

TAPIOCA CHIPS



1.0 INTRODUCTION

The growing demand for snacks has led to the introduction of new edible food items like tapioca chips. It has a rightful place in the household menu all over the country. This tasty delicacy makes a good titbit as a snack food item, not only in households but also in parties, gatherings, picnics etc. It is nutritious and very easy to make and thus has become a popular snack item within no time. It is generally made on regional basis and nearby markets are catered to. There are not many complications in making tapioca chips and the capital cost of the project is also manageable.

2.0 PRODUCT

Tapioca chips and tapioca grains are two major snack food items. Tapioca chips have gained popularity throughout India and there are many small-scale manufacturers primarily catering to the local demand. Demand for this product is scattered throughout the country and the project can be set up in the vicinity of the market.

2.1 Certification under the PFA Act is mandatory.

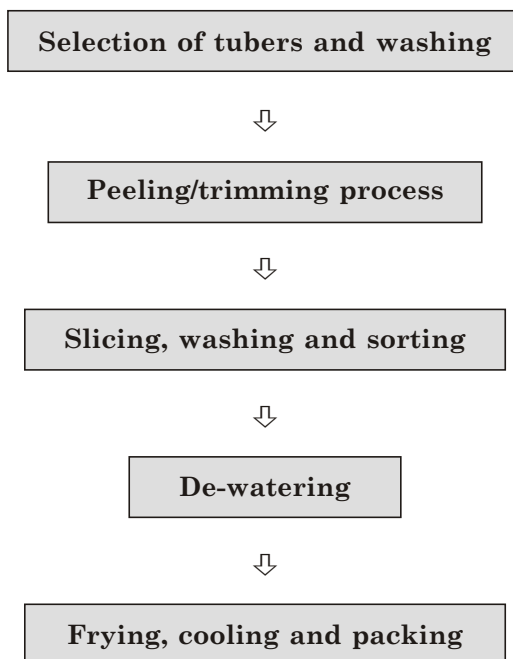
3.0 MARKET POTENTIAL

Convenience food is the demand of the day in the progressive modern world. Indians are fond of many table varieties since ages and tapioca chips is one such item. It is being used in bulk of the households in urban, semi-urban and rural areas. With changing food habits, it is no more considered as a table variety and has assumed acceptance as a snack food item. Tapioca chips are available in different shapes, colours and tastes and primarily imagination of the promoters and judgement about the consumer preferences are of utmost importance. Keeping in mind, the local preferences about tastes and palatability, changes can be made by adding

some spices or red chilly. There is a need to have proper marketing network adequately served at regular intervals.

4.0 MANUFACTURING PROCESS

Tapioca chips are manufactured from fresh roots, using semi automatic or fully automatic machineries. It involves following major operations:



Thus, the process is very simple and standardised. Average yield is around 25%.

5.0 CAPITAL INPUTS

5.1 Land and Buildings

A plot of around 200 sq.meters of land and built-up area of 100 sq.mtrs. is sufficient to have annual capacity of 120 tonnes. The land may cost Rs.60, 000/- whereas cost of construction is assumed to be Rs. 2.50 lacs.

5.2 Plant and Machinery

It is proposed to install tapioca chips making capacity of 120 tonnes per year with 300 working days and 2 shift working. The total cost of machinery is expected to be Rs. 5.00 lacs.

Particulars	Quantity/ No
Tapioca Washing Machine	1
Tapioca Slicer	1
Blancher	1
De-waterer	1
Thermostat controlled frying pans	2
Sealing Machine	1

5.3 Miscellaneous Assets

Other assets like storage bins, racks, tables, chairs, accessories etc shall be required which would cost about Rs.1.0 Lac.

5.4 Utilities

The power requirement shall be 25 HP whereas per day water requirement would be 1000 litres. The total cost of utilities would be Rs.2.00 lacs.

5.5 Raw and Packing Materials

The major raw materials are tapioca tubers and edible oil (as a cooking medium). The unit can enter into long term supply contract to ensure timely and adequate quantity of tapioca tubers at the reasonable price. Other materials like spices, salt, edible oil etc are also required in very small quantity and available locally. Printed polythene bags shall be the only packing material.

6.0 MANPOWER REQUIREMENTS

Particulars	No	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	2	2,500	5,000
Helpers	4	1,250	5,000
Salesman	1	2,500	2,500
		Total	12,500

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	1.5
Site selection and commencement of civil work	0.5
Completion of civil work and placement of orders for machinery	1.5
Erection, installation and trial runs	0.5

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Land and Building

(Rs. in lacs)

Particulars	Area (Sq.Mtrs)	Cost
Land	200	0.60
Building	100	2.50
	Total	3.10

8.2 Plant and Machinery

The total cost of machinery is estimated to be Rs. 5.00 lacs, as explained earlier.

8.3 Miscellaneous Assets

The provision for miscellaneous assets of Rs. 1.00 lac shall be adequate as explained earlier.

8.4 Preliminary and Pre-Operative Expenses:

The registration charges, establishment expenses, trial run expenses, interest during implementation etc would be around Rs. 1.50 lac.

8.5 Working Capital Requirement

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

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw and Packing Materials	½ Month	30%	0.85	0.60	0.25
Stock of Finished Goods	½ Month	25%	1.00	0.75	0.25
Receivables	½ Month	25%	1.30	1.00	0.30
Working Expenses	1 Month	100%	0.60	--	0.60
		Total	3.75	2.35	1.40

8.6 Cost of the Project and Means of Financing:

(Rs. in lacs)

Items	Amount
Land and Buildings	3.10
Plant and Machinery	5.00
Miscellaneous Assets	1.00
Preliminary and Pre-operative Expenses	1.50
Contingencies @ 10% on land and building and machinery	0.80
Working Capital Margin	1.40
Total	12.80
Means of Finance	
Promoter's Contribution	3.95
Bank Loan/ Financial Institutions	8.85
Total	12.80
Debt Equity Ratio	2.24 : 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 and Build-up:

The installed production capacity of the proposed unit would be 120 tonnes of tapioca chips every year in 300 working days of 16 hours. The capacity utilization of 65% and 80% is envisaged during the first two years.

9.2 Sales Revenue at 100% Capacity

(Rs. in lacs)

Product	Qty. in Tonnes	Selling Price Per Ton/Rs.	Value
Tapioca Chips	120	40,000	48.00

9.3 Raw and Packing Materials Required at 100%

(Rs. in lacs)

Product	Quantity (Tonnes)	Rate per Ton	Value
Tapioca Tubers	480	5,000	24.00
Edible Oil	20	35,000	7.00
Spices, salt etc.	--	--	0.36
Packing Materials	--	--	0.60
		Total	31.96

9.4 Utilities

The annual cost of utilities at 100% activity level would be Rs.2.00 lacs.

9.5 Interest

Interest on term loan of Rs. 8.85 lacs has been calculated @ 12% per annum assuming repayment in 5 years including a moratorium period of 1 year, whereas interest on working capital would be 14% per annum.

9.6 Depreciation

It has been calculated on WDV basis @ 10% on building and 15% on machinery and other assets.

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No	Particulars	1st Year	2nd Year
A	Installed Capacity	---120 MTA ---	
	Capacity Utilisation	65%	80%
	Sales Realisation	31.20	38.40
B.	Cost of Production		
	Raw and Packing Materials	20.77	25.57
	Utilities	1.30	1.60
	Salaries	1.00	1.20
	Stores and Spares	0.36	0.48
	Repairs and Maintenance	0.48	0.60
	Selling Expenses @ 10%	3.12	3.84
	Administrative Expenses	0.48	0.60
	Total	27.51	33.89
C.	Profit before Interest & Depreciation	3.69	4.51
	Interest on Term Loan	1.00	0.82
	Interest on Working Capital	0.33	0.41
	Depreciation	1.15	0.99
	Net Profit	1.21	2.29
	Income-tax @ 20%	0.11	0.45
	Profit after Tax	1.10	1.84
	Cash Accrual	2.25	2.83
	Repayment of Term Loan	--	2.00

11.0 BREAK-EVEN POINT ANALYSIS

(Rs. in lacs)

No.	Particulars	Amount	
A	Sales		38.40
B	Variable Cost		
	Raw and Packing Materials	25.57	
	Utilities (70%)	1.12	
	Salaries (70%)	0.84	
	Stores and Spares	0.48	
	Selling Expenses (70%)	2.68	
	Administrative Expenses (50%)	0.30	
	Interest on working capital	0.41	
	Total		31.40
C	Contribution (A-B)		7.00
D.	Fixed Cost		4.11
E.	Break-Even Point (D÷C)		59%

12.0 [A] LEVERAGES**Financial Leverage**

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

$$= 2.54 \div 1.21$$

$$= 2.10$$

Operating Leverage

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

$$= 5.71 \div 1.21$$

$$= 4.72$$

Degree of Total Leverage

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

$$= 2.10 \div 4.72$$

$$= 0.45$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Cash Accruals	2.25	2.83	3.22	3.55	3.95
Interest on TL	1.00	0.82	0.58	0.40	0.23
Total [A]	3.25	3.65	3.80	3.95	4.18
Interest on TL	1.00	0.82	0.58	0.40	0.23
Repayment of TL	--	2.20	2.20	2.20	2.25
Total [B]	1.00	3.02	2.78	2.60	2.48
DSCR [A] ÷ [B]	3.25	1.21	1.37	1.56	1.69
Average DSCR	----- 1.82 -----				

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 12.80 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%
1	2.25	1.94	1.91	1.87
2	2.83	2.10	2.03	1.96
3	3.22	2.06	1.96	1.86
4	3.55	1.96	1.83	1.71
5	3.95	1.88	1.73	1.59
6	4.43	1.82	1.64	1.48
7	5.08	1.80	1.60	1.42
	25.31	13.56	12.70	11.89

The IRR is around 18%.

Some of the machinery suppliers are

1. AMS Engg, Station Road, Patna, Bihar
2. Siwan Foundry, Siwan, Bihar
3. Punjab Engg. Works, Ramkrishna Samadhi Road, Kolkata
4. East end Engg. Company, 173/1, Gopalrai Thakur Rd., Kolkata-700035.
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