# SPICE GRINDING UNIT – CHILLI, TURMERIC, CUMIN ETC.

## 1. INTRODUCTION:

Spices are very important and essential for adding and enhancing flavor, taste and scent in preparation of food. They are also useful in preparation of certain medicine. India is the largest producer, consumer and exporter of spices Andhra Pradesh, Gujarat, Orissa, Rajasthan are major states producing varieties of spices.

## 2. PRODUCT & ITS APPLICATION:

Spices are heavily used in Indian household for preparing food. They give aroma, taste and flavor to food. Curry powder, extensively used in Indian recipes, contains some time more than 20 different spices. Even in foreign countries, Indian spices are extensively used in preparation of food. Some of spices have medicinal properties and can be used in preparation of medicines and ayurvedic & cosmetic products.

## 3. DESIRED QUALIFICATIONS FOR PROMOTER:

Successful running this project does not require any specific qualification.

## 4. INDUSTRY LOOKOUT AND TRENDS

The global seasonings & spices market is anticipated to progress considerably over the forecast period owing to globalization, and increasing the influence of Middle Eastern and Asian seasonings in international cuisine.

The market can be segmented by product and application. Segmentation by product includes herbs, spices, salt and salt substitutes, and pepper. Salt and salt substitutes hold significant

market share owing to its dominant usage in every type of food. Industry segmentation by application includes bakery and confectionery, sauces and dressings, frozen products, convenience food and snacks, meat and poultry products, and others. Other applications include dairy products, pickles, sweets, and premixes and spice blends. The use of spices and seasonings in convenience foods and snacks is presumed to witness significant growth over the forecast period. Changing eating habits due to factors such as rising number of working women, increasing disposable income, and changing consumer lifestyle has led to an increased demand for convenience and packaged food items.

The industry is anticipated to foresee considerable growth, during both recession and expansion phases of the market. During the recession, people prefer cooking meals at home rather than going out and having meals, while in reverse times, people prefer having meals in restaurants and hotels. These seasonings serve a delight to the taste buds and help in treating various diseases, including heart ailments, cancer, diabetes, chronic inflammation, and the common cold.

The addition of seasoning enhances the taste of the meal, which has led to the increased use of these flavours among domestic consumers and hoteliers. Consumers are looking for ways to enrich their meals with improved tastes. Hence, the increasing usage of these flavours is expected to open new opportunities in the recent future. Rising health concerns are making the customers explore their remedial nature, which is anticipated to propel the market growth.

The increase in demand for seasonings to be used in overseas cuisines such as continental, French and Italian; is expected to boost the industry growth. Changing dietary habits and increasing awareness of medicinal properties of spices such as cloves, cinnamon and turmeric are anticipated to propel the regional market growth across Asian countries, including India and China.

## 5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

India is largest consumer of spices and with the growth of population; there will be huge demand of spices which is increasing. Moreover, the varied tastes and habits of the people, there is even increasing demand for high quality spice and curry/*masala* powder. Even there is a good scope for exporting spices to other countries. There is a growing demand of pure/unadulterated grounded spices from the customers who are increasingly informed these days. With various food standards such as FSSAI, FSMS, ISI and ISO standards implementation, there can be huge market growth for manufacturer for packed spice and curry powder. Raw materials are easily available from the local market anywhere in India. Marketing of spices is not complicated. Umpteen number of retail shops in and around the unit would be the prospective buyers of spices in bulk.

## 6. RAW MATERIAL REQUIREMENTS:

Various spices such as Red Chili, Haldi, Cumin seeds, Dhania, pepper, bay leaf, curry leaf, are required as essential raw materials. To pack dried powders, packing materials of food grade is required and to pack them in bunch, cardboard boxes are required.

## 7. MANUFACTURING PROCESS:

Raw spices are first cleaned and dried. This dried material then is grinded in pulverizer. Powdered spices are then packed immediately in food grade packaging and then these packets are packed in cardboard boxes for further transportation.

## 8. MANPOWER REQUIREMENT:

The enterprise requires 10employees as detailed below**:**

| Sr. No. | Designation of Employees | Salary Per Person | Monthly Salary ₹ | Number of employees required | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Year-1 | Year-2 | Year-3 | Year-4 | Year-5 |
| | **Variable Labour: Workers** | | | | | | | |
| 1 | Operator | ₹ 10,000.00 | ₹ 10,000.00 | 2 | 2 | 2 | 2 | 2 |
| 2 | Un Skilled Workers | ₹ 8,000.00 | ₹ 24,000.00 | 3 | 3 | 3 | 5 | 5 |
| | *sub-total* | | ₹ 34,000.00 | 5 | 5 | 5 | 7 | 7 |
| | **Fixed Staff:** | | | | | | | |
| 1 | Accountant | ₹ 12,000.00 | ₹ 12,000.00 | 1 | 1 | 1 | 1 | 1 |
| 2 | Store Keeper | ₹ 8,000.00 | ₹ 8,000.00 | 1 | 1 | 1 | 1 | 1 |
| 3 | Sales Staff | ₹ 12,000.00 | ₹ 24,000.00 | 3 | 3 | 3 | 4 | 4 |
| | *sub-total* | | ₹ 44,000.00 | 5 | 5 | 5 | 6 | 6 |
| | **Total** | | ₹ 78,000.00 | 10 | 10 | 10 | 13 | 13 |

## 9. IMPLEMENTATION SCHEDULE:

The project can be implemented in 9months' time as detailed below:

| Sr. No. | Activity | Time Required *(in months)* |
|---|---|---|
| 1 | Acquisition of premises | 2.00 |
| 2 | Construction (if applicable) | 2.50 |
| 3 | Procurement & installation of Plant & Machinery | 2.50 |
| 4 | Arrangement of Finance | 1.00 |
| 5 | Recruitment of required manpower | 1.00 |
| | Total time required *(some activities shall run concurrently)* | 9.00 |

## 10. COST OF PROJECT:

The project shall cost ₹ 108.79lacs as detailed below:

| Sr. No. | Particulars | ₹ in Lacs |
|---|---|---|
| 1 | Land | 15.00 |
| 2 | Building | 12.50 |
| 3 | Plant & Machinery | 11.40 |
| 4 | Furniture, other Misc. Equipments | 0.50 |
| 5 | Other Assets including Preliminary / Pre-operative expenses | 1.14 |
| 6 | Margin for Working Capital | 68.25 |
| | **Total** | **108.79** |

## 11. MEANS OF FINANCE:

Bank term loans are assumed @ 60% of fixed assets. The proposed funding pattern is as under:

| Sr. No. | Particulars | ₹ in Lacs |
|---|---|---|
| 1 | Promoter's contribution | 27.20 |
| 2 | Bank Finance | 81.59 |
| | **Total** | **108.79** |

## 12. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹68.25lacs as detailed below:

| Sr. No. | Particulars | Gross Amt | Margin % | Margin Amt | Bank Finance |
|---|---|---|---|---|---|
| 1 | Inventories | 34.13 | 0.25 | 8.53 | 25.59 |
| 2 | Receivables | 17.06 | 0.25 | 4.27 | 12.80 |
| 3 | Overheads | 17.06 | 100% | 17.06 | 0.00 |
| 4 | Creditors | - | | 0.00 | 0.00 |
| | **Total** | 68.25 | | 29.86 | 38.39 |

## 13. LIST OF MACHINERY REQUIRED:

A detail of important machinery is given below:

| Sr. No. | Particulars | UOM | Qtty | Rate (₹ in Lacs) | Value (₹ in Lacs) |
|---|---|---|---|---|---|
| | **Plant & Machinery / equipments** | | | | |
| ***a)*** | ***Main Machinery*** | | | | |
| 1 | Pulverize with motor starter and all accessories | Nos | 5 | ₹ 0.45 | ₹ 2.25 |
| 2 | Disintegrate for Haldi | Nos | 2 | ₹ 0.35 | ₹ 0.70 |
| 3 | Hot Air Tray Dryer | Nos | 3 | ₹ 0.30 | ₹ 0.90 |
| 4 | Packing, Filling and Sealing Machine | Nos | 3 | ₹ 2.00 | ₹ 6.00 |
| 5 | Weighing Scale | Nos | 2 | ₹ 0.10 | ₹ 0.20 |
| 6 | Material Handling Equipment | LS | | ₹ 0.85 | ₹ 0.85 |
| 7 | Misc. Tools | LS | | ₹ 0.50 | ₹ 0.50 |
| | *sub-total Plant & Machinery* | | | | **₹ 11.40** |
| | **Furniture / Electrical installations** | | | | |
| 1 | Office furniture and Electrification | LS | 1 | ₹ 0.50 | ₹ 0.50 |
| | *sub total* | | | | **₹ 0.50** |
| | **Other Assets** | | | | |
| 1 | preliminary and preoperative | LS | | 1.37 | ₹ 1.37 |
| | *sub-total Other Assets* | | | | **₹ 1.37** |
| | **Total** | | | | **₹ 13.04** |

All the machines and equipments are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of machines and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Some of the machinery and dies and tooling suppliers are listed here below:

1. Fry-Tech Food Equipments Private Limited
   S. No. 4, Raviraj Industrial Estate,
   Bhikhubhai Mukhi Ka Kuwa Bharwadvash,

Ramol, Ahmedabad - 380024,
Gujarat, India

2. Hindustan Vibrotech Pvt. Ltd.
Office No. 2, Ground Floor,
Vrindavan Building, Vile Parle East,
Mumbai – 400057,
Maharashtra, India

3. Electrons cooling systems Pvt. Ltd.
S-27, SIDCO Industrial Estate
Kakkalur Industrial Estate
Tiruvallur – 602003,
Tamil Nadu, India

4. Springboard Enterprises India Ltd.
1st, 2nd & 3rd Floor,
Plot No. 7, 8 & 9,
Garg Shopping Mall,
Service Centre, Rohini Sector 2
New Delhi – 110085,
Delhi, India

5. Flour Tech Engineers Private Limited
Plot No. 182, Sector 24,
Faridabad - 121005,
Haryana, India

6. P Square Technologies
3, Swami Mahal,
Gurunanak Nagar,
Off. Shankarsheth Road Bhavani Peth,

Pune - 411002,
Maharashtra, India

7. Ricon Engineers
10 To 13, Bhagwati Estate,
Near Amraiwadi Torrent Power,
Behind Uttam Dairy,
Rakhial, Ahmedabad - 380023,
Gujarat, India

8. Kamdhenu Agro Machinery
Plot No. 6, Near Power House,
Wathoda Road Wathoda,
Nagpur - 440035,
Maharashtra, India

## 14. PROFITABILITY CALCULATIONS:

| Sr. No. | Particulars | UOM | Year-1 | Year-2 | Year-3 | Year-4 | Year-5 |
|---|---|---|---|---|---|---|---|
| 1 | Capacity Utilization | % | 60% | 70% | 80% | 90% | 100% |
| 2 | Sales | ₹. In Lacs | 221.76 | 258.72 | 295.68 | 332.64 | 369.60 |
| 3 | Raw Materials & Other direct inputs | ₹. In Lacs | 169.55 | 197.81 | 226.06 | 254.32 | 282.58 |
| 4 | Gross Margin | ₹. In Lacs | 52.21 | 60.91 | 69.62 | 78.32 | 87.02 |
| 5 | Overheads except interest | ₹. In Lacs | 13.60 | 14.45 | 16.15 | 16.66 | 17.00 |
| 6 | Interest @ 10 % | ₹. In Lacs | 8.16 | 8.16 | 5.44 | 4.08 | 3.26 |
| 7 | Depreciation @ 30 % | ₹. In Lacs | 7.98 | 5.70 | 3.99 | 2.85 | 2.57 |
| 8 | **Net Profit before tax** | ₹. In Lacs | **22.47** | **32.60** | **44.04** | **54.73** | **64.19** |

The basis of profitability calculation:
This unit will have Processing Capacity of 300 MT/annum and Sales Turnover 260 MT at Rs 370 Lacs Per annum. The growth of selling capacity will be increased 10% per year. (This is assumed by various analysis and study; it can be increased according to the selling strategy.)

Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per liter. The depreciation of plant is taken at 10-12 % and Interest costs are taken at 14 -15 % depending on type of industry.

## 15. BREAKEVEN ANALYSIS:

The project shall reach cash break-even at 36.81% of projected capacity as detailed below:

| Sr. No. | Particulars | UOM | Value |
|---|---|---|---|
| 1 | Sales at full capacity | ₹. In Lacs | 369.60 |
| 2 | Variable costs | ₹. In Lacs | 282.58 |
| 3 | Fixed costs incl. interest | ₹. In Lacs | 20.26 |
| 4 | BEP = FC/(SR-VC) x 100 = | % of capacity | 23.29% |

## 16. STATUTORY / GOVERNMENT APPROVALS

The Ministry of Food Processing Industries has been operating several plan schemes for the development of processed food sector in the country during the 10th Plan. One of the schemes relates to the Technology Up-gradation/ Establishment/ Modernization of food processing industries.

The Indian food processing industry is regulated by several laws which govern the aspects of sanitation, licensing and other necessary permits that are required to start up and run a food business. The legislation that dealt with food safety in India was the Prevention of Food Adulteration Act, 1954 (hereinafter referred to as "**PFA**"). The PFA had been in place for

over five decades and there was a need for change due to varied reasons which include the changing requirements of our food industry. The act brought into force in place of the PFA is the Food Safety and Standards Act, 2006 (hereinafter referred to as "**FSSA**") that overrides all other food related laws.

FSSA initiates harmonization of India's food regulations as per international standards. It establishes a new national regulatory body, the Food Safety and Standards Authority of India (hereinafter referred to as "**FSSAI**"), to develop science based standards for food and to regulate and monitor the manufacture, processing, storage, distribution, sale and import of food so as to ensure the availability of safe and wholesome food for human consumption. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

**All food imports will therefore be subject to the provisions of the FSSA and rules and regulations which as notified by the Government on 5th of August 2011 will be applicable.**

### Key Regulations of FSSA

A. Packaging and Labelling
B. Signage and Customer Notices
C. Licensing Registration and Health and Sanitary Permits

## 17. BACKWARD AND FORWARD INTEGRATIONS

The objective of the scheme is to provide effective and seamless backward and forward integration for processed food industry by plugging the gaps in supply chain in terms of availability of raw material and linkages with the market. Under the scheme, financial assistance is provided for setting up of primary processing centres/ collection centres at farm gate and modern retail outlets at the front end along with connectivity through insulated/ refrigerated transport.

The Scheme is applicable to perishable horticulture and non-horticulture produce such as, fruits, vegetables, dairy products, meat, poultry, fish, Ready to Cook Food Products, Honey, Coconut, Spices, Mushroom, Retails Shops for Perishable Food Products etc. The Scheme

would enable linking of farmers to processors and the market for ensuring remunerative prices for agri produce.

The scheme is implemented by agencies/ organizations such as Govt. / PSUs/ Joint Ventures/ NGOs/ Cooperatives/ SHGs / FPOs / Private Sector / individuals etc.

### Backward Linkage:

- Integrated Pack-house(s) (with mechanized sorting & grading line/ packing line/ waxing line/ staging cold rooms/cold storage, etc.)
- Pre Cooling Unit(s)/ Chillers
- Reefer boats
- Machinery & equipment for minimal processing and/or value addition such as cutting, dicing, slicing, pickling, drying, pulping, canning, waxing, etc.
- Machinery & equipment for packing/ packaging.

### Forward Linkage:

- Retail chain of outlets including facilities such as frozen storage/ deep freezers/ refrigerated display cabinets/cold room/ chillers/ packing/ packaging, etc.
- Distribution center associated with the retail chain of outlets with facilities like cold room/ cold storage/ ripening chamber.

## 18. TRAINING CENTERS AND COURSES

There are few specialized Institutes provide degree certification in Food Technology, few most famous and authenticate Institutions are as follows:

1. Indian Institute of Food Science & Technology,
   Plot No.1, Near Maa-Baap ki Dargah,Opp to Nath Seeds,
   Paithan Road Aurangabad
   Aurangabad - 431005
   Maharashtra, India

2. MIT College of Food Technology, Pune
   Gate.No.140, Raj Baugh Educational Complex,
   Pune Solapur Highway,
   Loni Kalbhor, Pune – 412201
   Maharashtra, India

3. CSIR - Central Food Technological Research Institute (CFTRI)
   Cheluvamba Mansion, Opp. Railway Museum,
   Devaraja Mohalla, CFTRI Campus, Kajjihundi, Mysuru
   Karnataka – 570020

Udyamimitraportal ( link : www.udyamimitra.in ) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

## Disclaimer:

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.