

# RICE MILLING

QUALITY AND STANDARDS : As per BIS/PFA specifications

PRODUCTION CAPACITY : 840 tpa.

## 1.0 PRODUCT AND ITS APPLICATIONS

India is the second largest producer of rice with annual production of more than 90 million tonnes. About 25% is processed through modern rice mills. The major portion of the paddy is milled through hullers. The hullers are usually low capacity mills. The yield of rice in huller mills is about 5% less than that obtained in modern mills in case of raw paddy and 2% less in case of parboiled paddy. In the hullers, both shelling and polishing operations are carried out simultaneously. Hence, there is no control on the polishing of rice, bran, admixed with husk is obtained with a higher breakage of rice grain. To overcome these, a mini rice mill is available to meet the needs of the villages and a substitute for a huller mill, to get polished rice, rice bran and paddy husk.



## 2.0 MARKET POTENTIAL

The mini rice mill gives the same yield as a modern rice mill. Rice being the staple food for the majority population, no problem is envisaged in marketing. Besides, the mill can be utilised as a service unit for custom milling. Rice bran, which is a byproduct, is a source of valuable edible oil. The compactness of the unit, its low cost and above advantages enable installation of a number of units in all the paddy growing areas and should result in significant cost advantage to mini rice mill owners.

## 3.0 BASIS AND PRESUMPTIONS

- a) The unit will work for 300 days per annum on single shift basis.
- b) The unit can achieve its full capacity utilization during the 2nd year of operation.
- c) The wages for skilled workers are taken as per prevailing rates in this type of industry.
- d) Interest rate for total capital investment is calculated @ 12% per annum.
- e) The entrepreneur is expected to raise 20-25% of the capital as margin money.
- f) The unit would construct its own building.
- g) Costs of machinery and equipment are based on average prices of manufacturers.

## 4.0 IMPLEMENTATION SCHEDULE

Project implementation will take a period of 8 months. Break-up of the activities and relative time for each activity is shown below:

❖ Scheme preparation and approval	:	01 month
❖ SSI provisional registration	:	1-2 months
❖ Sanction of financial supports etc.	:	2-5 months
❖ Installation of machinery and power connection	:	6-8 months
❖ Trial run and production	:	01 month

## 5.0 TECHNICAL ASPECTS

### 5.1 Location

There is a vast potential for installing mini rice mills in all paddy growing areas, as a rural small scale activity.

### 5.2 Process of Manufacture

The mini rice mill consists of a paddy-cleaner, sheller, separator and a polisher. The separator is a compact unit designed on the densimetric classification principle. The polisher could be either a vertical cone polisher or a horizontal rotor polisher. Even a huller used for milling could serve as a polisher though there may be more breakage of rice.

The most important feature of the mill is that the shelling and polishing are kept separate. Because of the low capacity, a centrifugal sheller is most commonly employed. Different units could be used as polisher. For maximum advantage, it is necessary to use a paddy separator, whereby need of a high polish can be avoided.

### 5.3 Quality Control and Standards: As per AGMARK specification

## 6.0 POLLUTION CONTROL

There is no major pollution problem associated with this industry except for disposal of waste which should be managed appropriately. The entrepreneurs are advised to take "No Objection Certificate" from the State Pollution Control Board.

## 7.0 ENERGY CONSERVATION

Only electricity is used as a source of energy.

## 8.0 PRODUCTION CAPACITY

Quantity	: 840 tpa
Installed capacity	: 4 tpd
Optimum capacity utilization	: 70%
Working days	: 300/annum
Manpower	: 15

### Utilities

Motive Power	: 20 kW
Water	: 5 kL/day

## 9.0 FINANCIAL ASPECTS

### 9.1 Fixed Capital

#### 9.1.1 Land & Building

	Amount (Rs. lakh)
Land 800 sq.m.	: 1.00
Built up area 200 sq.m.	: 6.00
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<b>Total cost of Land and Building</b>	<b>: 7.00</b>

### 9.1.2 Machinery and Equipment

Paddy cleaner	:	3.00
Destoner		
Mini Rice Mill		
Weighing scale		
Erection and electrification		
@ 10% of machinery cost	:	0.30
Office furniture & fixtures		0.40
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<b>Total</b>	<b>:</b>	<b>3.70</b>

### 9.1.3 Pre-operative Expenses

Consultancy fee, project report, deposits with electricity department etc.	:	0.40
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### 9.1.4 Total Fixed Capital (9.1.1+9.1.2+9.1.3) : 11.10

### 9.2 Recurring expenses per annum

#### 9.2.1 Personnel

Designation	No.	Salary Per month	Amount (Rs.lakh)
Factory Manager	1	5,000	0.60
Supervisor	1	4,000	0.48
Office Assistant	2	3,500	0.84
Technician	1	2,500	0.30
Skilled workers	2	2,000	0.48
Unskilled workers	4	1,500	1.44
Perquisites @ 15%			0.62
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<b>Total :</b>	<b>11</b>		<b>4.76</b>

#### 9.2.2 Raw Material including packaging materials

Particulars	Qty.(MT)	Rate/MT	Amount (Rs. lakh)
• Salt, Chemicals			00.75
• Packaging materials			03.30
• Paddy			11.70
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<b>Total:</b>			<b>72.52</b>

<b>9.2.3 Utilities</b>	<b>Amount (Rs. lakh)</b>
Power	0.67
Water	0.03
Fuel	0.15
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<b>Total</b>	<b>0.70</b>

<b>9.2.4 Other Contingent Expenses</b>	<b>Amount (Rs. lakh)</b>
Repairs and maintenance@10%	0.33
Consumables & spares	
Transport & Travel	0.43
Postage & stationery	
Telephoner	
Insurance	0.04
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<b>Total:</b>	<b>0.80</b>

<b>9.2.5 Total Recurring Expenditure</b>	<b>Amount (Rs. lakh)</b>
<b>(9.2.1+9.2.2+9.2.3+9.2.4)</b>	<b>78.78</b>

<b>9.3 Working Capital</b>	
Recurring Expenditure for 2 months	06.57

<b>9.4 Total Capital Investment</b>	<b>Amount (Rs. lakh)</b>
Fixed capital (Refer 9.1.4)	11.10
Working capital (Refer 9.3)	6.57
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Total:	17.67

## 10.0 FINANCIAL ANALYSIS

<b>10.1 Cost of Production (per annum)</b>	<b>Amount (Rs. lakh)</b>
Recurring expenses (Refer 9.2.5)	78.78
Depreciation on building @ 5%	00.30
Depreciation on machinery @10%	00.33
Depreciation on furniture @20%	00.08
Interest on Capital Investment @12%	02.14
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<b>Total:</b>	<b>81.63</b>

## 10.2 Sale Proceeds / Annual turnover

Item	Qty. (MT)	Rate per MT	Amount (Rs.lakh)
Paddy	150	24	36.00

### 10.3 Net Profit per year

= Sales - Cost of production

= 92.40 - 81.63

= Rs. 10.77 lakh

### 10.4 Net Profit Ratio

=  $\frac{\text{Net profit} \times 100}{\text{Sales}}$

=  $\frac{10.77 \times 100}{36.00}$

= 11.66%

### 10.5 Rate of Return on Investment

=  $\frac{\text{Net profit} \times 100}{\text{Capital Investment}}$

=  $\frac{10.77 \times 100}{17.67}$

= 60.95 %

### 10.6 Annual Fixed Cost

All depreciation

Interest

40% of salary, wages, utility, contingency

Insurance

### Amount (Rs. Lakh)

0.62

1.47

3.77

0.08

**Total:**

**5.94**

### 10.7 Break even Point

=  $\frac{\text{Annual Fixed Cost} \times 100}{\text{Annual Fixed Cost} + \text{Profit}}$

=  $\frac{15.42 \times 100}{15.42 + 10.77}$

= 58.88%

## 11.0 ADDRESSES OF MACHINERY AND EQUIPMENT SUPPLIERS

Nalanda Agro Works,  
Nalanda Nagar, Kurji  
Patna - 800 010

Sidvin Machineries Pvt. Ltd.  
Site No. 10, Third stage,  
Industrial Suburb,  
Mysore - 570 008

Mysore Industries,  
2336, 9th Cross  
Basavashwara Road  
Mysore - 570 004

Ram Kumar Hari Shankar  
Upper Bazar,  
Ranchi- 834001

Radhakrishnan Keval Ram,  
Opposite Pareek Pathshala  
2343, Nahargarh Road  
Jaipur- 302 001

Shree Murugan Industries,  
Plot No. 68/W,  
Hootagalli Industrial Area  
Belawadi Post  
Mysore - 571 186

Rajendra Joshi  
B-139, Nehru Nagar,  
Jaipur- 302 016

Baswaraj Dharmareddy  
Old MIG 26, KHB Colony,  
Bidar - 585 401

Fairdeal Equipment  
7, Vishrambagh Corporation Housing  
Society,  
S.B.Road,  
Pune-411 016

Farm Steel Products  
Industrial Estate,  
Vijaywada- 520 007

Shree Durgan Agencies  
98, Moti Bhawan, Collectorganj  
Kanpur- 280 001

Samarth Industries,  
Sri Ram Chemicals Compound  
18/9, GIDC Industrial Estate, Vatwa,  
Ahmedabad-832445

Super Eng Works  
Howrah Amta Road, Dassnagar,  
Howrah-711 105

Fabcon Engineers,  
24, Netaji Subhash Road  
Kolkata-700 001

Milltech  
Sikaria House  
Fancy Bazar,  
Guwahati - 781 001

Mysore Precision Engineers  
C-123/124, Industrial Estate  
Yadavagiri, Mysore - 570 020

AMI Engineering  
Opposite Veena Cinema  
Station Road,  
Patna - 800 001

Sree Siddavinayaka Machinery &  
Equipments  
Site No. 10, 3rd Stage,  
Industrial Suburb  
Mysore - 570 008

Chandan Eng Works,  
Industrial Estate,  
Kurji  
Patna - 800010

Sathana Industries  
A-3, Industrial Estate  
Krishnagiri - 635 001,  
Tamilnadu

Creative Advisory Services,  
Krishna Apartments, Z1, 13th Street,  
5th Avenue, Anna Nagar,  
Chennai - 600 040

M/s. Nandi Agro Works,  
606, Retreat Point, R.P.Road,  
Secunderabad- 500 003

Dev Raj Hi-Tech Machines Ltd.  
Industrial Area  
Ferozpur - 152002 (Punjab)

Osaw Industrial Products Pvt. Ltd.  
P.O. Box No. 42, Osaw Complex,  
Jagadhri Road  
Ambala Cantt - 133 001  
(For weighing scales)

Millmore Engineering Pvt. Ltd.  
289, Old Mahabalipuram Road  
Sholinganallu  
Chennai - 600 019

Induss Services Ltd.  
11, Clive Road, 4th Floor  
Kolkata - 700 001