19
Miscellaneous expenses	0.10
TOTAL	0.79

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

Particulars	Period (Days)	Amount (Rs lacs)		
		Year 1	Year 2	Year 3
Raw Materials & Consumables	30	1.36	1.63	1.90
Power	30	0.08	0.09	0.11
Salary	30	0.39	0.40	0.40
Finished Goods	15	0.93	1.08	1.23
Receivables	15	1.02	1.22	1.42
Total		3.78	4.42	5.06
Working Capital Margin in Year 1 (40%)	1.51			

## 5.0 MEANS OF FINANCE

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

Particulars	Percent	Amount (Rs lacs)
<b>EQUITY</b>		
A. Equity from Promoters	40%	5.42
B. Subsidy from Central/State Govt.	-	
<b>DEBT</b>		
Term Loan from Banks/FIs	60%	8.13
<b>TOTAL</b>	<b>100%</b>	<b>13.55</b>

## 6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
<b>A. INCOME</b>							
Installed capacity (MT)	90	90	90	90	90	90	90
Capacity utilisation	50%	60%	70%	70%	70%	70%	70%
Production at capacity utilisation	45	54	63	63	63	63	63
Price (Rs/MT)	55000	55000	55000	55000	55000	55000	55000
Income from sales	24.75	29.70	34.65	34.65	34.65	34.65	34.65
<b>B. OPERATING EXPENSES</b>							
Raw Materials & Consumables	16.50	19.80	23.10	23.10	23.10	23.10	23.10
Power	0.94	1.13	1.32	1.32	1.32	1.32	1.32
Salary	4.80	4.82	4.85	4.87	4.90	4.92	4.95
Repair & Maintenance	0.11	0.13	0.16	0.19	0.23	0.27	0.33
Selling Expenses	0.25	0.30	0.35	0.35	0.35	0.35	0.35
Miscellaneous Expenses	0.12	0.15	0.17	0.17	0.17	0.17	0.17
Total Operating Expenses	22.72	26.33	29.94	30.00	30.06	30.13	30.21
Less: Working expenses capitalised	1.51	0.00	0.00	0.00	0.00	0.00	0.00
Operating profit	3.54	3.37	4.71	4.65	4.59	4.52	4.44
<b>C. FINANCIAL EXPENSES</b>							
Depreciation	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Interest on Term Loan	0.65	0.58	0.47	0.37	0.26	0.16	0.06
Interest on Working Capital Loan	0.36	0.42	0.49	0.49	0.49	0.49	0.49
Net Profit	2.00	1.84	3.22	3.27	3.31	3.35	3.37
Net cash accruals	2.53	2.37	3.75	3.80	3.84	3.88	3.90
Principal Repayment	0.33	1.30	1.30	1.30	1.30	1.30	1.30

**6.1 Production capacity:** Production of Tamarind Powder at installed capacity is estimated as below.

Rated processing capacity/annum (tonnes of dry tamarind fruits)	200
Yield of tamarind powder from fruits	45%
Production of chips per annum at installed capacity (tonnes)	90

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

Particulars	Unit	Quantity	Rate (Rs)	Amount (Rs)
Dry tamarind fruits	Tonnes	200	15000	3000000
Add: Packing materials, etc @ 10%				300000
Expenses on raw materials & consumables at installed capacity (Rs)				3300000

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

Connected load (kw)	22
Avg. load factor	70%

Hrs/day	8
Days/annum	300
Annual power consumption (kwh)	37598
Rate per unit (Rs)	5.00
Expenses on power at installed capacity (Rs)	187992

**6.4 Salary:** Expenses on salary in the 1<sup>st</sup> year is estimated as given below. It is assumed that salary expenses will increase @ 0.5% every subsequent year.

Particulars of Employee	Numbers	Salary/Month (Rs)	Cost/annum (Rs)
Manager	Self	-	-
Machine operators/ skilled workers	3	7000	252000
Salesperson	1	4000	48000
Helpers	5	3000	180000
Expenses on salary in the 1st year (Rs)			480000

**6.5 Repair & Maintenance:** Expenses on repair & maintenance in the 1<sup>st</sup> year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 20% every subsequent year.

Particulars	Cost (Rs)	Rate	Amount (Rs lacs)
Building & Civil Works	3.58	1%	0.04
Machinery & Equipment	5.34	1%	0.05
Misc. Fixed Assets	2.00	1%	0.02
Expenses on repair & maintenance in year 1			0.11

**6.6 Selling Expenses:** Selling expenses has been assumed at 1% of sales.

**6.7 Miscellaneous Expenses:** Misc. expenses have been assumed at 0.5% of sales.

**6.8 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	3.58	3.34%	0.12
Machinery & Equipment	5.34	5.28%	0.28
Misc. Fixed Assets	2.00	6.33%	0.13
TOTAL			0.53

**6.9 Interest on Term Loan & Principal Repayment:** Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 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	6	7
Month 1	Opening balance	8.13	7.80	6.50	5.20	3.90	2.60	1.30
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11
	Interest (8%)	0.05	0.05	0.04	0.03	0.03	0.02	0.01
	Closing balance	8.13	7.69	6.39	5.09	3.79	2.49	1.19
Month 2	Opening balance	8.13	7.69	6.39	5.09	3.79	2.49	1.19
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.05	0.04	0.03	0.03	0.02	0.01
	Closing balance	8.13	7.59	6.29	4.99	3.68	2.38	1.08
Month 3	Opening balance	8.13	7.59	6.29	4.99	3.68	2.38	1.08
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.05	0.04	0.03	0.02	0.02	0.01
	Closing balance	8.13	7.48	6.18	4.88	3.58	2.28	0.98
Month 4	Opening balance	8.13	7.48	6.18	4.88	3.58	2.28	0.98
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11

	Interest	0.05	0.05	0.04	0.03	0.02	0.02	0.01
	Closing balance	8.13	7.37	6.07	4.77	3.47	2.17	0.87
Month 5	Opening balance	8.13	7.37	6.07	4.77	3.47	2.17	0.87
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.05	0.04	0.03	0.02	0.01	0.01
	Closing balance	8.13	7.26	5.96	4.66	3.36	2.06	0.76
Month 6	Opening balance	8.13	7.26	5.96	4.66	3.36	2.06	0.76
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.05	0.04	0.03	0.02	0.01	0.01
	Closing balance	8.13	7.15	5.85	4.55	3.25	1.95	0.65
Month 7	Opening balance	8.13	7.15	5.85	4.55	3.25	1.95	0.65
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.05	0.04	0.03	0.02	0.01	0.00
	Closing balance	8.13	7.04	5.74	4.44	3.14	1.84	0.54
Month 8	Opening balance	8.13	7.04	5.74	4.44	3.14	1.84	0.54
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.05	0.04	0.03	0.02	0.01	0.00
	Closing balance	8.13	6.94	5.64	4.34	3.03	1.73	0.43
Month 9	Opening balance	8.13	6.94	5.64	4.34	3.03	1.73	0.43
	Repayment	0.00	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.05	0.04	0.03	0.02	0.01	0.00
	Closing balance	8.13	6.83	5.53	4.23	2.93	1.63	0.33
Month 10	Opening balance	8.13	6.83	5.53	4.23	2.93	1.63	0.33
	Repayment	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.05	0.04	0.03	0.02	0.01	0.00
	Closing balance	8.02	6.72	5.42	4.12	2.82	1.52	0.22
Month 11	Opening balance	8.02	6.72	5.42	4.12	2.82	1.52	0.22
	Repayment	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.04	0.04	0.03	0.02	0.01	0.00
	Closing balance	7.91	6.61	5.31	4.01	2.71	1.41	0.11
Month 12	Opening balance	7.91	6.61	5.31	4.01	2.71	1.41	0.11
	Repayment	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	Interest	0.05	0.04	0.04	0.03	0.02	0.01	0.00
	Closing balance	7.80	6.50	5.20	3.90	2.60	1.30	0.00
	Principal Repayment	0.33	1.30	1.30	1.30	1.30	1.30	1.30
	Interest	0.65	0.58	0.47	0.37	0.26	0.16	0.06

**6.10 Interest on Working Capital Loan:** Interest rate on working capital loan has been assumed at 16%. The details of calculation are given below.

(Rs. in lacs)

Particulars	Year 1	Year 2	Year 3
Total current assets	3.78	4.42	5.06
Bank Loan (60%)	2.27	2.65	3.04
Interest @ 16%	0.36	0.42	0.49

## 7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7	Total
Profit After Tax (Net Profit)	2.00	1.84	3.22	3.27	3.31	3.35	3.37	
Depreciation	0.53	0.53	0.53	0.53	0.53	0.53	0.53	
Interest	0.65	0.58	0.47	0.37	0.26	0.16	0.06	
Total	3.18	2.95	4.22	4.17	4.11	4.04	3.96	26.61
Interest	0.65	0.58	0.47	0.37	0.26	0.16	0.06	

Loan repayment	0.33	1.30	1.30	1.30	1.30	1.30	1.30	
Total	0.97	1.88	1.77	1.67	1.56	1.46	1.36	10.68
DSCR	3.27	1.57	2.38	2.50	2.62	2.76	2.92	

Average DSCR = 2.49

**8.0 BREAK EVEN POINT (BEP)**

(Rs. in lacs)

Year	1	2	3
A. Net sales	24.75	29.70	34.65
B. Variable cost			
Raw Materials & Consumables	16.50	19.80	23.10
Power	0.94	1.13	1.32
Selling Expenses	0.25	0.30	0.35
Miscellaneous Expenses	0.12	0.15	0.17
Interest on Working Capital Loan	0.36	0.42	0.49
Total variable cost	18.17	21.80	25.42
C. Contribution (A-B)	6.58	7.90	9.23
D. Fixed & Semi-fixed Costs			
Salary	4.80	4.82	4.85
Repair & maintenance	0.11	0.13	0.16
Interest on Term Loan	0.65	0.58	0.47
Depreciation	0.53	0.53	0.53
Total fixed cost	6.09	6.06	6.01
E. BREAK EVEN POINT	92.54%	76.68%	65.08%
F. BEP at operating capacity	46.27%	46.01%	45.55%
G. Cash BEP	42.25%	42.00%	41.55%

**9.0 INTERNAL RATE OF RETURN (IRR)**

(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	11.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	3.78	0.64	0.64	0.00	0.00	0.00	0.00
Total (A)	11.24	3.78	0.64	0.64	0.00	0.00	0.00	0.00
CASH INFLOW								
Profit After Tax		2.00	1.84	3.22	3.27	3.31	3.35	3.37
Add: Depreciation		0.53	0.53	0.53	0.53	0.53	0.53	0.53
Add: Interest		0.65	0.58	0.47	0.37	0.26	0.16	0.06
Add: Salvage Value								1.69
Total (B)	0.00	3.18	2.95	4.22	4.17	4.11	4.04	5.64
NET FLOW (B-A)	-11.24	-0.60	2.31	3.58	4.17	4.11	4.04	5.64

IRR = 16%

**MACHINERY SUPPLIERS**

- Shree Laxminarayan Industries  
Plot No. 2/1, Opposite Jalaram Estate, Near Narol Post Office, Narol Vatva Road, Ahmedabad - 380 050, Gujarat, India
- Pugos Technologies  
#11,Valluvar Nagar,Kamarajar road,Peelamedu, Coimbatore, Tamil Nadu, India
- TH Enterprises  
Shop no.13-6-825/1,moghalnagar ring road hyderabad, hyderabad, hyderabad, Andhra Pradesh, 500008, India