

**PROJECT PROFILE
ON SEED LESS
TAMARIND CAKE
UNIT**



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INTRODUCTION

Tamarind is a very common tree in India. It found all parts of the country. This slow growing long-lived marine tree reaches a height of 80-100ft (20-30 m) and a trunk of circumference of 25 ft. (7.5m). The leaves are normally latish, irregularly curried and bulged pods vary from 2 to 7 inches in long. The pods may be brown externally and at first are tender–skinned with grey, highly acid flash and soft, whitish under developed seeds. As they are matured, the pods fill out somewhat and juicy, pulp turns brown or reddish-brown. Thereafter, the skin becomes Brittle, easily cracked shell and the pulp dehydrates naturally to a sticky paste .The Tamarind seeds are hard, brown, squarish in form 1/8 to ½ inch (1-2.5 cm) in diameter and each is enclosed in a parchment like membrane.

PRODUCTS AND ITS APPLICATION

Tamarind fresh, tamarind dried and tamarind concentrate

DESIRED QUALIFICATION FOR PROMOTER

Usually in India, women’s are involved in the manufacturing process by using simple tools and manual methods.

INDUSTRY OUTLOOK/TREND

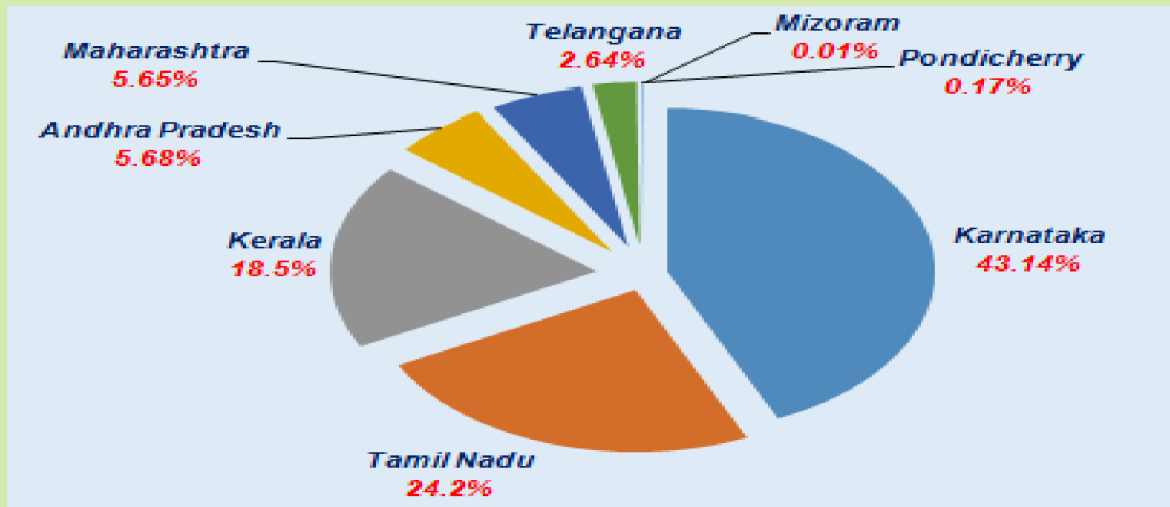
Exports of tamarind are in the form of tamarind fresh, tamarind dried and tamarind concentrate. Tamarind exports are mainly to Middle East, Syria, UK etc. India faces competition from Thailand. Tamarind dried, concentrate exports show a fluctuating trend over the years. In the year 2019-2020, fresh tamarind exported is Rs. 1908.41 lakhs and jumped to Rs. 2318.44 lakhs in 2021.

Values in Rs. Lacs						
S. No.	HS Code	Commodity	2017-2018	2018-2019	2019-2020	2020-2021 (Apr-Feb)
1	8109020	TAMARIND FRESH	5,954.26	2,902.58	1,908.41	2,318.44

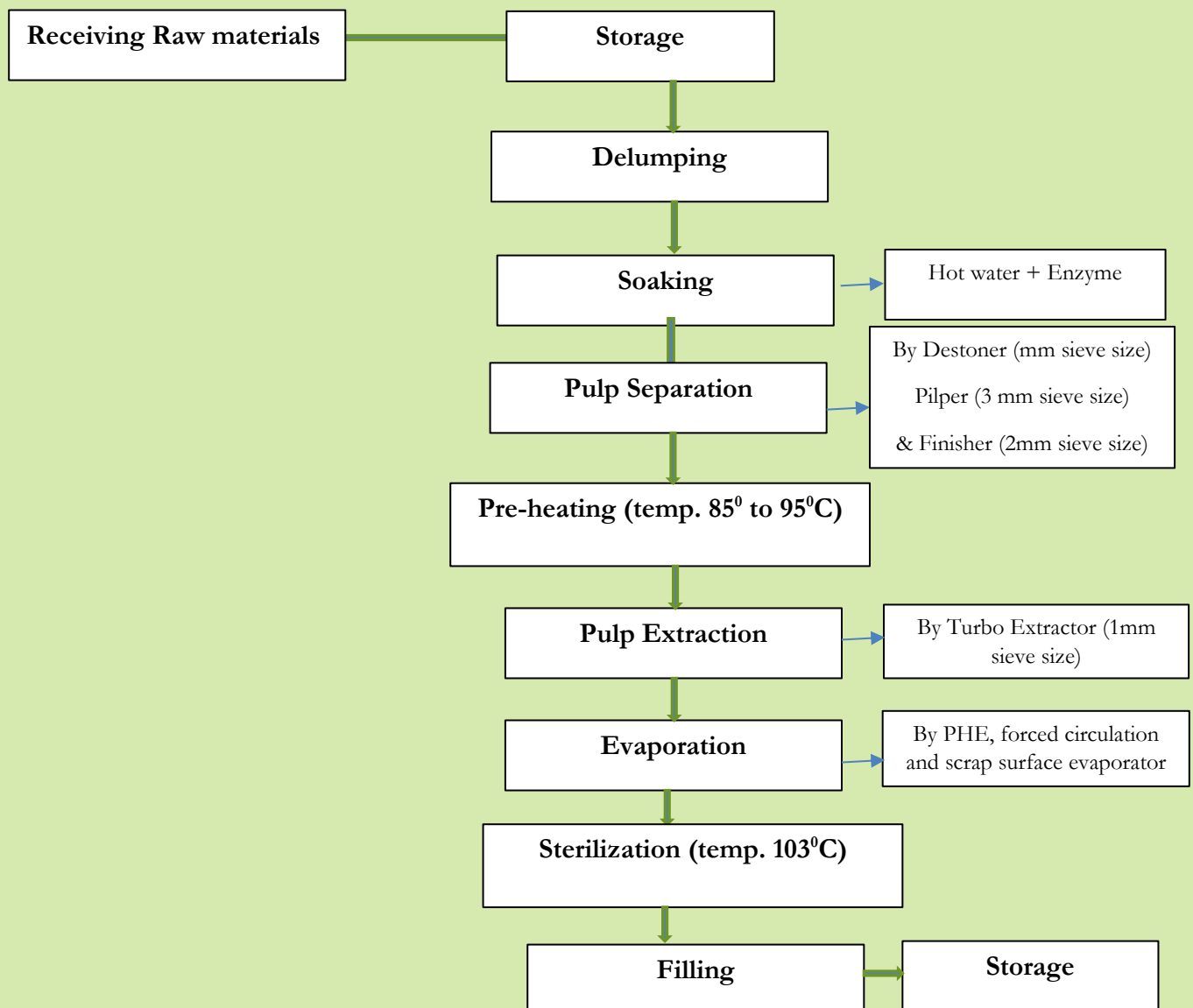
MARKET POTENTIAL AND MARKETING ISSUES, IF ANY

It is estimated that tamarind production is 98 thousand metric tons in the country. The major markets for tamarind are in Jagadapur, Indore in Madhya Pradesh, Ranchi in Bihar, Chittoor and Anantapur in Andhra Pradesh, Belgaum and Tumkur in Karnataka and Kolkata in West Bengal.

State wise share of Tamarind Production, India



TAMARIND CAKE PROCESS FLOW DIAGRAM



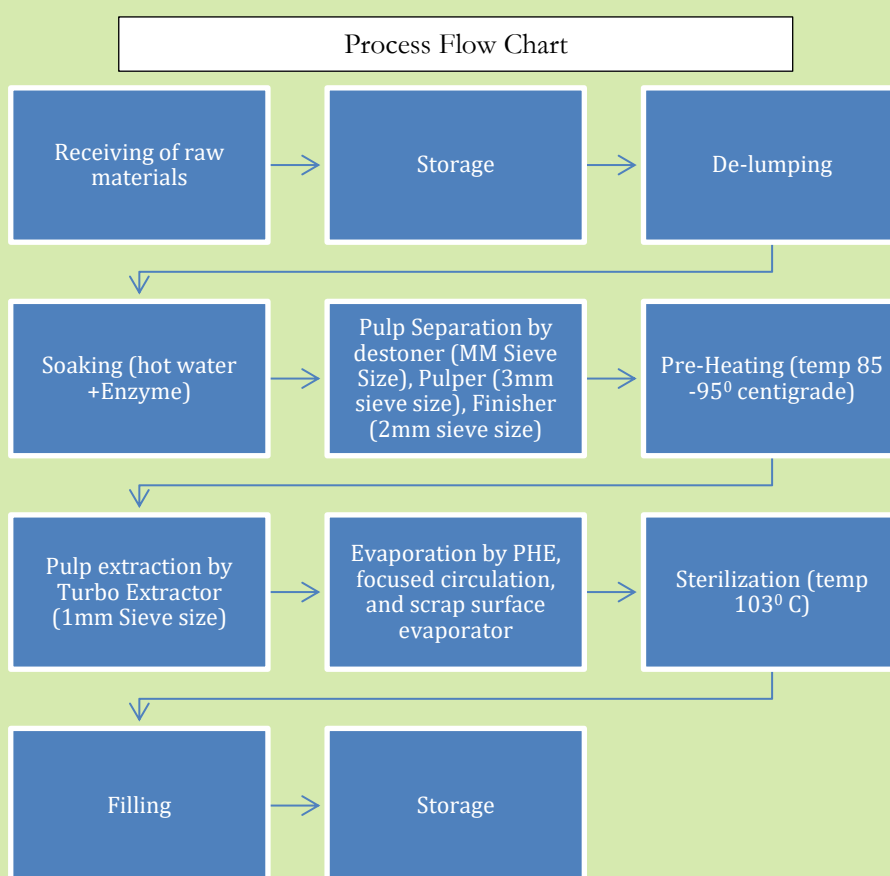
RAW MATERIAL REQUIREMENTS

Raw Tamarind, Packaging Material. The raw material is stored in cold storages for protecting the fruit from becoming black. The market pays higher price for brown or reddish brown colour of tamarind.

Sl. No.	Particulars	Quantity (Kg)	Value (Rs.)
1	Raw Tamarind	3600	208800
2	Packaging materials	Lumpsum	30000

MANUFACTURING PROCESS:

The manufacturing process at present practiced by women is by using simple tools and manual methods. Capacity 30 ton/year.



The shell of the tamarind is removed at the farms and market yards and the fruit is received in bulk ranging from 600-10,000 kg. The normal 600kgs of load is received through bullock carts or tractors and 10-ton material through trucks. The season for collection is during January. The raw material is stored in cold storages for protecting the fruit from becoming black. The market pays higher price for brown or reddish-brown colour of tamarind. It is stored in lots of 50 kg, 100 kg in gunny bags. The raw

material quality is as per BIS standard.

MANPOWER REQUIREMENT (per month)

Type	Number	Cost (Rs.)
Manager	1	20,000
Labour (1 skilled and 4 unskilled)	5	75,000
Total	6	95,000

IMPLEMENTATION SCHEDULE

Particulars	Units	Details
Land (Covered)	Sq. Ft.	500
Land (open)	Sq. Ft.	1000
Construction cost of covered area	Rs.	12 to 15 lakh (varied as per location)
If rented area, rent	Rs.	20000
Machinery & tools	Rs.	11,20,000
Tamarind dehuller machine	Rs.	50,000
Tamarind de-seeding	Rs.	75,000 to 82,000
Fruit mill	Rs.	40,000
Two stage tamarind pulper	Rs.	500,000
Steam jacketed kettles	Rs.	200,000
Insulated storage	Rs.	100,000
Single head pneumatic piston filler machine	Rs.	150,000
Flat Form (Wooden) - 2	1	2,000
Hand Tools - 5	1	3,000
GST (12%)		

OTHER EXPENSES (PER MONTH):

Sl. No	Particulars	Cost (Rs.)
1	Land rent	20,000
2	Electricity	2,000
3	Advertising & Traveling	5,000
4	Transport	20,000

5	Consumables & Storage	10,000
6	Communication & Stationery	5,000
7	Repair & Maintenance	5,000
	Total	67,000

WORKING CAPITAL (per month)

Sl. No	Particulars	Cost (Rs.)
1	Raw Material	21,000
2	Salaries & Wages	95,000
3	Other expenses	67,000
	Total	1,83,000

TOTAL CAPITAL INVESTMENT

Sl. No	Particulars	Cost (Rs.)
1	Working Capital	1,83,000
2	Machinery	11,20,000
	Total	13,03,000

COST OF PRODUCTION

Sl. No	Particulars	Cost (Rs.)
1	Total recurring cost per annum	21,96,000
2	Depreciation on machinery & equipment	1,12,000
3	Interest (10%)	21,960
	Total	23,29,960

IMPLEMENTATION SCHEDULE

Project Stages	MONTHS									
	1	2	3	4	5	6	7	8	9	10
Purchase of Land	■	■								
Completion of Building	■	■	■							
Ordering of Machinery	■	■								
Delivery of Machinery			■	■	■					
Term/Wkg Loan Sanction	■	■								

Installation of Machinery									
Commissioning of Plant									
RM/Inputs Procurement									
Manpower Appointments									
Commercial Production									

COST OF THE PROJECT

Sr. No	Costing Heads	Rs. Lakh
1	Land+ Building Expenses	20.00
3	Plant & Machinery	11.20
4	Contingency	10.00
	Total Cost of Project	41.20

SALES PROCEEDS (PER ANNUM)

Sl. No	Particulars	Quantity (KG)	Value (Rs.)
1	Seedless Tamarind Cake	30000	30,00,000
	Total		30,00,000

PROFITABILITY (BEFORE INCOME TAX)

Sl. No	Particulars	Quantity (KG)
1	Annual Gross Profit	6,70,040
2	% of profit on sales	22%
3	Break-even analysis	
3.1	Annual fixed cost	252000
3.2	Annual sales	2400000
3.3	Annual variable cost	1944000
3.4	Break-even point	27%

Break-even point

$$\frac{\text{Annual Fixed Cost} \times 100}{\text{Annual Fixed Cost} + \text{Profit}} = \%$$

PROFITABILITY CALCULATIONS

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
	Gross Sales (Lakh)	30	35	41	41	41
A	Less: (Lakh)					
1.	Recurring Cost	22.0	25.0	28.0	28.0	28.0
2.	Depreciation	1.1	1.26	1.41	1.41	1.41
3.	Interest	0.2	0.22	0.25	0.25	0.25
B	Production cost	23.2	26.5	29.6	29.6	29.6
C	Gross Profit	6.7	8.52	11.34	11.34	11.34
	Taxes @ 18%	1.21	1.53	2.04	2.04	2.04
	Net Profit	5.49	6.99	9.30	9.30	9.30

References

- Seedless tamarind cake-
http://www.nstfdc.net/UploadData/pdf/seedless_tamarind_cake.pdf
- Video Link-<https://youtu.be/NLFsPhGEcwE>
<https://youtu.be/vuokMiRdmmA>

MACHINERY SPECIFICATIONS

1. TAMARIND DEHULLER MACHINE

FUNCTION: For removal of hard skin of Tamarind.

SPECIFICATION:

- Heavy duty self-supporting MS structure.
- Consists of rotary drum with beater blades.
- Complete with feed hopper, waste discharge bottom chute and product outlet from other side.
- Complete with motor & drive arrangement covers.
- Price:** INR 50,000

2. TAMARIND DE-SEEDING MACHINE

- FUNCTION:** For de-seeding of dry tamarind without shell.

DESCRIPTION:

- Operator has to place tamarind on slow speed rotary drum
- Open tamarind will be discharged from bottom

SPECIFICATION:

- Thick gauge MS plate self-standing structure.
- Complete with rotary drum, Beater arm, Foot pedal switch.
- All necessary fittings.
- **Price:** INR 75,000 to 82,000

3. FRUIT MILL

- **FUNCTION:** For crushing of seedless fruits before pulping.

SPECIFICATION:

- Chamber made from thick plates of 12mm serration inside for crushing of Tomatoes.
- High speed rotor /chopper fitted inside 2 sets of discharge screen.
- Feed & discharge chute
- **INPUT CAPACITY:**100 to 2500 Kg / Hr
- **Price:** INR 40,000

4. TWO STAGE TAMARIND PULPER

- **FUNCTION:** For extraction of pulp of Soaked (**TAMARIND**).

SPECIFICATION:

- Pulper mounted on Square tube rigid structure.
- Coarse Screen of 3 mm dia. Perforation.
- 2 Nos. of rotary Brushes, 2 Nos. of rotary Beater blades for crushing of fruits.
- Feed hopper, Waste discharge chute and filtration Screen.
- Product outlet chute to transfer the pulp to Fine Pulper mounted below it.
- Fine Pulper will be same as above but instead of rotary beater blades there will 4 Nos. of rotary Brushes with screen perforation of 1.5 mm.
- Both pulpers are belt driven separately with 2 separate motors.
- **CAPACITY:**100 TO 5000 Kg / Hr
- **Price:** INR 500,000

5. STEAM JACKETED KETTLES

- **FUNCTION:** Cooking / Concentrating / Mixing / preparation of sugar syrup and general purpose heating with other additives etc.

CONSTRUCTION:

- Hemi spherical inner bowl made out of 4 mm thick sheet.

- Outer bowl made of 5 mm sheet.
- Teflon scrapers with stirrer.
- 50 mm Steam jacket with ribs for strengthening.
- Heavy-duty square tube structure.
- Complete with all necessary steam fittings like pressure gauge, Temperature.
- Gauge, Steam inlet valve, steam safety valve, Air vent, Y Type strainer, steam trap etc.
- **CAPACITY:**100 to 2500 Ltrs.
- **Price:** INR 200,000

6. INSULATED STORAGE TANK

- **FUNCTION:** For storage of Fruit Pulp received from Kettles before Filling.

CONSTRUCTION:

- Cylindrical in shape with conical bottom with 4 leg support with raised height.
- 50 mm glass wool insulated and clad with SS 304 sheets.
- Complete with top cover, and inlet / outlet collection etc.
- **CAPACITY:** 100 to 5000 Ltrs.
- **Price:** INR 100,000

7. SINGLE HEAD PNEUMATIC PISTON FILLER MACHINE

- **FUNCTION:** Filling the product in to bottles.

SPECIFICATION:

- Horizontally mounted piston of 500ml. Capacity mounted on rigid square Tube structure.
- 100 ml to 500 ml in single stroke
- The syringe piston is operated by pneumatic cylinder.
- Set desired quantity by easy movement of lever.
- The 20 Litres Tank is incorporated in the machine to receive product from Blending tank.
- The operator has to place empty bottle under nozzle and start the pneumatic Switch.
- **HOPPER HOLDING CAPACITY:** Approx. 20 Ltrs
- **Price:** INR 150,000

MANUFACTURES/ SUPPLIERS OF MACHINERY

- Hardam Engineers, HNO 4-11-84 Alfaran colony Aurangabad, Aurangabad-431001, Maharashtra, India

- Punjab Engineering Corporation, No. 144/1, GNT Market, Near Old Toll Kanta, Dhar Road, G.N.T Market, Indore-452002, Madhya Pradesh, India
- Shanjeev Engineering Service, 26a, Ganesh Layout 7th Street, Ganapthy, Coimbatore, Tamil Nadu, Coimbatore-641006, Tamil Nadu
- Vishwa Engineering Works, Plot No. D-99, Shendra, MIDC, Near By Whorkhard Public School, Aurangabad-431003, Maharashtra
- Anjoplus Machines – Office, Unit No1, MIT Industrial Estate, Chinchpada Agarawal Road, Opp. Mahavir Industrial Estate, Chinchpada Vasai (E), Vasai - 401208, Maharashtra
- T.H. Enterprises, 13-6-825/1, Moghal-Ka-Nala Karwan Road, Opposite Pillar No. 103, Ring Road, Hyderabad-500008, Telangana

STATUTORY/ GOVERNMENT APPROVALS

There is statutory requirement of FSSAI license for setting up of food processing industry. Moreover, MSME & GST registration, IEC Code for Export of end products and local authority clearance may be required for Shops and Establishment, for Fire and Safety requirement and registration for ESI, PF and Labour laws may be required if applicable. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

DISCLAIMER:

This is an indicative illustration of project profile; the above calculation can vary with the locations. Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further, the same have been given by way of information only and do not carry any recommendation.

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