



**Model Detailed Project Report**

**SAMBHAR POWDER**

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**Under the Formalization of Micro Food Processing Enterprises Scheme (Ministry of Food Processing Industries, Government of India)**



**Prepared by**

**Indian Institute of Food Processing Technology (IIFPT)**  
Pudukkottai Road, Thanjavur, Tamil Nadu  
Ministry of Food Processing Industries,  
Government of India

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<b>1.PROJECT AT A GLANCE</b>		
1. Name of the proposed project	:	<b>Sambhar Powder</b>
2. Name of the entrepreneur/FPO/SHG/Cooperative	:	
3. Nature of proposed project	:	Proprietorship/Company/Partnership
4. Registered office	:	
5. Project site/location	:	
6. Names of Partner (if partnership)	:	
7. No of share holders (if company/FPC)	:	
8. Technical advisor	:	
9. Marketing advisor/partners	:	
10. Proposed project capacity	:	240 MT/annum (50,55,60,65, 70 &80% capacity utilization from year 1 to Year 6)
11. Raw materials	:	Spices such as Coriander, Chilies, Pepper, Fenugreek, Bengal gram, Asafoetida
12. Major product outputs	:	Sambhar Powder
13. Total project cost	:	Rs. 38.50 lakhs
<input type="checkbox"/> Land development, building & civil construction	:	Rented/Leased 3000 sq. ft Rent Rs.30000 p.m.
<input type="checkbox"/> Machinery and equipment's	:	Rs. 26.00 Lakhs
<input type="checkbox"/> Utilities (Power & water facilities)	:	Included in above
<input type="checkbox"/> Miscellaneous fixed assets	:	Rs. 1 Lakh
<input type="checkbox"/> Pre-operative expenses	:	Rs. 2.00 Lakhs
<input type="checkbox"/> Contingencies	:	Rs. 2.60 Lakhs
<input type="checkbox"/> Working capital margin	:	Rs. 6.90 Lakhs
14. Working capital requirement from Bank		
<input type="checkbox"/> Year -1		Rs. 20.00 lakhs
15. Means of Finance		
<input type="checkbox"/> Promoter's contribution	:	Rs. 21.00 Lakhs
Subsidy		Rs.10.00 lakhs
<input type="checkbox"/> Term loan against Plant and Machinery	:	Rs. 21.45 Lakhs
16. Debt-equity ratio	:	1.26:1
17. Profit after Depreciation, Interest & Tax		
<input type="checkbox"/> Year -1		Rs.7.54 lakhs
<input type="checkbox"/> Year-2		Rs.11.37lakhs
<input type="checkbox"/> Year-3		Rs.14.64 lakhs
18. Average DSCR	:	4.4:1
19. IRR	:	41.82%
20. Term loan repayment	:	6 Years with 6 months holiday period
21. Pay Back period for investment	:	2.5 years

## ABOUT THE PROJECT

### 2.1 SAMBHAR POWDER

India is known as the home of spices. Out of the 70 spices listed by the international organization for standards almost all of them are grown in India. Pepper, cardamom, chilies, Ginger, Turmeric and a number of spices seeds and curry powder are some of the important powders produced and exported from India. The annual production of all these spices comes to 2 million tonnes and the export of spices and spices powders is about 0.5 million tones. The balance is internally consumed.

Domestic market for spice powders / masala powders (blend of various spices) is growing at a fast rate. A major quantity of production of spice powder originates either in the home scale or cottage level units and is distributed all over the country. It is estimated that there are about 1500 such units in the country. According to available information there are about 20-25 large companies producing packed spices are also engaged in exports. There are very few companies who have attained national market for their products. In majority of the units 50% of the product mix is contributed by coriander, chilly and turmeric powders. India exports substantial quantity of spices and spice products.

**Sambhar powder is a popular blend of spices used to make Sambhar, a popular broth which is made of sambhar powder, vegetables and cooked lentils and tamarind paste. It is consumed along with cooked rice, Idly, dosa and Vada.**

Each state has its own recipe for sambhar with variations in each ingredient. With the availability of sambhar powder in the market, its popularity has increased and one can have own choices. Some of the common ingredients of Sambhar Powder are Toor Dall, Coriander seeds, Cumin seeds, Fenugreek Pepper, Turmeric and curry leaves. Sambhar powder is a highly versatile spice blend that can work with number of ingredients.

Bureau of Indian Standards has prescribed the following standards for the spices items as given below.

IS 1797:1985 (ISO 927:1982)	Methods of test for spices and condiments (2nd revision) (IS 1797:1985) is also technically equivalent with ISO 928:1980, 930:1980, 939:1980, 941:1986 in addition to ISO 927
IS 1798:1982	Black Pepper, whole and ground (1st revision)
IS 1877:1985	Terminology for spices and condiments (2nd revision)
IS 1987:1984	Cardamom (capsules and seeds) (2nd revision)

IS 1988:1993	Ginger, whole and ground (2nd revision)
IS 1989:1992	Indian curry powder (1st revision)
IS 2322:1998	Chilies, whole and ground (powdered) (2nd revision)
IS 2323:1983	Mustard, whole and ground (1st revision)
IS 2443:1994	Coriander, whole and ground (2nd revision)
IS 2445:1984	Chili, powder (1st revision) (to be withdrawn)
IS 2447:1993	Cumin, whole (2nd revision)
IS 3576:1994	Turmeric, whole (2nd revision)
IS 3795:1993	Fenugreek, whole and ground (1st revision)
IS 3796:1993	Fennel seeds, whole (1st revision)
IS 3797:1993	Celery seeds (1st revision)
IS 4483:1979	Ajowan (1st revision)
IS 4404:1992	Cloves, whole and ground (2nd revision)
IS 4452:1987	Dehydrated Onion
IS 4811:1992	Cinnamon, whole (1st revision)
IS 5452:1994	Dehydrated Garlic (1st revision)
IS 5453(PT1):1996	Saffron, Part 1 - Specification (2nd revision)
ISO 3632-2:1993	
IS 5453(PT2):1996 ISO 3632-2:1993	Saffron, Part 2 - Method of test
IS 5832:1984	Black Pepper, Oleoresin (2nd revision) May
IS 5955:1993	Tamarind concentrate (1st revision)
IS 6364:1993	Tamarind pulp (2nd revision)
IS 7807:1975	Method of test for Asafetida
IS 7826:1984	Ginger Oleoresin (1st revision)
IS 9486:1980	Dehydrated Green Pepper
IS 10925:1984	Turmeric Oleoresin
IS 11300:1985	Caraway seeds

IS 131145:1993	Spices and condiments - Methods of sampling (1st revision)
IS 13242:1991	Amchur, raw mango powder
IS 13446:1992	Large cardamom (1st revision)
IS 13474:1992	Green pepper canned in Brine
IS 13545:1992	Garam Masala
IS 13644:1992	Dry Kokum
IS 13663:1993	Chillies oleoresin
IS 13895:1994	Tamarind powder

## **2.2 RAW MATERIAL REQUIREMENT**

The main raw materials required for manufacturing Sambhar powder are the following namely coriander seeds, Dried chili, Pepper, Turmeric, Bengal gram, Fenugreek, Asafoetida and curry leaves. These are available from local wholesale dealers in every part of India.

The requirement of raw material depends upon the capacity utilization and quality of the raw material. The process losses vary depending upon the quality and generally in the range of 5%, and the average process losses due to loss of moisture and foreign bodies and other losses are about 5%. The materials would be procured from growing centers of each product which are available in Tamilnadu Kerala and Andhra Pradesh and other states. The unit would be storing the material always in bulk so that production would be maintained uninterruptedly. There is no shortage for materials but during season time the same would be available at cheaper rates. Therefore, sufficient working funds are required to procure and store the same.

## **2.3 TECHNOLOGY**

IIFPT has all the advanced technical know on manufacturing of Sambhar Powder with respect to specific parameters' for getting good quality standards. These technologies are available through consultancy.

## **2.4. MARKET DEMAND AND SUPPLY**

India being a major producer of spices boosts stronger potential for spices supply. Spice exports contribute to nation's gross income considerably in countries like China, India, Africa and the Middle East. Spices are generally sold at premium spices and also in greater demand which can further enhance export revenues in major spice producing countries. Spices farming mechanism starts at grass root level conserving the generative and renewing capacity of the soil, plant nutrition, and soil management, yields nutritious food rich in vitality which has resistance to

diseases. Increasing demand of natural flavoring and coloring agents in food, medicinal properties and health benefits are driving the spices market. There is high demand for spices from regions like Asia Pacific, Middle East and Europe.

The global market for spices has witnessed continued demand during the last few years and is estimated to reach 83,468 kilo tons by 2022, at a CAGR of 2.84% from 2016 to 2022. Increase in versatile demand across various food and beverage segments particularly for convenience foods and beverages are likely to drive the global spices market during forecast period 2016 to 2022.

Source: Marketresearchfuture.com

India, known as the home of spices, boast a long history of trading with the ancient civilizations of Rome and China. Today, Indian spices are the most sought-after globally, given their exquisite aroma, texture, taste and medicinal value. India has the largest domestic market for spices in the world. Traditionally, spices in India have been grown in small land holdings, with organic farming gaining prominence in recent times. India is the world's largest producer, consumer and exporter of spices; the country produces about 75 of the 109 varieties listed by the International Organization for Standardization (ISO) and accounts for half of the global trading in spices.

### **Export Highlights and Key Markets**

- In FY20, spices worth US\$ 3.65 billion (Rs.21515 crore) were exported.
- During FY19, a total of 1.10 million tonnes of spices and spice products valued US\$ 2.80 billion was exported from the country as against 1.02 million tonnes valued US\$ 2.78 billion in FY18, registering an increase of 7% in volume.
- Top 10 importers of Indian spices in FY19 were US, China, Vietnam, Hong Kong, Bangladesh, Thailand, UK, UAE, Malaysia, and Sri Lanka.
- During FY19, top 10 exported spices and spice products in terms of value were chilly, mint products, spice oils & oleoresins, cumin, turmeric, pepper, curry powder/paste, cardamom seeds, other spices like Tamarind, Asafoetida, and Cassia, and Garlic.
- During FY19, India's chilly export stood at 468,500 tonnes, cumin export at 180,300 tonnes, turmeric export at 133,600 tonnes and cardamom large export at 860 tonnes.

- The total spices export during April–August 2020 was US\$ 1.56 billion and for the month of August 2020 it was US\$ 308.04 million\*.
- In FY20 (till December 2019), ginger export showed the highest growth of 47% with 19,410 tonnes, followed by cardamom with 31% at 1,060 tonnes and cumin with 14% at 7,350 tonnes.

### Spices Board of India

The Spices Board of India works towards the development and worldwide promotion of Indian spices. It provides quality control and certification, registers exporters, documents trade information and provides inputs to the central government on policy matters. The board participates in major international fairs and food exhibitions to promote Indian spices, apart from organising various domestic events.

Spices export value stood at US\$ 3.65 billion in FY20, witnessing a growth of 10% y-o-y.

Source: IBEF(India Brand equity Foundation)

There is a large scope for sambhar powder in domestic market and export market considering the ever-increasing purchasing power of the people, rapid urbanization, changed food habits towards ready to cook instant mixes and adherence to local brands in domestic markets by customers. The value addition between whole spice and spices powder is phenomenal and this will provide sustainable development in spices grinding and consumption.

### **2.5. MARKET STRATEGY**

Spices powders such as Sambhar powder are consumed in Hotels, Restaurants and homes. A market strategy covering all nearby supermarkets, grocery stores by the small units would provide ample scope for marketing. The product can be supplied at discounted prices to Restaurants, hotels, hostels, institutions etc.

### **2.6. MANUFACTURING PROCESS**

The spices are de-stoned and cleaned. Then they are roasted. The Spice Roaster Machine is used for roasting various types of Spices like Coriander, Fenugreek seeds, etc. The Products are roasted for removing moisture contents, which reduces bacterial growth and increases self-life of the Products. As the heating is carried out by indirect heating method it reduces the aroma loss. Spices powder/ Curry powder ingredients namely, chilly, turmeric, coriander, etc are fed in individual batches manually into the hopper of Micro pulveriser. It is ground to a fine powder



and the powdered spices can be collected on the other side. In order to get the fine mesh in one grinding normally two pulverizing machines are installed for grinding one after another. The dust collectors are employed to avoid pollution as part of the micro pulveriser. The cleaning, sieving and mixing operations are performed by independent machines and they can be integrated to the micro pulveriser.

From the outlet of the pulveriser, milled stock is conveyed into the hopper of sieving and grading machine where the stock is sieved into fine particles of size of 40 to 60 mesh, depending up on the product finish required. Spices are packed in polyethylene bags and again in cartons. Bulk packing is carried out in polyethylene lined jute bags or multi-ply bags of paper.

The testing instruments are provided to test the materials for moisture content, PH values, ash percentage, particle size in sieve tester etc

**FLOW CHART**

**Spices-Cleaning, Grading**

▼

**Drying -50 to 60 C for one hour**

▼

**Weighing**

▼

**Roasting- 180 degree C for 2 to 3 minutes**

▼

**Grinding, Pulverising**

▼

**Mixing, Blending**

▼

**Filling& sealing**

▼

**Packaging**

▼

**Storage**

▼

**Dispatching**

**2.7. BASIC PROJECT ASSUMPTIONS**

<b>Installed capacity</b>	<b>100 kgs of Sambhar powder per hour-240 MTs per annum</b>
<b>Working hours per day</b>	<b>8 hours</b>
<b>Working days per annum</b>	<b>300 days</b>
<b>Capacity utilization</b>	<b>Year-1-50%, Year-2-55%, Year-3-60%, Year-4-65%, Year-5-70%, Year-6-80%</b>
<b>Selling price</b>	<b>Rs.240.00 per kg (Rs.240000 per MT)</b>
<b>Raw material price per kg after considering</b>	<b>Rs.163.45 per kg</b>

waste of 5%	
<b>Consumables and Packing</b>	<b>Rs.8.00 per kg</b>
<b>Power &amp; fuel charges</b>	<b>Rs.6.50 lakhs per annum at 100% capacity utilization</b>
<b>Manpower</b>	<b>Rs.20.02 lakhs per annum</b>
<b>Other manufacturing expenses-Repairs and maintenance</b>	<b>Rs.1.20 lakhs per annum with annual increase</b>
<b>Depreciation</b>	<b>On written down value method</b>
<b>Administrative expenses-Rent, Travelling, Telephones, Printing &amp; stationery, Courier Miscellaneous office expenses</b>	<b>Rs.1.00 lakh per month with normal annual increase</b>
<b>Selling Expenses-Marketing, Advertisements and sales promotion expenses</b>	<b>5% on sales value</b>
<b>Interest on Term loan</b>	<b>11% per annum</b>
<b>Interest on working capital</b>	<b>11% per annum</b>
<b>Income tax</b>	<b>30% on profits</b>

## **2.8. FIXED CAPITAL INVESTMENT**

### **2.8. A. LAND AND BUILDING**

A building with an area of 3000 sq. ft is required for installation of machinery, storage of raw materials, finished goods and administrative office. This can be taken on Rental/Lease basis. A rent of Rs.10.00 per sq.ft is assumed which works out to Rs.30000 per month.

### **2.8.B .PLANT AND MACHINERY**

<b>S. No</b>	<b>Items</b>	<b>Qty-Nos</b>	<b>Total value Rs. lakhs</b>
1	Flour Mill Machinery -Roaster capacity 100 kg/batch with 1.5 HP motor & LPG - Firing System.	1	2.00
2	Glass wool filled SS thermal insulation	1	0.30
3	Flour Mill Machinery - Hammer mill size 25 x 18" with blower, cyclone tank, sieves(4nos)	1	4.00
4	55 HP Motor Mild steel fabricated slotted basement with vibration mount , motor pulley, V belt and guard	1	1.10
5	Flour Mill Machinery: Ribbon Blender 500 Kg and by volume 1000 Ltr., volume of vessel -1250 Ltr. with motor 7.5 HP Crompton make or	1	4.20
6	Vibro Sifter 48" dia single deck type with 2 HP motor, dust cover and sieve. MOC-Contact parts in SS 304 and frame in MS. With additional 3 sieves – 40 Mesh – 2	1	3.00

	Nos, 60 Mesh – 2 No		
7	Flour Mill Machinery-Heavy Duty Type model 612/2 with oil lubricated bearing, water cooling arrangements, sieves and cotton balloon.	1	0.60
8	Pouch Packing machine		2.00
9	Lab Equipments		2.00
	Transport & Erection		0.50
	Total (Taxes included in above)		26.00
	Contingencies		2.60
	Total		28.60

### 2.8.C. UTILITIES

Power -55 HP included in above

### 2.8.D OTHER FIXED ASSETS

Computer, Office Equipments & Furniture Rs.1.00 lakh

### 2.8.E. PRE-OPERATIVE EXPENSES

Items	Rs. lakhs
Interest during implementation period	0.90
Establishment expenses, including registrations, launching and start –up and trial runs	1.10
<b>Total</b>	<b>2.00</b>

### 2.8.F. TOTAL FIXED CAPITAL INVESTMENT A+B+C+D+E

Rs. 31.60lakhs

### 2.9. WORKING CAPITAL REQUIREMENT

					Rs. Lakhs
	Consumption	Total	Margin %	Amount	Bank Finance
	month				
Raw Materials	0.5	8.58	25%	2.15	6.44
Consumables	3	2.43	25%	0.61	1.82
Stock in process	1	0.00	25%	0.00	0.00
Finished Goods	0.5	9.78	25%	2.45	7.33
Debtors	0.25	5.76	25%	1.44	4.32
Other Expenses		0.25	100%	0.25	
		26.80		6.90	19.91
				Say	20.00

The above-mentioned working capital is required for first year's operation, based on which the Bank would provide working capital facility. From second year onwards, the internal accruals would take care of additional working capital funding. If substantial increase in sales turnover is envisaged the Bank would provide additional working capital finance on a case-to-case basis.

## 2.10. TOTAL PROJECT COST AND MEANS OF FINANCE

	<b>Rs. Lakhs</b>
<b>COST OF PROJECT</b>	
Building-Advance	0.00
Plant & machinery	26.00
Contingencies	2.60
Miscellaneous fixed assets	1.00
Preoperative expenses	2.00
Margin for working capital	6.90
<b>TOTAL</b>	
	<b>38.50</b>
<b>MEANS OF FINANCE</b>	
Capital	7.05
Subsidy	10.00
Term Loan	21.45
<b>TOTAL</b>	<b>38.50</b>

- A Central subsidy may be available to the tune of 35% on cost of Plant and machinery as per policies of different state subsidies. This may work out to Rs.10.00 lakhs (35% of Rs.28.60 lakhs).

## 2.11. MANPOWER

<b>MANPOWER</b>			
Category	Nos	Per month salary	Total
		Rs.	Rs.
Manager	1	16000	16000
Supervisors	1	15000	15000
Workers	6	10000	60000
Security	2	7000	14000
Accounts/Office Assistants	1	10000	10000
Marketing	3	8000	24000
Total	14		139000
Annually			16.68
Add 20 % benefits			3.34
Total			20.02

## 2.12.FINANCIAL ANALYSIS

### COST OF PRODUCTION AND PROFITABILITY

Rs. Lakhs

Years	1	2	3	4	5	6
<b>Installed capacity</b>						
Sambhar Powder-MTs	240	240	240	240	240	240
Utilization	50%	65%	60%	65%	70%	80%
<b>Production</b>						
Sambhar Powder-MTs	120	156	144	156	168	192
<b>Sales-Qty-after maintaining closing stock</b>						
Sambhar Powder-MTs	115.21	131.33	143.49	155.50	167.50	191.02
Selling Price per MT-Rs lakhs	2.40					
<b>SALES-Rs lakhs</b>	<b>276.50</b>	<b>315.19</b>	<b>344.38</b>	<b>373.20</b>	<b>402.00</b>	<b>458.45</b>
<b>COST OF PRODUCTION</b>						
Raw materials	205.95	226.54	247.14	267.73	288.33	329.52
Consumables	9.72	10.69	11.66	12.64	13.61	15.55
Power & Fuel	3.37	3.71	4.05	4.38	4.72	5.40
Wages & Salaries	20.02	21.02	22.07	23.17	24.33	25.55
Repairs & maintenance	1.20	1.32	1.45	1.60	1.76	1.84
Depreciation	4.69	3.99	3.40	2.89	2.46	2.10
	244.94	267.27	289.77	312.41	335.20	379.96
Add: Opening stock in process	0.00	0.00	0.00	0.00	0.00	0.00
	244.94	267.27	289.77	312.41	335.20	379.96
Less: Closing stock in process	0.00	0.00	0.00	0.00	0.00	0.00
Total cost of production	244.94	267.27	289.77	312.41	335.20	379.96
Add: Opening. Stock finished goods	0.00	9.78	11.07	12.02	12.96	13.91
	244.94	277.05	300.84	324.43	348.16	393.87
Less: Closing stock finished goods	9.78	11.07	12.02	12.96	13.91	15.73
Total cost of Sales	235.16	265.98	288.82	311.47	334.25	378.14
General & Admn. Expenses	12.00	12.60	13.23	13.89	14.58	15.31
Selling expenses	13.83	15.76	17.22	18.66	20.10	22.92
Interest on Term Loan	2.31	1.90	1.43	0.95	0.48	0.13
Interest on WC	2.29	2.50	2.50	2.50	2.50	2.50
Total cost including administrative cost	265.59	298.74	323.20	347.47	371.91	419.00

Operative profit	10.91	16.45	21.18	25.73	30.09	39.45
Taxation	3.37	5.08	6.55	7.95	9.30	12.19
Net profit	7.54	11.37	14.64	17.78	20.79	27.26
Add: Depreciation	4.69	3.99	3.40	2.89	2.46	2.10
Total Cash accruals	12.23	15.36	18.03	20.67	23.25	29.36
PBDIT	20.20	24.84	28.51	32.07	35.53	44.18
PBDIT/Sales	7%	8%	8%	9%	9%	10%

### 2.13. REPAYMENT SCHEDULE

Year	1	2	3	4	5	6
No of instalments	6	12	12	12	12	6
Opening Balance	21.45	19.29	14.97	10.65	6.33	2.01
Monthly repayment	0.36	0.36	0.36	0.36	0.36	0.36
Annual repayment	2.16	4.32	4.32	4.32	4.32	2.01
Closing balance	19.29	14.97	10.65	6.33	2.01	0.00
Interest rate	11.00%					
Interest per annum	2.31	1.90	1.43	0.95	0.48	0.13

## 2.14. ASSETS DEPRECIATION (WRITTEN DOWN VALUE METHOD)

<b>DEPRECIATION</b>							
						<b>Rs. In Lakhs</b>	
<b>Year</b>		1	2	3	4	5	6
<b>WDV</b>							
<b>Plant &amp; machinery</b>							
Opening Balance		28.60	26.01	22.11	18.79	15.97	13.58
Add: additions		2.00	-	-	-	-	-
Less: Deletions		-	-	-	-	-	-
Less: Depreciation	<b>15.00%</b>	4.59	3.90	3.32	2.82	2.40	2.04
Closing balance		26.01	22.11	18.79	15.97	13.58	11.54
<b>Other Miscellaneous assets</b>							
Opening Balance		1.00	0.90	0.81	0.73	0.66	0.59
Add: additions		-	-	-	-	-	-
Less: Deletions		-	-	-	-	-	-
Less: Depreciation	<b>10.00%</b>	0.10	0.09	0.08	0.07	0.07	0.06
Closing balance		0.90	0.81	0.73	0.66	0.59	0.53
<b>Summary</b>							
Opening Balance		29.60	26.91	22.92	19.52	16.63	14.17
Add: additions		2.00	-	-	-	-	-
Less: Deletions		-	-	-	-	-	-
Less: Depreciation		4.69	3.99	3.40	2.89	2.46	2.10
Closing balance		26.91	22.92	19.52	16.63	14.17	12.07



**2.15.FINANCIAL ASSESSMENT OF THE PROJECT**  
**IRR (Internal Rate of Return) and NPV( Net Present Value)**

		<b>CALCULATI ON OF INTERNAL RATE OF RETURN</b>					Rs.lakh s	
	<b>Cash</b>	Cash	Inflow s		<b>Total Cash</b>	<b>Net</b>	Discou nt	Discount ed
	<b>Out flows</b>	Profit	Intere st	Depreciati on	<b>Inflo w</b>	<b>Cash</b>	Rates	Cash
		After Tax				<b>Inflo w</b>	41.82	Flow
Year- 0	38.50					- 38.50	1	
1	20.00	7.54	4.60	4.69	16.83	-3.17	0.705	-2.23
2		11.37	4.40	3.99	19.76	19.76	0.497	9.82
3		14.64	3.93	3.40	21.96	21.96	0.351	7.70
4		17.78	3.45	2.89	24.12	24.12	0.247	5.96
5		20.79	2.98	2.46	26.23	26.23	0.174	4.57
6		27.26	2.50	2.10	31.86	31.86	0.123	3.92
7		27.26	2.50	1.78	31.54	31.54	0.087	2.73
8		27.26	2.50	1.51	31.27	31.27	0.061	1.91
9		27.26	2.50	1.28	31.04	31.04	0.043	1.34
10		27.26	2.50	1.09	30.85	30.85	0.030	0.94
11		27.26	2.50	0.93	30.69	30.69	0.021	0.66
12		27.26	2.50	0.79	30.55	30.55	0.015	0.46
13		27.26	2.50	0.67	30.43	30.43	0.011	0.32
14		27.26	2.50	0.57	30.33	30.33	0.008	0.23
15		27.26	2.50	0.48	30.24	30.24	0.005	0.16
						Total		38.49
						IRR	41.82%	41.82

**CALCULATION OF NET PRESENT  
VALUE**

Rs.  
Lakhs

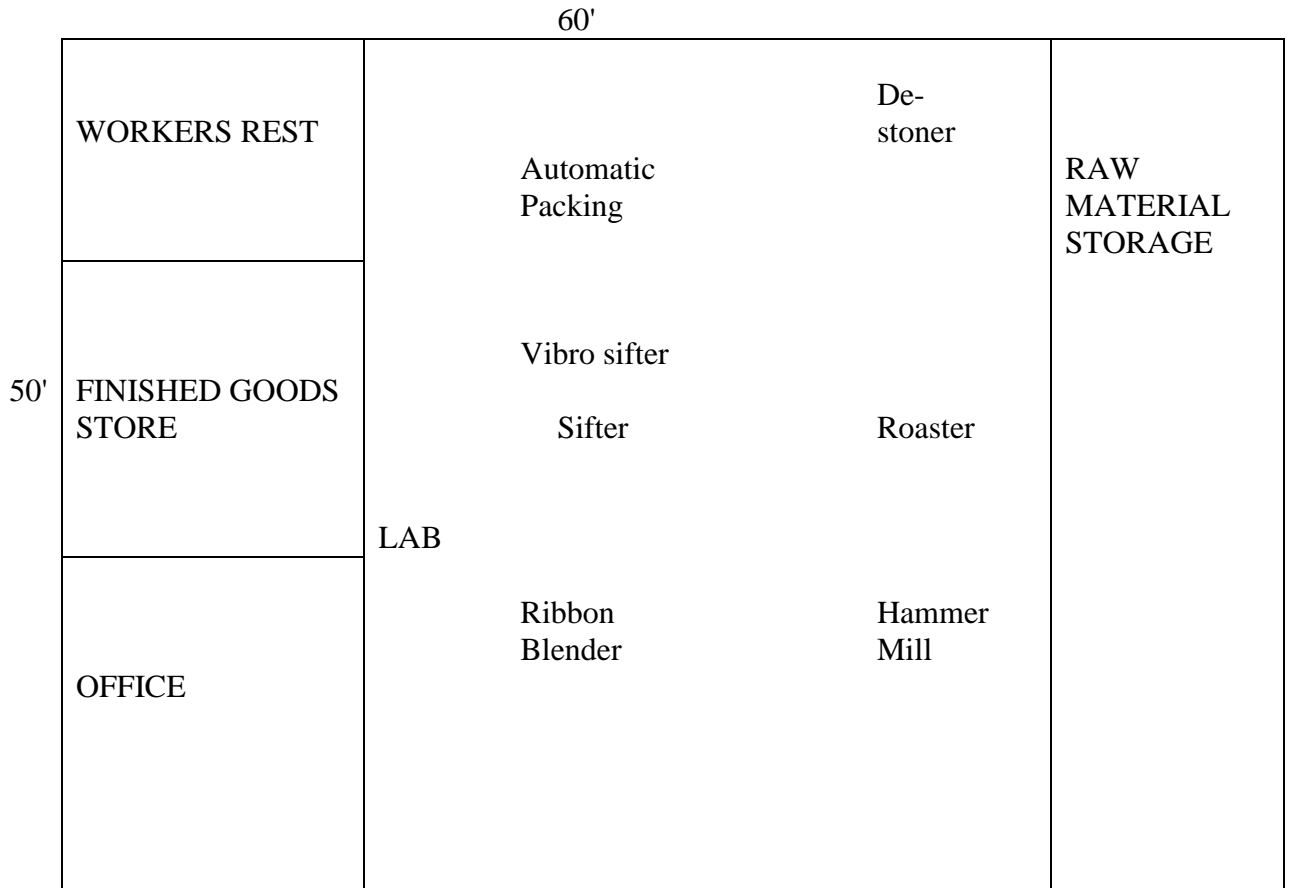
	Cash	Cash	Inflows		Total	Net	Discount	Discounted
	Out	Profit	Interest	Depreciation	Inflow	Cash	Rates	Cash
	flows	After				Inflow	12	Flow
		Tax						
Year-0	38.50						1	
1	20.00	7.54	4.60	4.69	16.83	-3.17	0.893	-2.83
2		11.37	4.40	3.99	19.76	19.76	0.797	15.75
3		14.64	3.93	3.40	21.96	21.96	0.712	15.63
4		17.78	3.45	2.89	24.12	24.12	0.636	15.33
5		20.79	2.98	2.46	26.23	26.23	0.567	14.88
6		27.26	2.50	2.10	31.86	31.86	0.507	16.14
7		27.26	2.50	1.78	31.54	31.54	0.452	14.27
8		27.26	2.50	1.51	31.27	31.27	0.404	12.63
9		27.26	2.50	1.28	31.04	31.04	0.361	11.19
10		27.26	2.50	1.09	30.85	30.85	0.322	9.93
11		27.26	2.50	0.93	30.69	30.69	0.287	8.82
12		27.26	2.50	0.79	30.55	30.55	0.257	7.84
13		27.26	2.50	0.67	30.43	30.43	0.229	6.97
14		27.26	2.50	0.57	30.33	30.33	0.205	6.21
15		27.26	2.50	0.48	30.24	30.24	0.183	5.52
			Residual value of Fixed assets- Land			0.00	0.183	0.00
			Current assets			0.00	0.183	0.000
						Total		158.30
				Original Project Cost				38.50
				Net Present value				119.80

**CALCULATION OF  
BREAK EVEN LEVEL**

<b>Year</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Installed capacity - MTs	300	300	300	300	300	300
Capacity utilisation	50%	65%	60%	65%	70%	80%
Sales	276.50	315.19	344.38	373.20	402.00	458.45
Less variable Expenses						
Raw materials	205.95	226.54	247.14	267.73	288.33	329.52
Consumables	9.72	10.69	11.66	12.64	13.61	15.55
Power	3.37	3.71	4.05	4.38	4.72	5.40
Selling expenses	13.83	15.76	17.22	18.66	20.10	22.92
Interest on Working capital	2.29	2.50	2.50	2.50	2.50	2.50
Sub total	235.15	259.20	282.57	305.91	329.25	375.89
Less variation in closing stock	9.78	1.29	0.95	0.94	0.95	1.82
Total variable cost	225.37	257.91	281.62	304.97	328.30	374.07
Contribution-C	51.13	57.28	62.76	68.23	73.70	84.38
Fixed costs						
Wages & Salaries	20.02	21.02	22.07	23.17	24.33	25.55
Other Mfg. Expenses-Repairs	1.20	1.32	1.45	1.60	1.76	1.84
Depreciation	4.69	3.99	3.40	2.89	2.46	2.10
Admn salary	0.00	0.00	0.00	0.00	0.00	0.00
General & Admn. Expenses	12.00	12.60	13.23	13.89	14.58	15.31
Interest on Term Loan	2.31	1.90	1.43	0.95	0.48	0.13
Total fixed costs-FC	40.22	40.83	41.58	42.50	43.61	44.93
Profit Before Tax	10.91	16.45	21.18	25.73	30.09	39.45
BEP=FC/C*capacity utilization	39%	46%	40%	40%	41%	43%
Cash BEP=FC-Dep.*capcity utilstn	35%	42%	37%	38%	39%	41%

## 2.16.PLANT LAY OUT

### PLANT LAY OUT -SAMBHAR POWDER PLANT



## 2.17. Machinery Suppliers

1. The Entrepreneurs have to identify suitable Machinery suppliers who are available on Machinery suppliers list in Google Data and the quotations, their past performance in the field and machine capacity have to be called for before selecting the Machinery. IIFPT can be contacted in case consultation is required.
2. List of suppliers state wise also can be found out by browsing through State wise list.

### **3. Limitations of the Model DPR and Guidelines for Entrepreneurs**

#### **3.1. Limitations of the Model DPR**

- i. This model DPR has provided only the basic standard components and methodology to be adopted by an entrepreneur while submitting a proposal under the Formalization of Micro Food Processing Enterprises Scheme of MoFPI.
- ii. This is a model DPR made to provide general methodological structure not for specific entrepreneur/crops/location. Therefore, information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of his business, details of proposed DPR, project location, raw material base/contract sourcing, entrepreneurs own SWOT analysis, detailed market research, rationale of the project for specific location, community advantage/benefit from the project, employment generation and many more detailed aspects not included.
- iii. The present DPR is based on certain assumptions on cost, prices, interest, capacity utilization, output recovery rate and so on. However, these assumptions in reality may vary across places, markets and situations; thus, the resultant calculations will also change accordingly.
- iv. This particular DPR is made on three components of means of finance i.e. grant, owner's contribution and loan/debt as followed in many central sector schemes. However, if the DPR is for credit linked subsidy then the calculation may slightly change without changes in the general structure and methodology adopted in the DPR.

#### **3.2. Guidelines for the Entrepreneurs**

- i. The success of any prospective food processing project depends on how closer the assumptions made in the initial stage are with the reality of the targeted market/place/situation. Therefore, the entrepreneurs must do its homework as realistic as possible on the assumed parameters.
- ii. This model DPR must be made more comprehensive by the entrepreneur by including information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of entrepreneur's business, project location, raw material base/contract sourcing, entrepreneurs own SWOT analysis, detailed market research, comprehensive dehydrated product mix based on demand, rationale of the project for specific location, community advantage/benefit from the project, employment generation, production/availability of the raw materials/crops in the targeted area/clusters and many more relevant aspects for acceptance and approval of the competent authority.
- iii. The entrepreneur must be efficient in managing the strategic, financial, operational, material and marketing aspects of a business. In spite of the assumed parameter being closely realistic, a project may become unsustainable if the entrepreneur does not possess the required efficiency in managing different aspects of the business and respond effectively in changing situations.
- iv. The machineries should be purchased after thorough market research and satisfactory demonstration.
- v. The entrepreneur must ensure uninterrupted quality raw materials' supply and maintain

optimum inventory levels for uninterrupted operations management.

vi. The entrepreneur must possess a strategic look to steer the business in upward trajectory.

vii. The entrepreneur must maintain optimum (not more or less) inventory, current assets. Selecting optimum source of finance, not too high debt-equity ratio, proper capital budgeting and judicious utilization of surplus profit for expansion is must.

viii. The entrepreneur must explore prospective markets through extensive research, find innovative marketing strategy, and maintain quality, adjust product mix to demand.

ix. The entrepreneur must provide required documents on land, financial transaction, balance sheet, further project analysis as required by the competent authority for approval.

x. The entrepreneur must be hopeful and remain positive in attitude.