

PARBOILED RICE



QUALITY AND STANDARDS : As per PFA specifications
PRODUCTION CAPACITY : 1560 MT Parboiled rice/annum

1.0 PRODUCT AND ITS APPLICATIONS

There are many advantages of parboiling the paddy. It reduces grain breakage during milling, greatly improves the vitamins content and other nutrients in the polished rice grain, increases the oil content in the bran, changes the cooking and eating quality of the rice and reduces the insect infestation during storage.

In the traditional process, paddy is soaked for three days whereafter water is drained out. The soaked paddy is steamed and dried. This traditional process has some serious drawbacks such as foul odour due to microbial fermentation during the prolonged soaking and also loss of dry matter.

2.0 MARKET POTENTIAL

About 60% of total production of paddy is parboiled in India. Parboiling is thus an important industry. The people living in coastal belt generally prefer the parboiled rice. The parboiled rice can be used for making dosa and idli. The product prepared from parboiled rice are better than those of raw rice. Hence, people of other regions as also buy parboiled rice for preparation of such fermented products.

3.0 BASIS AND PRESUMPTION

- a) The unit proposes to work 300 days per annum on single shift basis.
- b) The unit can achieve its full capacity utilization during the 3rd year of operation.
- c) The wages for skilled workers is 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 proposes to construct own building while the cost of construction is based on local enquiry.
- g) Costs of machinery and equipment are based on average prices from machinery 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 Process of Manufacture

The unit will produce parboiled paddy by hot soak method. The important process involves overnight soaking in warm water in a cement tank. The water is drained off. The soaked paddy is steamed. It is dried mechanically or in a drying yard. The process gives good quality paddy and increased yield of head rice by 0.5 - 1.0%. Process know now is available from CFTRI, Mysore.

5.2 Quality Control and Standards : As per PFA specifications

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

The fuel for the steam generation in the boiler is coal or LDO depending upon the type of boiler. Proper care should be taken while utilising the fuel for the steam production. There should be no leakage of steam in the pipe lines and adequate insulation should be provided.

8.0 PRODUCTION CAPACITY

Quantity	:	1560 tonnes parboiled rice/annum
Value	:	Rs. 117 lakh
Installed capacity	:	8 tonne paddy/day (single shift)
Working days	:	300/annum
Optimum capacity utilization	:	70%
Manpower	:	18

Utilities

Motive Power	:	35 kW
Water	:	10 kL/day
Paddy husk	:	2000 kg//day
Coal/LD oil	:	500 kg/day

9.0 FINANCIAL ASPECTS

9.1 Fixed Capital

9.1.1 Land & Building

		Amount (Rs. lakh)
Land 400 sq.mtr	:	0.40
Built up Area 200 sq. mtr.	:	5.00
		——
Total cost of Land and Building	:	5.40

9.1.2 Machinery and Equipment

Description	Amount (Rs. lakh)
Parboiling plant (1 tonne/hr) with overhead paddy holding bin, hot water tank, water pump, steam, boiler, rice milling plant (1 tonne/hr), weighing scale and trolleys	: 13.00
Erection & electrification @10% cost of machinery & equipment	: 1.30
Office furniture & fixtures	: 0.70
Total :	----- 15.00

9.1.3 Pre-operative Expenses

Consultancy fee, project report, deposits with electricity department etc.	: 0.60
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9.1.4 Total Fixed Capital : 21.00

(9.1.1+9.1.2+9.1.3)

9.2 Recurring expenses per annum

9.2.1 Personnel

Designation	No.	Salary Per month	Amount (Rs.lakh)
Factory Manager	1	8000	0.96
Office Assistant	1	4000	0.48
Supervisor	1	4000	0.48
Skilled workers	5	2000	1.20
Unskilled workers	10	1500	1.80
			4.92
Perquisites @10%			0.48
Total :	18		----- 5.40

9.2.2 Raw Material including packaging materials

Particulars	Qty.(MT)	Rate	Amount (Rs. lakh)
Paddy	2400	3.50/kg	84.00
Jute bags	15600 no.	8 each	01.25
Misc.			00.05
Total:			----- 85.30

9.2.3 Utilities	Amount (Rs. lakh)
Power 84,000 kW	2.10
Water 3000 kL	0.03
Coal 75 MT	3.00

Total:	5.13

9.2.4 Other Contingent Expenses	Amount (Rs. lakh)
Repairs and maintenance@10%	1.43
Others	0.37
Insurance	0.20

Total:	2.00

9.2.5 Total Recurring Expenditure	Amount (Rs. lakh)
(9.2.1+9.2.2+9.2.3+9.2.4)	97.83

9.3 Working Capital	4.90
5% of Recurring Expenditure	

9.4 Total Capital Investment	Amount (Rs. lakh)
Fixed capital (Refer 9.1.4)	21.00
Working capital (Refer 9.3)	04.90

Total:	25.90

10.0 FINANCIAL ANALYSIS

10.1 Cost of Production (per annum)	Amount (Rs. lakh)
Recurring expenses (Refer 9.2.5)	97.83
Depreciation on building @5%	00.27
Depreciation on machinery @10%	01.43
Depreciation on furniture @20%	00.14
Interest on Capital Investment @12%	03.11

Total:	102.78

10.2 Sale Proceeds (Turnover) per year

Item	Qty. (MT)	Rate per MT	Amount (Rs.lakh)
Parboiled rice Packed in jute bags	1560	7500	117.00

10.3 Net Profit per year

= Sales - Cost of production

= 117.00 - 102.78

= Rs. 14.22

10.4 Net Profit Ratio

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

= $\frac{14.22 \times 100}{117}$

= 12.15%

10.5 Rate of Return on Investment

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

= $\frac{14.22 \times 100}{25.90}$

= 54.90%

10.6 Annual Fixed Cost

Amount (Rs. Lakh)

All depreciation

1.84

Interest

3.11

40% of salary, wages, utility, contingency

5.00

Insurance

0.20

Total:

10.15

10.7 Break even Point

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

= $\frac{10.15 \times 100}{10.15 + 14.22}$

= 41.6%

11.0 ADDRESSES OF MACHINERY AND EQUIPMENT SUPPLIERS

Canara Engineering Enterprises
B-182, II stage
Peenya Industrial Estate
Bangalore – 560 058

G.G.Dandekar Machine Works (I) Ltd.
Dandekarwadi
Bhiwandi – 421302

Jaya & Co.
Trichy Road
P.B. No. 1347
Coimbatore – 641 018

Sidwin Machineries Ltd.
No. 10, III Stage
Industrial Suburb
Mysore – 570 008