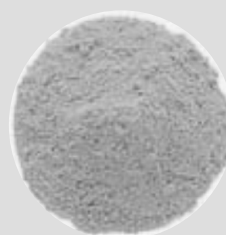


# CHILLY AND TURMERIC POWDER



## 1.0 INTRODUCTION

Spices are an integral part of the Indian diet since centuries and they are used in vegetarian and non-vegetarian food and snack preparations. They help enhance the taste of food. Some speciality spices are grown at specific locations but turmeric, chilly etc. are grown in many parts of the country and their consumption is also very high as compared to some other spices. Thus, they are fast moving items, consumed in all households and therefore the market is very scattered.

## 2.0 PRODUCTS

### 2.1 Applications

Many types of spices are used in daily life but some of them like black pepper are not used everyday whereas chilly and turmeric powder are items of daily consumption and enjoy very large market. It is, therefore, suggested to limit initial activity to these two varieties and after gaining experience and settling down in the business some other products may be added. The products can be manufactured anywhere in the country but from the consumption point of view, the preferred locations are: Gujarat, Maharashtra, M.P., etc.

### 2.2 Availability of know how, quality standards and compliances

CFTRI, Mysore, have successfully developed the technical know-how. Compliance with the PFA Act is necessary and AGMARK is advisable.

## 3.0 MARKET POTENTIAL

### 3.1 Demand and Supply

Spices impart flavour and taste to food. They are consumed every day in households, restaurants, eateries, canteens, etc. There is also a large industrial use. Food processing units

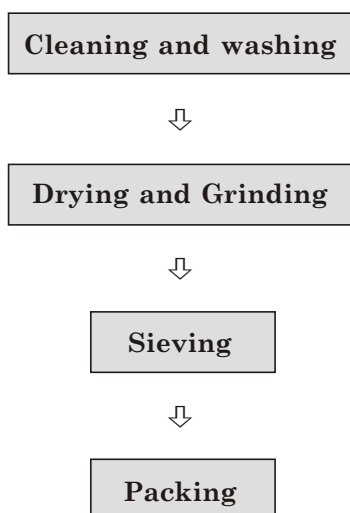
engaged in making pickles, sauces and ketchup, instant food preparations, curry powders etc. require spices in bulk. Thus, there is a fairly large and widespread market.

### 3.2 Marketing Strategy

With growing population, changing food habits and increase in disposable incomes, the demand is steadily growing. At the same time, there are some regional and national producers who have established their names and brands especially in urban markets. Hence, a new small scale unit with limited financial resources has to concentrate on semi-urban and rural markets where these brands are not much popular, price is the driving factor and consumers prefer fresh spices. Marketing will be a key success determinant in this line.

## 4.0 MANUFACTURING PROCESS

To start with, unground spices are cleaned manually to remove impurities and then washed. After drying them, they are pulverised in a grinder to convert them in powder form. Turmeric being solid by nature, it is taken to disintegrator and then pulverised. Then spices in powder form are passed through sieves to obtain uniform mesh size. Finally, packing is done in polythene bags and bags are sealed. Process loss is in the range of 5% to 7%. The Process Flow Chart is as under:



## 5.0 CAPITAL INPUTS

### 5.1 Land and Building

A plot of land of around 300 sq.mtrs. with built up area of 100 sq.mtrs. is suggested. Apart from main factory area of 50-55 sq.mtrs, other requirement will be storage and packing rooms. Considering price of land of around Rs. 300 per sq.mtr; total investment could be Rs. 90,000/- whereas building would be around Rs. 2,00,000/-.

### 5.2 Plant and Machinery

Installed capacity of 100 tonnes is suggested to begin with based on 300 working days per year and 2 shift working every day.

For this capacity, following equipments will be required.

Item	Qty.	Price (Rs.)
Spice Grinding Machines- 50Kgs. Capacity	2	70,000
Disintegrator	1	35,000
Sieves	2	12,000
Heat Sealing Machine	1	7,500
Weighing Scale	1	7,500
	<b>Total</b>	<b>1,32,000</b>

### 5.3 Miscellaneous Assets

Some other assets like furniture & fixtures, plastic tubs and buckets, working tables, storage racks etc. shall be required for which an amount of Rs. 40,000/- shall be adequate.

### 5.4 Utilities

Power requirement shall be 7.5 HP whereas water required for washing of unground spices and potable and sanitation purposes will be 750-800 ltrs. per day. Annual cost at 100% utilisation will be Rs. 90,000/-.

### 5.5 Raw Material

The only raw material will be unground chillies and turmeric. Considering process loss of about 7%, the combined annual requirement even at 100% capacity will not be more than 110 tonnes. Procuring such a small quantity spread over 12 months will not be a problem. However, it is desirable to check quality before finalising the location. Printed polythene bags of different sizes and corrugated boxes for packing would also be available locally.

## 6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	2	2,250	4,500
Helpers	4	1,250	5,000
Salesman	1	2,500	2,500
		<b>Total</b>	<b>12,000</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 & Building

Particulars	Area (Sq.Mtrs)	Cost (Rs.)
Land	300	90,000
Building	100	2,00,000

### 8.2 Plant and Machinery

As explained in detail earlier, the total cost of machinery is estimated to be Rs. 1, 32,000/-.

### 8.3 Miscellaneous Assets

As described earlier, a provision of Rs.40, 000/- has been made under this head.

### 8.4 Preliminary & Pre-operative Expenses

There are many pre-production expenses like registration, establishment and administrative charges, travelling expenses, trial run expenses, interest during implementation etc. An amount of Rs.40, 000/- would take care of them.

### 8.5 Working Capital Requirement

The project would require following working funds during first year at 60% capacity utilisation.

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw Material	1 Month	30%	1.25	0.88	0.37
Stock of Finished Goods	½ Month	25%	0.90	0.68	0.22
Receivables	½ Month	25%	1.15	0.86	0.29
Working Expenses	1 Month	100%	0.35	--	0.35
		<b>Total</b>	<b>3.65</b>	<b>2.42</b>	<b>1.23</b>

**8.6 Cost of the Project and Means of Financing** (Rs. in lacs)

Item	Amount
Land and Building	2.90
Plant and Machinery	1.32
Miscellaneous Assets	0.40
P&P Expenses	0.40
Contingencies @ 10% on Building and P&M	0.33
Working Capital Margin	1.23
<b>Total</b>	<b>6.58</b>
<b>Means of Finance</b>	
Promoters' Contribution	2.00
Loan from Bank/FI	4.58
<b>Total</b>	<b>6.58</b>
Debt Equity Ratio	2.29 : 1
Promoters' Contribution	30%

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**

As against the installed production capacity of 100 tonnes per year, the actual capacity utilisation has been assumed to be 60% in the first year and 75% in the second year.

**9.2 Sales Revenue at 100%**

Rs. in lacs

Product	Qty. (Tonnes)	Selling Price/Ton	Sales
Chilly Powder	60	40,000	24.00
Turmeric Powder	40	55,000	22.00
		<b>Total</b>	<b>46.00</b>

**9.3 Raw Materials Required at 100%**

Rs. in lacs

Product	Qty. (Tonnes)	Rate per Ton	Value
Red Chillies	64	15,000	9.60
Turmeric	43	28,000	12.04
Packing Materials	--	--	3.50
		<b>Total</b>	<b>25.14</b>

#### 9.4 Utilities

As explained earlier, total expenditure on utilities at 100% activity level is expected to be Rs. 90,000/- per year.

#### 9.5 Selling Expenses

A provision of 20% of yearly sales value has been made as the market is competitive. Apart from commission to retailers in the range of 12% to 15%, there will be other expenses like transportation, publicity in local media, etc.

#### 9.6 Interest

Interest on term loan of Rs. 4.58 lacs is calculated @ 12% per annum assuming repayment in 4 years, including a moratorium period of 1 year. Interest on working capital funds from bank is taken at 14% per annum.

#### 9.7 Depreciation

Method applied is WDV and rates are 10% on building and 20% on plant and machinery and other assets.

### 10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
<b>A</b>	<b>Installed Capacity</b>	---- 100 Tonnes ----	
	Capacity Utilisation	60%	75%
	Sales Realisation	27.60	34.50
<b>B</b>	<b>Cost of Production</b>		
	Raw Materials	15.10	18.85
	Utilities	0.54	0.68
	Salaries	1.44	1.70
	Stores & Spares	0.36	0.48
	Repairs & Maintenance	0.48	0.60
	Selling Expenses @ 20%	5.55	6.90
	Administrative Expenses	0.60	0.84
	<b>Total</b>	<b>24.07</b>	<b>30.05</b>
<b>C</b>	<b>Profit before Interest &amp; Depreciation</b>	<b>3.53</b>	<b>4.45</b>
	Interest on Term Loan	0.50	0.34
	Interest on Working Capital	0.34	0.43
	Depreciation	0.54	0.46
	Net Profit	2.15	3.22
	Income-tax @ 20%	0.43	0.67
	Profit after Tax	1.73	2.55
	Cash Accruals	2.27	3.01
	Repayment of Term Loan	--	1.40

## 11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		27.60
[B]	Variable Costs		
	Raw Materials	15.10	
	Utilities (70%)	0.38	
	Salaries (70%)	1.01	
	Stores & Spares	0.36	
	Selling Expenses (70%)	3.88	
	Admn. Expenses (50%)	0.30	
	Interest on WC	0.34	21.32
[C]	Contribution [A] - [B]		6.23
[D]	Fixed Cost		3.88
[E]	Break-Even Point [D ÷ C]		62%

## 12.0 [A] LEVERAGES

### Financial Leverage

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

$$= 2.99 \div 2.15$$

$$= 1.39$$

### Operating Leverage

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

$$= 6.23 \div 2.15$$

$$= 2.89$$

### Degree of Total Leverage

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

$$= 1.39 \div 2.89$$

$$= 0.48$$

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

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr
Cash Accruals	2.27	3.01	3.20	3.44
Interest on TL	0.50	0.34	0.19	0.08
<b>Total [A]</b>	<b>2.77</b>	<b>3.35</b>	<b>3.39</b>	<b>3.52</b>
Interest on TL	0.50	0.34	0.19	0.08
Repayment of TL	--	1.50	1.50	1.58
<b>Total [B]</b>	<b>0.50</b>	<b>1.84</b>	<b>1.69</b>	<b>1.66</b>
<b>DSCR [A] ÷ [B]</b>	<b>5.54</b>	<b>1.82</b>	<b>2.00</b>	<b>2.12</b>
<b>Average DSCR</b>	----- <b>2.87</b> -----			

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

Cost of the project is Rs. 6.58 lacs.

(Rs. in lacs)

Year	Cash Accruals	24%	28%	32%
1	2.27	1.83	1.77	1.72
2	3.01	1.96	1.84	1.73
3	3.20	1.68	1.53	1.39
4	3.44	1.46	1.28	1.13
5	3.61	1.23	1.05	0.90
	<b>15.53</b>	<b>8.16</b>	<b>7.47</b>	<b>6.87</b>

The IRR is around 34%.

**Some of the machinery suppliers are as under**

1. T. Alimohammad and Co, MJ Phule Market, Mumbai-400 003
2. Laxicon Engg, Sita Bardi, Nagpur - 440 012
3. Process Masters, S-97, MIDC Bhosari, Pune- 411026. Tel No. 27123448.
4. PRS Technologies Pvt. Ltd. D-26, NDSE Part II, New Delhi-110049.  
Tel No. 26252176/26252177, Fax : 2540789
5. SS Engg. B-25, Khanpur Ext., New Delhi-110062. Tel No. 26081475