

# PROJECT PROFILE ON MINI FLOUR MILL

**PRODUCT** : WHEAT FLOUR (Atta),  
SOOJI/RAWA  
WHEAT FLOUR (Maida),  
BRAN

**PRODUCT CODE** : 204109000 (Wheat Flour)  
204111003 (Sooji /Rawa)  
204108004 (Maida)

**QUALITY STANDARD.** : The Product may be manufactured as per 'AGMARK' Specification. The BIS have also laid down Specification for the Products :  
IS :1155 – 1968 (Wheat Atta).  
IS : 1009 - 1979 (Maida)  
IS : 1010 – 1968 (Sooji/Rawa)

| <b><u>PRODUCTION CAPACITY (P.A.)</u></b> | <b><u>Item</u></b> | <b><u>Qnty. (MT)</u></b> | <b><u>Value (Rs.)</u></b> |
|--|--------------------|--------------------------|---------------------------|
|  | Atta               | 1800                     | 2,43,00,000               |
|  | Maida              | 4500                     | 6,52,50,000               |
|  | : Sooji            | 1080                     | 1,56,60,000               |
|  | : Bran             | 1620                     | 1,53,90,000               |

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**PREPARED BY** : MSME-Development Institute,  
11-A, IDC, Karnal..

**A. INTRODUCTION.**

There are 812 roller flour mills in our country producing approximate 25 million tonnes, of milled cereal products worth Rs. 1200 crores. Flour Mills can be installed with minimum capacity of 30 TPD of raw material crushing capacity per day to maximum 1000 TPD. The capacity suggested in this report is for mini flour mill i.e. 30 tonnes of raw material crushing capacity per day. As per CII mckinsey survey it is estimated that by 2005 the market for branded Atta has grown to Rs. 15000 crore.

**B. MARKET POTENTIAL.**

Whole wheat flour is used in making Chapaties, Puries, Parotha and other roasted cereal based products. Wheat flour or Maida is a basic raw material for making Bread, Biscuits Cakes and other bakery products. Sooji / Rava is used in many sweetmeat products. Bran separated on milling is used as cattle feed. The products sold under brand names are very few. The concept for branded cereal flour products is now increasing. The big giants like Hindustan Lever, NEPC Agro, Nirma etc. have jumped in to this lucrative industry.

**C. BASIS AND PRESUMPTIONS: -**

1. It is presumed that the unit will run three shift per day and 300 working days per annum.
2. The following extraction rates are presumed :  
Maida 50 %  
Sooji 12 %  
Atta 20 %  
Bran 18 %

Extraction rates are only suggested. Miller can change according to demand, Wheat quality & climatic conditions.

3. Labour wages have been taken as per market rates.
4. Different varieties of wheat may be blended for producing desired end product.
5. The rate of interest has been taken 14% on an average both for fixed investment and working capital.
6. The rates quoted in respect of Machinery/equipment raw materials are those prevailing at the time of preparation of report and are likely to vary from place to place and supplier to supplier and necessary changes are to be made as and when required.

**D. IMPLEMENTATION SCHEDULE.**

The approximate time required for various activities is given below. However, it may vary from place to place depending upon the local circumstances: -

- |      |   |                                   |
|------|---|-----------------------------------|
| i.   | Selection of site.  | 1 Month                           |
| ii.  | SSI Registration .  | 7 days                            |
| iii. | Project Report Preparation.   | 1 Month                           |
| iv.  | Availability of Finance   | 2 Month                           |
| v.   | Machinery Procurement, Erection,<br>Commissioning & Trial Run, etc. | 8 <sup>th</sup> months<br>onward. |

## **E. TECHNICAL ASPECTS.**

### **1. Production Details & Process of Manufacture**

Wheat is first cleaned thoroughly to remove dust, stone and other foreign matters clean wheat is tempered before grinding by treating with water so that the bran is separated from the endosperm. The tempered wheat is crushed between corrugated rollers (Break rolls). The first break rolls are set relatively far apart to grind the wheat lightly, while successive break yield finer and finer products. The first break is separated by sieving or bolting in to very fine particles (flour), intermediate particles (middlings) and coarse particles (stock). The stock is then sent to second break rolls. This process may continue through 5 to 6 breaks. The stock contains pieces of endosperm and bran and the stock from the last break is principally bran. The middlings contain endosperm, bran and germ which are then successively classified and some of the bran removed are sent to reduction rollers. These are smooth rollers, but like the break rolls they are graduated so that successive reduction becomes finer and finer. After each reduction, sifters separate the flour, middling and stock, this process is continued until most of the endosperm has been removed as flour and most of the bran has been separated in the sifters.

2. Power requirement of the unit is 300 HP.
3. There are no pollution problems for unit except dust which may damage the plant and machinery and adversely affect the health of workers also, for this cyclones may be used to separate dust.
4. The Miller should be made aware about the energy requirement of the milling system and for this selection of motors should be proper.

## **F. FINANCIAL ASPECTS.**

### **1. Land & Building**

⇒ Land – 2000 sq. mtr. @ Rs. 350/- per sq. mtr. 7,00,000/-

|  |                        |
|--|------------------------|
| ⇒ Built up area for the plant and Machinery including, Storage binns for wheat conditioning up with 3 stories (ground +2) having 36" height, 750 sq. mtrs. @ Rs. 1500/ sq. mtr., | 11,25,000/-            |
| ⇒ 150 sq. mtr. other construction for office, laboratory etc. @ 1500/- sq. mtr.  | 2,25,000/-             |
| Total cost of Land & Building  | <b>Rs. 20,50,000/-</b> |

## **2. Machinery & Equipments.**

| <b><u>S.No.</u></b>           | <b><u>Description Of Machines.</u></b>         | <b><u>Nos</u></b> | <b><u>Rate</u></b> | <b><u>Price (Rs.)</u></b> |
|-------------------------------|--|-------------------|--------------------|---------------------------|
| 1.                            | Single bucket elevator without belt and bucket | 7                 | 44,000/-           | 3,08,000/-                |
| 2.                            | Reel machine (3 segment)                       | 1                 | 34,500/-           | 34,500/-                  |
| 3.                            | Rotory seperator with aspiration channel       | 2                 | 96,000/-           | 1,92,000/-                |
| 4.                            | Scourer machine with aspiration channel        | 2                 | 68,000/-           | 1,36,000/-                |
| 5.                            | Intensive dampner                              | 1                 | 45,000/-           | 45,000/-                  |
| 6.                            | Rotometer                                      | 1                 | 20,000/-           | 20,000/-                  |
| 7.                            | De-Stoner without fan & cyclone                | 1                 | 70,000/-           | 70,000/-                  |
| 8.                            | Indent cylinder                                | 1                 | 99,000/-           | 99,000/-                  |
| 9.                            | Screw conveyour 7 m 1500/m, 4.5 m 1500/m       |                   |                    | 40,000/-                  |
| 10.                           | Dust cyclone with airseal dia 1120             | 2                 | 19,000/-           | 38,000/-                  |
| 11.                           | Dust cyclone with airseal dia 960              | 3                 | 18,000/-           | 54,000/-                  |
| 12.                           | L.P. Fan for Ist Cleaning                      | 1                 | 28,000/-           | 28,000/-                  |
| 13.                           | L.P. Fan for Main Cleaning                     | 1                 | 22,000/-           | 22,000/-                  |
| 14.                           | L.P. Fan for DE stoner                         | 1                 | 22,000/-           | 22,000/-                  |
| 15.                           | L.P. Fan for final Cleaning                    | 1                 | 24,000/-           | 24,000/-                  |
| 16.                           | Magnets 6"*12"                                 | 4                 | 2,000/-            | 8,000/-                   |
| 17.                           | Silogate                                       | 10                | 1,650/-            | 16,500/-                  |
| <b><u>MILLING SECTION</u></b> |  |                   |                    |                           |
| 18.                           | Roller Mill body                               | 3                 | 120,000/-          | 3,60,000/-                |
| 19.                           | Rolls dia 250 * 1000 mm (Indian)               | 6                 | 35,000/-           | 2,10,000/-                |
| 20.                           | Roll Grooving & spindle cutting                | 6 set             | 3200/- set         | 19,200/-                  |
| 21.                           | Plansifter 8 feed /16 sec.                     | 1                 | 1,70,000/-         | 1,70,000/-                |
| 22.                           | Purifier                                       | 1                 | 55,000/-           | 55,000/-                  |
| 23.                           | Bran – finisher                                | 1                 | 19,000/-           | 19,000/-                  |
| 24.                           | Pneumatic lifts                                | 14 set            | 17,500/-           | 2,45,000/-                |

|   |                    |            |                         |
|---|--------------------|------------|-------------------------|
| 25. Tripple worm 8 mt. Each   | 3 set              | 1,800/- m  | 5,400/-                 |
| 26. L.P. Fanpurifier  | 1                  | 28,000/-   | 28,000/-                |
| 27. Dust cyclone dia 1120   | 1                  | 19,500/-   | 19,5 00/-               |
| 28. H.P. Fan  | 1                  | 49,000/-   | 49,000/-                |
| 29. Supper cyclone  | 2 set              | 27,500/-   | 55,000/-                |
| 30. Bolting cloth   | lot                | 66,000/-   | 66,000/-                |
| 31. Misc. accessories such as inspection,<br>cover & joint range etc.   | 1                  |            | 14,000/-                |
| 32. Electrical motors   |                    |            | 6,00,000/-              |
| 33. Electric pannel board fitted with starter<br>main switches, cables, cable fittings, volts<br>and AMP meters, AC.B capacitors etc. |                    |            | 4,50,000/-              |
| 34. Reduction gears standard make   |                    |            | 1,60,000/-              |
| 35. V-Groove, Pulleys, Couplings, V-Belts<br>etc.   |                    |            | 66,000/-                |
| 36. Errection Material such as angle, Channel<br>Sheet, Iron etc.   |                    |            | 4,00,000/-              |
| 37. Tools and other equipment required<br>during Errection  |                    |            | 80,000/-                |
| 38. Consumable items such as Nut, Bolt,<br>Gas, and Welding Rods, Namda, Fevicol<br>etc.  |                    |            | 38,000/-                |
| 39. Weighing scale 4 Nos.   |                    |            | 40,000/-                |
| 40. Errection and Consultancy charges.  |                    |            | 2,50,000/-              |
|   | <b>Grand Total</b> | <b>Rs.</b> | <b><u>45,93,900</u></b> |
| CST @ 2% along with C form  |                    |            | 91,254                  |
| Office furniture and equipments   |                    |            | 50,000/-                |
|   | <b>Total Rs.</b>   |            | <b><u>47,03,954</u></b> |
|   | <b>Say Rs.</b>     |            | <b><u>47,04,000</u></b> |

3) Pre – Operative Expenses. = 1,00,000/-

Total Fixed Capital (1 + 2 + 3) = **68,54,000**

#### 4) Working Capital ( Per Month).

##### i) Personnel:

| <u>S.No.</u> | <u>Designation.</u>  | <u>No.</u> | <u>Salary, (PM)</u>                 | <u>Total (Rs.)</u> |
|--------------|----------------------|------------|-------------------------------------|--------------------|
| 1.           | Miller–cum-Chemist.  | 1          | 10,000/-                            | 10,000/-           |
| 2.           | Plant Foreman        | 1          | 7000/-                              | 7,000/-            |
| 3.           | Electrician          | 1          | 5000/-                              | 5000/-             |
| 4.           | Operator             | 3          | 4000/-                              | 12,000/-           |
| 5.           | Un-Skilled Workers.  | 10         | 2500/-                              | 25,000/-           |
| 6.           | Accountant           | 1          | 6000/-                              | 6000/-             |
| 7.           | Clerk / Store keeper | 2          | 4000/-                              | 4000/-             |
| 8.           | Sales Supervisor     | 1          | 6000/-                              | 6000/-             |
| 9.           | Peon                 | 1          | 2500/-                              | 2500/-             |
| 10.          | Security Personal    | 1          | 2500/-                              | 2500/-             |
|              |                      |            | <b>Total</b>                        | <b>: 84,000</b>    |
|              |                      |            | Add Pre-requisites @ 10% of salary. | 8,400              |
|              |                      |            | <b>Total</b>                        | <b>: 92,400</b>    |

##### ii) Raw Material. (Per Month).

| <u>S.No.</u>     | <u>Particulars</u>   | <u>Value (Rs.)</u> |
|------------------|--|--------------------|
| 1.               | Wheat blended of different category 750 MT @ Rs.1100/- ton | 82,50,000          |
| 2.               | Gunny Bags 8200 No. @ Rs. 15/- each.                       | 1,23,000           |
| <b>Total Rs.</b> |  | <b>83,73,000</b>   |

##### iii) Utilities (Per Month) :-

|   |   |                 |
|---|---|-----------------|
| 1 | Power : 300 HP x .746 x 24 X 25 x 80% = 107424 KWH @ Rs. 5.25 per unit. | <b>5,63,976</b> |
| 2 | Water 3000 litres per day (from bore well)                              |                 |

#### IV) Other Contingent Expenses (P.M.)

|              |                               | <u>(In Rupees.)</u> |
|--------------|-------------------------------|---------------------|
| 1.           | Postage and Stationery.       | 1,000/-             |
| 2.           | Telephone Charges             | 1,000/-             |
| 3.           | Consumable Stores             | 2,000/-             |
| 4.           | Repair & Maintenance.         | 2,000/-             |
| 5.           | Advertisement & publicity.    | 3,000/-             |
| 6.           | Transport Charges.            | 60,,000/-           |
| 7.           | Other Miscellaneous Expenses. | 1,000/-             |
| <b>Total</b> |                               | <b>70,000/-</b>     |

|     |  |                      |
|-----|--|----------------------|
| v.) | <b><u>Working Capital (Per Month):</u></b> | <b>Rs. 90,99,376</b> |
| vi) | Working capital for 2 months.              | Rs. 1,81,98,752/-    |

**5) Total Capital Investment.**

|     |                              |                           |
|-----|------------------------------|---------------------------|
| i.  | Fixed Capital.               | 68,54,000                 |
| li. | Working capital for 2 Months | 1,81,98,752,250           |
|     | <b>Total Rs.</b>             | <b><u>2,50,52,752</u></b> |

**(G) FINANCIAL ANALYSIS.**

**1. Cost of Production (per year).**

|    |  |                            |
|----|--|----------------------------|
|    |  | <b>(Rupees.)</b>           |
| 1. | Total recurring cost per year.                         | 10,91,92,512               |
| 2. | Depreciation on building @ 5% per annum.               | 67,500                     |
| 3. | Depreciation on machinery @ 10% p.a.                   | 4,45,400                   |
| 4. | Depreciation on furniture and others fixed asset @ 20% | 10,000/-                   |
| 5. | Interest on total investment @ 14% per annum           | 35,07,385/-                |
|    | <b>Total Rs.</b>                                       | <b><u>11,32,22,797</u></b> |

**2. Turnover (per year).**

|                                 |                            |
|---------------------------------|----------------------------|
| <b><u>Item</u></b>              | <b><u>Value (Rs.)</u></b>  |
| Maida 4500 MT @ Rs. 14,500 / MT | 6,52,50,000                |
| Sooji 1080 MT @ Rs. 14,500 / MT | 1,56,60,000                |
| Atta 1800 MT @ Rs. 13,500 / MT  | 2,43,00,000/-              |
| Bran 1620 MT @ Rs. 9,500 / MT   | 1,53,90,000/-              |
| <b>Total Rs.</b>                | <b><u>12,06,00,000</u></b> |

**3 Net Profit per year (before Income tax)( Figures in Rs. Lac.)**

$$\begin{aligned} \text{Profit} &= \text{Sale} - \text{Production Cost.} \\ &= 12,06,00,000 - 11,32,22,797 = \mathbf{73,77,203} \end{aligned}$$

**4. Net Profit Ratio**

$$\begin{aligned} &= \frac{\text{Net Profit} \times 100}{\text{Turn over per year}} \\ &= \frac{73,77,203 \times 100}{12,06,00,000} = \mathbf{6.12\%} \end{aligned}$$

**5. Rate of return**

$$= \frac{\text{Net Profit} \times 100}{\text{Total Investment}}$$

$$\begin{aligned} & \text{Total Investment} \\ & = \frac{73,77,203}{2,50,52,752} \times 100 \\ & = \mathbf{29.45\%} \end{aligned}$$

**6. Break Even Point.**  
**Fixed Cost (per year).**

|  | <b>(RUPEES.)</b>        |
|--|-------------------------|
| 1. Depreciation on machinery @ 10% p.a             | 4,45,400                |
| 2. Depreciation on furniture & other fixed assets. | 10,000                  |
| 3. Interest on total investment.                   | 35,07,385               |
| 4. 40% of salary & wages.                          | 4,43,520                |
| 5. 40% of other expenses.                          | 3,36,000                |
| 6. 40 % of utilities.                              | 9,02,362                |
| <b>Total Fixed Cost.</b>                           | <b><u>53,08,667</u></b> |

$$\begin{aligned} \text{BEP} & = \frac{\text{Fixed Cost} \times 100}{\text{Fixed cost} + \text{Profit}} \\ & = \frac{5308667 \times 100}{53,08,667 + 73,77,203} \\ & = \mathbf{41.85\%} \end{aligned}$$



**(H). ADDRESSES OF MACHINERY & EQUIPMENT SUPPLIERS:-**

1. M/s Flour Tech. Engineers (P) Ltd., 16/5, Mathura Road, Faridabad –2, Ph.: 0129- 5263017, Fax : 0129-5291556.
2. M/s Mukul Brothers Engineering Works, P.O. Box. No. 325, Kisan Flour Mill Compound, Tirthankar Mahavir Marg, Meerut – 250002( UP).
3. M/s Northern India Flour Millers Corporation, 7, Maqbool Road, Amritsar – 143001(Pb).

**(I) ADDRESSES OF RAW MATERIAL SUPPLIERS.**

Raw materials are easily available in the local market.