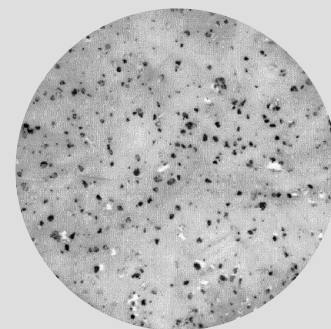


# PAPAD MANUFACTURING



## 1.0 INTRODUCTION

Papad is a popular and tasty food item in the Indian diet since many centuries. It is essentially a wafer-like product, round in shape and made from dough of powdered pulses, spices, powdered chilly and salt. Variety of pulses and proportion of pulses and spices varies from region to region depending upon preferences of local people whereas certain varieties are popular on a larger scale. Traditionally this activity was confined to household papad making but in view of increasing demand and availability of machinery (mechanisation) it has now been developed in cottage and small scale sector.

## 2.0 PRODUCT

### 2.1 Applications

Papad is a favourite item with Indians and is used as taste enricher with the main course and as a snack item. Since it is made from pulses, it is easy to digest and nutritious as well. It is very easy to make instant food item and is either fried in edible oil or simply roasted before serving. Its shelf life is 2½ to 3 months. This product can be made anywhere in the country. The note envisages location at an appropriate place in Assam.

### 2.2 Availability of technology, quality standard and compliances

CFTRI, Mysore, has successfully developed papad press. Compliance with PFA Act is mandatory. Quality standards as specified by BIS are available vide IS 2639:1984

## 3.0 MARKET POTENTIAL

Market for papad is steadily growing across the country. There are not much seasonal fluctuations but demand generally goes up by 10% to 15% during winter season. There are a couple of national brands but the market is predominantly controlled by the local brands.

This activity is yet to pick up in Assam and thus prospects for a new entrant are bright, provided quality is good and prices are competitive. It can be sold through many outlets of provision and departmental stores. Before launching the product, a quick assessment of consumer preferences is advisable.

#### 4.0 MANUFACTURING PROCESS

Papad can be manufactured from different varieties of pulses or there could be a combination of pulses as well. Adequate quantity of water is added in flour of pulses, common salt, spices and sodium bicarbonate and homogenous mixing is done to obtain dough. After about 30 minutes, small balls weighing around 7-8 grams of dough are made. These balls are then placed in papad making machine or papad press wherein these balls are pressed and circular papads are made as per the size of mould. These papads are then sun-dried but in this note drier with trolley is recommended as sun-drying may not be always feasible in Assam. Lot of 25 or 50 papads is then packed in polythene bags. CFTRI, Mysore, has successfully developed papad making press.

#### 5.0 CAPITAL INPUTS

##### 5.1 Land and Building

A plot of land of about 150 sq.mtrs. with built-up area of approximately 80 sq.mtrs. shall be adequate to house all the equipments leaving sufficient space for storage and packing. The location need not be at a prominent place as counter sales is not envisaged. The total cost of land is taken at Rs. 50,000 whereas the construction cost is assumed to be Rs.2.00 lacs.

##### 5.2 Plant and Machinery

It is suggested to have annual rated production capacity with 300 working days and 2 shift working of 60 tonnes. To install this capacity, following machinery shall be needed:

Item	Qty.	Price (Rs.)
Grinder with electric motor having 30-35 kgs/hr. capacity	1	22,000
Mixer of 20 kgs. per charge capacity with electric motor	1	20,000
Pedal-operated papad press	2	14,000
Drier with trolley and 48 trays with heating element of 9 KW	1	50,000
Extra aluminium trays	50	5,000
Sealing Machine	2	4,000
Water Storage tank	1	5,000
Laboratory Equipments	--	5,000
Weighing Scale	1	7,000
	<b>Total</b>	<b>1,32,000</b>

##### 5.3 Miscellaneous Assets

Some other assets like aluminium top tables, furniture & fixtures, baskets, drums, storage racks, aluminium/stainless steel utensils etc. shall also be required for which a provision of Rs. 40,000/- is made.

#### 5.4 Utilities

The total power requirement shall be 25 HP whereas water required for process and sanitation and other purposes shall be about 700-750 ltrs per day. The annual cost under this head at 100% capacity utilisation shall be around Rs. 50,000/-.

#### 5.5 Raw Material

The all important raw material would be flour of pulses depending upon the product mix. Since annual requirement even at 100% will not be more than 60 tonnes, availability would not be a bottleneck. Other materials like salt, spices, edible oil, preservatives etc. shall be required in small quantity and they will be available locally. Packing material like different sizes of polythene bags and corrugated boxes shall also be available locally.

### 6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	2	1,800	3,600
Helpers	4	1,200	4,800
Salesman	1	2,000	2,000
		<b>Total</b>	<b>10,400</b>

### 7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	1
Completion of civil work and placement of orders for machinery	4
Erection, installation and trial runs	1

### 8.0 DETAILS OF THE PROPOSED PROJECT

#### 8.1 Land and Building

Item	Area (Sq.Mtrs)	Cost (Rs.)
Land	160	50,000
Building	80	2,00,000
	<b>Total</b>	<b>2,50,000</b>

#### 8.2 Machinery

The total cost as spelt out earlier will be Rs. 1, 32,000/-.

#### 8.3 Miscellaneous Assets

A provision of Rs. 40,000 as explained before is considered to be sufficient.

#### 8.4 Preliminary & Pre-operative Expenses

Expenses like registration & establishment charges, trial run, interest during project implementation etc. will be around Rs.40,000/-.

#### 8.5 Working Capital Requirement

The rated production capacity of the project shall be 60 tonnes per year but it is assumed that it would operate at 60% in the first year. The working capital needs at this level shall be as under:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw Materials	½ Month	30%	0.28	0.20	0.08
Stock of Finished Goods	½ Month	25%	0.40	0.30	0.10
Receivables	1 Month	25%	0.90	0.68	0.22
Other Expenses	1 Month	100%	0.20	--	0.20
		<b>Total</b>	<b>1.78</b>	<b>1.18</b>	<b>0.60</b>

#### 8.6 Cost of the Project and Means of Financing

(Rs. in lacs)

Item	Amount
Land and Building	2.50
Machinery	1.32
Miscellaneous Assets	0.40
P&P Expenses	0.40
Contingencies @ 10% on Building and Plant & Machinery	0.38
Working Capital Margin	0.60
<b>Total</b>	<b>5.60</b>
<b>Means of Finance</b>	
Promoters' Contribution	1.75
Term Loan from Bank/FI	3.85
<b>Total</b>	<b>5.60</b>
Debt Equity Ratio	2.20 : 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 annual installed capacity shall be 60 tonnes but in view of teething troubles and other difficulties like power failure, absenteeism etc. the actual utilisation is taken at 60% and 75% respectively during first 2 years.

### 9.2 Sales Revenue at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Selling Price (Rs.)	Sales
Papad	60	32,000	19.20

### 9.3 Raw Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Rate per Ton	Value
Flour of Pulses	58	16,000	9.28
Edible Oil, Salt, Spices, Preservatives, etc.	--	--	0.60
Packing Material	--	--	0.70
		<b>Total</b>	<b>10.58</b>

### 9.4 Utilities

Annual expenditure on utilities even at 100% activity level is likely to be Rs. 50,000/- as explained earlier.

### 9.5 Interest

Interest on term loan of Rs. 3.85 lacs is calculated @ 12% per annum considering a moratorium period of 1 year and then repayment in 3 years. Interest on working capital assistance from bank is taken at 14% per annum.

### 9.6 Depreciation

The method adopted is WDV and rates considered are 10% on building and 20% on plant & machinery and miscellaneous assets.

## 10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
<b>A</b>	<b>Installed Capacity</b>	--- 60 Tonnes ---	
	Capacity Utilisation	60%	75%
	Sales Realisation	11.52	14.40
<b>B</b>	<b>Cost of Production</b>		
	Raw Materials	6.34	7.93
	Utilities	0.30	0.38
	Salaries	1.25	1.40
	Stores & Spares	0.15	0.18
	Repairs & Maintenance	0.18	0.24
	Selling Expenses @ 10%	1.15	1.44
	Administrative Expenses	0.18	0.24
	<b>Total</b>	<b>9.55</b>	<b>11.81</b>
<b>C</b>	<b>Profit before Interest &amp; Depreciation</b>	<b>1.97</b>	<b>2.59</b>
	Interest on Term Loan	0.43	0.29
	Interest on Working Capital	0.17	0.21
	Depreciation	0.59	0.50
	Net Profit	0.78	1.59
	Income-tax @ 20%	--	0.30
	Profit after Tax	0.78	1.29
	Cash Accruals	1.37	1.79
	Repayment of Term Loan	--	1.20

## 11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		14.40
[B]	Variable Costs		
	Raw Materials	7.93	
	Utilities (70%)	0.28	
	Salaries (70%)	0.98	
	Stores & Spares	0.18	
	Selling Expenses (80%)	1.01	
	Admn. Expenses (50%)	0.12	
	Interest on WC	0.21	10.71
[C]	Contribution [A] - [B]		3.69
[D]	Fixed Costs		2.10
[E]	Break-Even Point [D] ÷ [C]		57%

**12.0 [A] LEVERAGES**

**Financial Leverage**

= EBIT/EBT

= 1.38 ÷ 0.78

= 1.77

**Operating Leverage**

= Contribution/EBT

= 2.79 ÷ 0.78

= 3.56

**Degree of Total Leverage**

= FL/OL

= 1.77 ÷ 3.56

= 0.50

**[B] Debt Service Coverage Ratio (DSCR)**

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr
Cash Accruals	1.37	1.79	1.99	2.24
Interest on TL	0.43	0.29	0.18	0.07
<b>Total [A]</b>	<b>1.80</b>	<b>2.08</b>	<b>2.17</b>	<b>2.31</b>
Interest on TL	0.43	0.29	0.18	0.07
Repayment of TL	--	1.30	1.30	1.25
<b>Total [B]</b>	<b>0.43</b>	<b>1.59</b>	<b>1.48</b>	<b>1.32</b>
<b>DSCR [A] ÷ [B]</b>	<b>4.19</b>	<b>1.31</b>	<b>1.47</b>	<b>1.75</b>
<b>Average DSCR</b>	----- 2.18 -----			

**[C] Internal Rate of Return (IRR)**

Cost of the project is Rs. 5.60 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%	24%
1	1.37	1.18	1.16	1.14	1.10
2	1.79	1.33	1.29	1.24	1.16
3	1.99	1.28	1.21	1.15	1.04
4	2.24	1.24	1.16	1.08	0.95
5	2.47	1.18	1.08	0.99	0.84
	<b>9.86</b>	<b>6.21</b>	<b>5.90</b>	<b>5.60</b>	<b>5.09</b>

The IRR is around 20%.

**The machinery suppliers in Guwahati are**

1. Industrial Equipments
2. Archana Machinery Stores