

## 1 GRAM FLOUR

### 1.1 Introduction

Gram dal milling is an important industry, supplying flour of gram dal 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 location is Madhya Pradesh.

### 1.2 Objective

The primary objective of the model report is to facilitate the entrepreneurs in understanding the importance of setting up unit of gram flour. This model report will serve as guidance to the entrepreneurs on starting up such a new project and basic technical knowledge for setting up such a facility.

### 1.3 Raw Material Availability

The major raw material required is Gram splits (Dal). Madhya Pradesh and nearby states of Maharashtra and Gujarat grow substantial quantity of Gram splits.

The production of gram dal in the state in 2004 – 05 is 25.84 lakh MT. district wise production in the state is given in the table below:

**Table 1 District wise production of Gram Dal (2003 – 04)**

District	PROD. (in 000 MT)
VIDISHA	184.80
UMARIA	2.80
UJJAIN	92.40
TIKAMGARH	47.20
SIDHI	22.90
SHIVPURI	91.30
SHEOPUR KALAN	12.20
SHAJAPUR	76.90
SHAHNOL	1.30
SEONI	29.90
SEHORE	82.90
SATNA	67.10
SAGAR	176.40
REWA	68.80
RATLAM	38.30
RAJGARH	89.00
RAISEN	127.80
PANNA	62.00

District	PROD. (in 000 MT)
NEEMUCH	35.70
NARSINGHPUR	152.70
MORENA	19.70
MANDSAUR	27.20
MANDLA	3.40
KHARGONE	4.30
KHANDWA	12.90
KATNI	15.90
JHABUA	14.10
JABALPUR	74.80
INDORE	25.00
HOSHANGABAD	82.10
HARDA	34.80
GWALIOR	41.00
GUNA	58.10
DINDORI	3.60
DHAR	17.70
DEWAS	83.70
DATIA	77.10
DAMOH	145.00
CHHINDWARA	38.10
CHHATARPUR	114.40
BURHANPUR	3.10
BHOPAL	34.40
BHIND	67.20
BETUL	18.80
BARWANI	1.90
BALAGHAT	5.40
ASHOKNAGAR	93.70
ANUPPUR	2.00

#### 1.4 Market Opportunities

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. Market for this product is growing continuously due to more and more applications, increasing population and its easy availability.

#### 1.5 Project description

##### 1.5.1 Applications

Gram Flour 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.

##### 1.5.2 Availability of know how and compliances

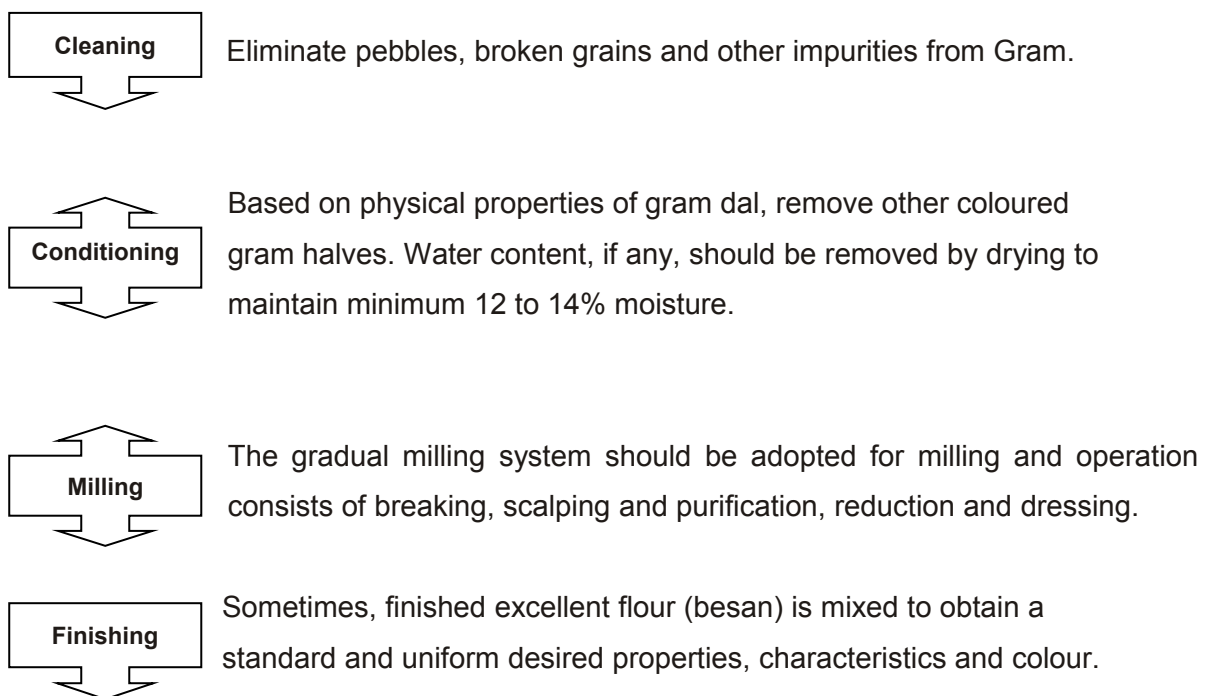
CFTRI, Mysore, can offer the technical know-how. Compliance under the PFA Act is necessary. CFTRI, Mysore, has developed a process and the promoters may like to seek their help.

### 1.5.3 Capacity of the Project

The total capacity of the unit is 1320 Mt per annum.

### 1.5.4 Manufacturing process

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



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

### 1.6 Project component and cost

Major components of the projects and their costs are described in the table hereunder:

### 1.7 Land and Building

Particulars	Unit	Qty	Cost/unit	Total
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<b>LAND &amp; BUILDING</b>				<b>14.00</b>
Land	SqM	400	250.00	1.00
<b>Land Development</b>				
Land Area		400	500.00	2.00
<b>Building</b>				
<b>Production Block</b>				
Buildup Area	SqM	200	5,000.00	10.00
Contingencies		10%		1.00
<b>PLANT &amp; MACHINERY</b>				<b>60.00</b>
Plant & Machinery	LS	1	5,000,000.00	50.00
Contingencies		20%		10.00
<b>MISCELLANEOUS FIXED ASSETS</b>				<b>9.60</b>
Misc Assets	LS	1	800,000	8.00
Contingencies		20%		1.60
<b>PRE-OPERATIVE EXPENSES</b>				<b>8.22</b>
Establishment		1	450,000	4.50
Per Operative Interest		1	131,600	1.32
Security Deposits		1	240,000	2.40
<b>TOTAL</b>				<b>91.82</b>

The cost of the various components will depend on the location of the project. Item wise assumptions are as under:

### 1.8 Plant and Machinery

To install this production capacity, following major machineries are required, costing about Rs. 60 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.

### 1.9 Building

The main production block will cost around Rs. 11 lakhs.

### 1.10 Miscellaneous Assets

A provision of Rs. 9.60 lakhs would take care of all the requirements.

### 1.11 Preliminary & Pre-operative Expenses

A provision of Rs. 8.22 lakhs would take care of pre-production expenses like establishment, professional charges, security deposits etc.

### 1.12 Working capital assessment

ITEMS	Year 1	Year 3	Year 5
STOCK OF RAW MATERIAL & PACKING	23.04	28.80	28.80

MATERIAL			
SUNDRY DEBTORS	30.72	38.40	38.40
<b>TOTAL</b>	<b>53.76</b>	<b>67.20</b>	<b>67.20</b>
<b>MARGIN</b>	13.44	16.80	16.80
<b>MPBF</b>	40.32	50.40	50.40
<b>INTEREST ON WC</b>	4.44	5.54	5.54

### 1.13 Means of Finance

<b>EQUITY CAPITAL</b>			25.00%	<b>26.31</b>
<b>MOFPI SUBSIDY</b>	25%	50.00	25.00%	<b>26.31</b>
<b>TERM LOAN</b>				
FINANANCIAL INSTITUTIONS		10.00%	50.00%	<b>52.63</b>
-Payable half yearly Installments	10	5.30		
<b>TOTAL</b>			100%	<b>105.26</b>

### 1.14 Cash flow statement

PARTICULARS	Year 1	Year 3	Year 5	Year 7
<b>SOURCES OF FUNDS</b>				
EQUITY CAPITAL	-	-	-	-
SUBSIDY				
NET PROFIT	9.99	18.18	16.36	14.84
(INTEREST ADDED BACK)				
DEPRECIATION	7.30	7.30	7.30	7.30
PRELIMINARY EXP.W/O	1.17	1.17	1.17	1.17
INCREASE IN TERM LOAN	-	-	-	-
INCREASE IN BANK BORROWINGS-WC	40.32	5.04	-	-
<b>TOTAL</b>	<b>58.78</b>	<b>31.70</b>	<b>24.83</b>	<b>23.31</b>

### 1.15 Projected balance sheet

PARTICULARS	Year 1	Year 3	Year 5	Year 7
<b>LIABILITIES</b>				
EQUITY CAPITAL	26.31	26.31	26.31	26.31
RESERVES & SURPLUS	26.60	39.85	58.56	77.68
TERM LOAN	47.33	26.13	4.93	(0.00)
BANK BORROWINGS-WC	<b>40.32</b>	<b>50.40</b>	<b>50.40</b>	50.40
<b>TOTAL</b>	<b>140.57</b>	<b>142.69</b>	<b>140.20</b>	<b>154.40</b>

### 1.16 Projected profit and loss account

Particulars	Year 1	Year 3	Year 5	Year 7
<b>INCOME</b>	337.92	422.40	422.40	422.40
<b>EXPENDITURE</b>	319.46	395.74	397.57	399.09
<b>VARIABLE</b>	277.63	344.82	344.82	344.82
<b>FIXED</b>	41.83	50.93	52.75	54.27
<b>GROSS PROFIT</b>	18.46	26.66	24.83	23.31
<b>PROFIT BEFORE TAX</b>	0.29	9.23	9.53	9.29
<b>RETAINED PROFIT</b>	0.29	9.23	9.53	9.29

### 1.17 Key Indicators

NET PRESENT VALUE at current Inflation (Rs. in lakhs)	<b>107.76</b>
INTERNAL RATE OF RETURN %	<b>25.06</b>

AVERAGE DSCR	1.54
BREAK EVEN POINT %	88.02
PAY BACK PERIOD ( YEARS)	5.21

### 1.18 Manpower Requirement

PARTICULARS	NO.
<b>SUPERVISORY STAFF</b>	
PRODUCTION SUPERVISORS	2
<b>WORKERS</b>	
MACHINE OPERATORS	2
SKILLED WORKERS	3
SEMI-SKILLED LABOUR	6

### 1.19 Assumptions

<b>Project &amp; Financing</b>			
Contingencies on Building			10%
Contingencies on Equipment			20%
Term Loan			50%
Rate of Interest on Term Loan			10%
Subsidy Considered	Subject to ceiling		25%
Expected time of Installation	Months		10
Moratorium	Months		6
<b>CAPACITY</b>			
Rated Capacity Per Annum	80% of Installed capacity	TPA	1320
Number of Operational Days	DAYS		330
Working Hours Per day	Hrs		16
<b>CAPACITY UTILIZATION</b>			
Year I			80%
Year II			90%
Year III			100%
<b>SALES PRICE</b>			
W S Price			32000
<b>OTHER EXPENSE</b>			
Commission			5.0%
Marketing Expenses			2.5%
<b>POWER</b>			
Connected Load	HP		60
<b>DEPRICIATION AS PER COMPANY'S ACT</b>			
BUILDING			3.34%
PLANT & MACHINERY			10.34%
MISC. FIXED ASSETS			7.07%
LAND & SITE DEVELOPMENT			1.63%
<b>MAINTENANCE</b>			
BUILDING			1.00%
PLANT & MACHINERY			3.00%
MISC. FIXED ASSETS			2.00%
LAND & SITE DEVELOPMENT			1.00%

#### 1.19.1 Sources of technology

- Raylon Metal Works, PB NO. 17426, JB Nagar, Andheri (East), Mumbai 400 059

- Forsberg Agritech (I) Ltd, GIDC Estate, Makarpura, Vadodara
- Parmar Engg. Works, Jasdan (Gujarat)
- Flour Tech Engg Pvt. Ltd., 16/5 Mathura Road, Faridabad-121002.
- Tel No. 2263017, 2291556, Fax: 2291556
- Jain Packaging Products, 33, Sarai pipal thala, Sabji Mandi, Azadpur, New Delhi- 110003

**The actual cost of projects may deviate on change of any of the assumptions.**