

# BESAN



## 1.0 INTRODUCTION

Gram dal milling is an important industry supplying flour of gram dal (Besan) to mankind. Flour milling has been known from a very early date. Besan is used for day to day food products in houses of rich and poor for variety of tastes and has several uses across the country and throughout the year. It is made from Gram dal and is very popular especially in Western part of the country. It is used in sweet as well as spicy food and snacks preparations. This project can be set up in many States of India as Gram Dal is cultivated almost throughout the country. The preferred locations are Maharashtra and Gujarat.

## 2.0 PRODUCTS

Gram Flour (Besan) is the most common flour used by the sweet makers, hotels and households for various preparations. Many food items are prepared by addition of spices, sugar etc. It has got fairly long shelf-life. Certification under the PFA Act is necessary.

## 3.0 MARKET POTENTIAL

### 3.1 Demand and Supply

Indians by nature are fond of sweet as well as spicy food and Gram flour which is popularly known as “Besan” is an important ingredient in such preparations. It is a versatile product used in many preparations round the year. Apart from individual households, there are some institutional bulk consumers like restaurants, other eateries, hostels and canteens, clubs, caterers, etc. It is a very commonly used item in the Indian kitchens and thus enjoys continuous market throughout the year. It is being manufactured in several States including Gujarat. Thus there will be competition from the existing manufacturers. Market for this product is growing continuously due to more and more applications, increasing population and its easy availability.

### **3.2 Marketing Strategy:**

Hence, a new entrant has to plan marketing strategy systematically ensuring adequate network backed up by good quality and competitive price. It is envisaged that initially the unit would concentrate on bulk supplies to make initial inroads in market and thereafter gradually enter the consumer market.

## **4.0 MANUFACTURING PROCESS**

The process of manufacturing quality besan or gram flour involves four major processes, as explained below.

- **Cleaning** - Eliminate pebbles, broken grains and other impurities from Gram.
- **Conditioning** - Based on physical properties of gram dal, remove other coloured gram halves. Water content, if any, should be removed by sun-drying to maintain minimum 12 to 14% moisture.
- **Milling** - The gradual milling system should be adopted for milling and operation consists of breaking, scalping and purification, reduction and dressing.
- **Finishing** - Sometimes, finished excellent flour (besan) is mixed to obtain a standard and uniform desired properties, characteristics and colour.

The process is simple compared to wheat, rice, maize milling units.

## **5.0 CAPITAL INPUTS**

### **5.1 Land and Buildings**

Total land requirement is estimated to be 400 sq.mtrs. which would cost around Rs. 1.20 lacs. The constructed area requirement shall be around 200 sq.mtrs. consisting of main production area and storage and packing facilities. Cost of civil work is estimated to be Rs.5.00 lacs.

### **5.2 Plant and Machinery**

It is recommended to install besan making plant of 1500 tonnes per annum considering double shift working for 300 working days.

### **5.3**

To install this production capacity, following major machineries are required, costing about Rs.50.00 lacs. The process of manufacturing is very well standardized with four major processes as stated before. Major items of equipments are milling separator, aspirator, cyclone-type dust collector, double roller mill, sifter, bucket elevator, chain feeder and bag sewing machine. There are many machinery suppliers who supply the entire plant on turn-key basis.

### **Miscellaneous Assets:**

Some other assets like furniture and fixtures, storage racks and bins, weighing scale, packing tables, etc. would require, for which a provision of Rs. 5.00 lacs shall be adequate.

### **5.4 Utilities:**

Total power requirement shall be 60 HP whereas per day water requirement shall be 2500 liters.

### 5.5 Raw and Packing Material

The major raw material required is Gram splits (Dal). Gujarat and nearby states of Maharashtra and Madhya Pradesh grow substantial quantity of Gram splits. Even at 100% capacity utilization, the requirement will not be more than 1500 tonnes and with proper prior arrangements it is possible to ensure smooth supplies. Packing materials like 10 or 20 kg gunny bags with polythene lining for bulk supplies and printed polythene bags of 500 gms. or 1 kg. for consumer supplies shall be required.

### 6.0 MANPOWER REQUIREMENTS

The manpower required for the proposed unit would be 14 persons as below.

Particulars	No.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Machine Operators	2	3,500	7,000
Skilled Workers	4	2,500	10,000
Helpers	6	1,250	7,500
Clerk	1	2,500	2,500
Sales-man	1	2,500	2,500
		<b>Total</b>	<b>29,500</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

(Rs. in lacs)

Particulars	Area (Sq.Mtr)	Amount
Land	400	1.20
Building	200	5.00
	<b>Total</b>	<b>6.20</b>

#### 8.2 Machinery

The total cost of machinery is estimated to be Rs. 50.00 lacs as explained earlier.

#### 8.3 Miscellaneous Assets

A provision of Rs. 5.00 lacs has been made under this head as mentioned before.

#### 8.4 Preliminary and Pre-Operative Expenses:

The expenditure like registration charges, establishment expenses, travelling, interest during implementation, trial run expenses, etc. are estimated to cost Rs. 3.50 lacs.

#### 8.5 Working Capital Requirement

The working capital requirement in the first year with 60% capacity utilization is estimated to be as under:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Raw and Packing Materials	½ Month	30%	4.10	2.90	1.20
Finished Goods	½ Month	25%	5.30	4.00	1.30
Acctt.Receivable	½ Month	25%	6.40	4.80	1.60
Working Expenses	1 Month	100%	2.40	--	2.40
		<b>Total</b>	<b>18.20</b>	<b>11.70</b>	<b>6.50</b>

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

(Rs. in lacs)

Items	Amount
Land and Building	6.20
Plant and Machinery	50.00
Miscellaneous Assets	5.00
Preliminary and Pre operative Expenses Contingencies @ 10% on Land and	3.50
Building and Plant & Machinery	5.60
Working Capital Margin	6.50
<b>Total</b>	<b>76.80</b>
<b>Means of Finance</b>	
Promoter's Contribution	23.80
Bank Loan/ Financial Institutions	53.00
<b>Total</b>	<b>76.80</b>
Debt Equity Ratio	2.22 : 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 installed capacity of besan manufacturing from Gram dal would be 1500 TPA. The capacity utilization of 60% and 70% is envisaged during the first two years.

### 9.2 Sales Revenue at 100%

(Rs. in lacs)

Product	Qty. MT	Selling Price Per MT	Value
Besan	1425	23000	327.75

### 9.3 Raw and Packing Materials Required at 100%

(Rs. in lacs)

Product	Quantity MT	Rate Per MT	Value
Gram Dal	1500	12000	180.00
Packing Materials @ Rs.1500/Tonne	--	--	21.35
		<b>Total</b>	<b>201.35</b>

### 9.4 Utilities

The annual cost of utilities at 100% activity level would be Rs.15.00 lacs.

### 9.5 Interest:

It is assumed that term loan of Rs.53.00 lacs shall be repaid in five years including a moratorium period of one year and carry interest @ 14% per annum whereas interest on working capital is considered to be 14% per annum.

### 9.6 Depreciation

It is calculated on WDV basis @ 10% on building and 15% on machinery and misc. assets.

## 10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	Installed Capacity	-----1500 MTA -----	
	Capacity Utilization	60%	70%
	Sales Realisation	196.65	229.40
<b>B</b>	<b>Cost of Production</b>		
	Raw and Packing Materials	120.80	140.95
	Utilities	9.00	10.50
	Salaries	3.54	4.15
	Stores and Spares	4.80	6.00
	Repairs and Maintenance	6.00	7.50
	Selling Expenses @ 7.5% of sales	14.75	17.20
	Administrative Expenses	2.40	3.00
	<b>Total</b>	<b>161.29</b>	<b>189.30</b>
C	Profit before Interest & Depreciation	35.36	40.10
	Interest on Term Loan	7.00	5.68
	Interest on Working Capital	1.64	1.92
	Depreciation	8.75	7.46
	Net Profit	17.97	25.04
	Income Tax @ 20%	3.60	5.00
	Profit after Tax	14.37	20.04
	Cash Accrual	23.12	27.50
	Repayment of Term Loan	--	13.25

## 11.0 BREAK-EVEN POINT ANALYSIS

(Rs. in lacs)

No.	Particulars	Amount
<b>A</b>	<b>Sales</b>	<b>229.40</b>
<b>B</b>	<b>Variable Costs</b>	
	Raw and Packing Materials	140.95
	Utilities (70%)	6.30
	Salaries (70%)	2.48
	Stores and Spares	4.80
	Selling Expenses (70%)	12.04
	Administrative Expenses (50%)	1.20
	Interest on working capital	1.64
	<b>Total</b>	<b>169.41</b>
<b>C</b>	<b>Contribution</b>	<b>59.99</b>
<b>D.</b>	<b>Fixed Cost</b>	<b>34.95</b>
<b>E.</b>	<b>Break-Even Point (D ÷ C)</b>	<b>58%</b>

**12.0 [A] LEVERAGES**

**Financial Leverage:**

= EBIT/EBT

= 32.50 ÷ 25.04

= 1.30

**Operating Leverage:**

= Contribution / EBT

= 59.99 ÷ 25.04

= 2.40

**Degree of Total Leverage**

= FL/OL

= 1.30 ÷ 2.40

= 0.54

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

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Cash Accruals	23.12	27.50	28.92	30.62	33.05
Interest on Term Loan	7.00	5.68	3.71	2.18	1.26
<b>Total (A)</b>	<b>30.12</b>	<b>33.18</b>	<b>32.63</b>	<b>32.80</b>	<b>34.31</b>
Interest on Term Loan	7.00	5.68	3.71	2.18	1.26
Repayment of Term Loan	--	13.25	13.25	13.25	13.25
<b>Total (B)</b>	<b>7.00</b>	<b>18.93</b>	<b>16.96</b>	<b>15.43</b>	<b>14.51</b>
<b>DSCR (A) ÷ (B)</b>	<b>4.30</b>	<b>1.75</b>	<b>1.91</b>	<b>2.12</b>	<b>2.36</b>
<b>Average DSCR</b>	-----2.48-----				

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

Cost of the project is Rs. 76.80 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%	24%
1	23.12	16.87	16.58	16.30	15.77
2	27.50	17.36	16.77	16.21	15.18
3	28.92	16.68	15.85	15.07	13.63
4	30.62	15.82	14.79	13.81	12.12
5	33.05	14.79	13.58	12.49	10.60
6	35.94	13.90	12.55	11.36	9.33
		<b>95.42</b>	<b>90.12</b>	<b>85.24</b>	<b>76.63</b>

The IRR is around 24%.

**Some of the machinery and packing material suppliers are as under:**

1. Raylon Metal Works, PB NO. 17426, JB Nagar, Andheri (East), Mumbai 400 059
2. Forsberg Agritech (I) Ltd, GIDC Estate, Makarpura, Vadodara
3. Parmar Engg. Works, Jasdan (Gujarat)
4. Flour Tech Engg Pvt. Ltd., 16/5 Mathura Road, Faridabad-121002.  
Tel No. 2263017, 2291556, Fax: 2291556
5. Jain Packaging Products, 33, Sarai pipal thala, Sabji Mandi, Azadpur, New Delhi- 110003