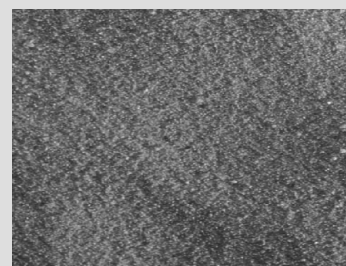


SATTU MANUFACTURING



1.0 INTRODUCTION

Sattu is made by processing gram. Gram is a commonly used pulse and dal or curry is made out of it which is a very popular item in majority of the Indian households. De-husked grams are cleaned, roasted and pulverised to convert them in powder or flour form and this is known as Sattu. It is used in many vegetarian food and snack preparations. Bhojpur or Hazaribag districts could be an ideal location as there are many dal mills in the region. Reportedly, there are very few Sattu-making plants in Gaya district. Hence, selection of appropriate location has to be made after considering raw material sources as well as market potential. This is a very popular item of Bihar and obviously Bihar or Jharkhand are the preferred locations.

2.0 PRODUCT

Sattu is regularly used in many households and restaurants & eateries. It is used in many food and snack preparations especially during summer and is an item of mass consumption. Since it is made from gram, it has certain nutritional values as well.

2.1 Compliance under the PFA Act is mandatory.

3.0 MARKET POTENTIAL

3.1 Demand and Supply

Gram is an integral part of the diet of Indians and apart from use in making curry or dal, its powder is used in preparing many vegetarian preparations. It is used in making rotis and a popular snack item known as "Litti". The market for this product is scattered covering urban, semi-urban and rural areas.

3.2 Marketing Strategy

Ideally, a small manufacturer should concentrate on such bulk consumers by undertaking direct supplies as the selling expenses are minimal and this benefit can be passed on to the buyer by way of discount. Bulk packing also results in saving of packing costs and assured orders bring down the per unit fixed costs over a period of time. Urban markets are saturated by some established manufacturers and thus for retailing, the concentration has to be on rural and semi-urban areas. Sattu is considered as staple diet in the region and hence there is a considerable demand.

4.0 MANUFACTURING PROCESS

Gram dal is cleaned with the help of pulse-cleaning machine and then roasted in an electrically operated roaster. It is then ground to obtain finer mesh size. Finally, it is passed through sieves to remove any foreign material or coarse powder and then packed. The process loss is 4-5%.

5.0 CAPITAL INPUTS

5.1 Land and Building

A readymade shed of around 80 sq.mtrs. is adequate and hence instead of buying land and undertaking construction, a readymade premise is considered to save time as well as cost. The main processing area would require around 40 sq.mtrs. whereas balance space can be utilised for storage and packing. Cost of shed is taken at Rs.2.00 lacs.

5.2 Plant and Machinery

Rated production capacity to process 90 tonnes of gram dal per year with 300 working days and 2 shift working every day would require following machines:

Item	Qty.	Price (Rs.)
Dal Cleaning Machine	1	40,000
Grinder of 25 Kgs/Hr Capacity	1	90,000
Electrically-operated Roaster (20 kgs/hour roasting capacity)	1	1,05,000
Screen-type Sieves	3	15,000
Weighing scales, Bag sealing machine, etc.	--	40,000
	Total	2,90,000

5.3 Miscellaneous Assets

Some other assets like furniture and fixtures, appropriate storage facilities, working tables etc. shall be required for which a provision of Rs.50,000/- is made.

5.4 Utilities

Power requirement shall be 30 HP whereas water will be required for potable and sanitation purposes and the requirement will be about 500 ltrs. every day.

5.5 Raw Materials

The only raw material required will be gram. The annual requirement even at 100% will not be more than 95 tonnes. Prices of gram would go up during off-season and therefore the average price is taken at Rs.16,000 per ton. Different packings will require different sizes of plastic bags and for bulk packing of 10 kgs. and above gunny bags with liners shall be needed. Average packing cost is taken at Rs.1,000/- per ton.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	2	2,250	4,500
Helpers	4	1,250	5,000
		Total	9,500

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	1.5
Site selection and commencement of civil work	0.5
Completion of civil work and placement of orders for machinery	1.5
Erection, installation and trial runs	0.5

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Building

A readymade shed of around 80 sq.mtrs. is sufficient as explained earlier. It would cost around Rs.2.00 lacs.

8.2 Machinery

For rated production capacity of 90 tonnes per year, the total investment in machinery shall be Rs.2.90 lacs as explained earlier.

8.3 Miscellaneous Assets

A provision of Rs. 50,000/- is sufficient under this head as discussed earlier.

8.4 Preliminary & Pre-operative Expenses

Expenses like registration, establishment & administrative, market survey expenditure, travelling, interest during implementation, trial run expenses etc. shall have to be incurred prior to the commencement of commercial production for which a sum of Rs. 60,000/- is provided.

8.5 Working Capital Requirements

Capacity utilisation in the first year is assumed to be 60%. To achieve this level, the working capital needs shall be as under:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw Materials & Packing Materials	1 Month	30%	0.85	0.60	0.25
Stock of Finished Goods	½ Month	25%	0.60	0.45	0.15
Receivables	½ Month	25%	0.70	0.50	0.20
Working Expenses	1 Month	100%	0.30	--	0.30
		Total	2.45	1.55	0.90

8.6 Cost of the Project & Means of Financing

(Rs. in lacs)

Item	Amount
Building	2.00
Machinery	2.90
Miscellaneous Assets	0.50
P&P Expenses	0.60
Contingencies @ 10% on Land and Building & Plant & Machinery	0.50
Working Capital Margin	0.90
Total	7.40
Means of Finance	
Promoters' Contribution	2.20
Term Loan from Bank/FI	5.20
Total	7.40
Debt Equity Ratio	2.36 : 1
Promoters' Contribution	30%

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 & Build-up

As against the installed capacity of 90 tonnes per year, the actual utilisation in the first year is taken at 60% and second year onwards it is restricted to 75%.

9.2 Sales Revenue at 100%

It is assumed that the promoters would concentrate on bulk buyers at least during the first couple of years and then gradually increase retailing. Hence average sales realisation is taken at Rs. 30,000/- per ton. In other words, sales value of 90 tonnes will be Rs.27.00 lacs.

9.3 Raw Materials Required at 100%

Assuming 5% process loss, the annual requirement of gram at 100% would be 95 tonnes. Considering average purchase price of Rs. 16,000/- per ton, the total value will be Rs.15.20 lacs whereas packing material cost will be Rs. 90,000/-.

9.4 Utilities

The annual cost of utilities even at 100% will be Rs.80,000/-.

9.5 Selling Expenses

Concentration on bulk buyers would reduce selling expenses. Hence a provision of 7.5% of total sales is made towards these expenses.

9.6 Interest

Interest on term loan of Rs. 5.20 lacs is computed @ 12% per annum assuming repayment in 4 years including a moratorium period of 1 year. Interest on working capital loan is taken at 14% per annum.

9.7 Depreciation

It is computed on WDV basis @ 10% on building and 20% on machinery and miscellaneous assets.

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	Installed Capacity	--- 90 Tonnes ---	
	Capacity Utilisation	60%	75%
	Sales Realisation	16.20	20.25
B	Cost of Production		
	Raw and Packing Materials	9.66	12.07
	Utilities	0.48	0.60
	Salaries	1.14	1.35
	Stores and Spares	0.18	0.27
	Repairs & Maintenance	0.24	0.39
	Selling Expenses @ 7.5%	1.22	1.52
	Administrative Expenses	0.30	0.45
	Total	13.22	16.65
C	Profit before Interest & Depreciation	2.98	3.60
	Interest on Term Loan	0.58	0.43
	Interest on Working Capital	0.22	0.28
	Depreciation	0.88	0.72
	Profit before Tax	1.30	2.17
	Income-tax @ 20%	0.25	0.42
	Profit after Tax	1.05	1.75
	Cash Accruals	1.93	2.47
	Repayment of Term Loan	--	1.60

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		16.20
[B]	Variable Costs		
	Raw and Packing Materials	9.66	
	Utilities (70%)	0.35	
	Salaries (75%)	0.85	
	Stores & Spares	0.18	
	Selling Expenses (60%)	0.73	
	Admn Expenses (50%)	0.15	
	Interest on WC	0.22	12.14
[C]	Contribution [A] - [B]		4.06
[D]	Fixed Cost		2.36
[E]	Break-Even Point [D] ÷ [C]		58%

12.0 [A] LEVERAGES**Financial Leverage**

$$= \text{EBIT/EBT}$$

$$= 2.10 \div 1.30$$

$$= 1.62$$

Operating Leverage

$$= \text{Contribution/EBT}$$

$$= 4.06 \div 1.30$$

$$= 3.12$$

Degree of Total Leverage

$$= \text{FL/OL}$$

$$= 1.62 \div 3.12$$

$$= 0.52$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr
Cash Accruals	1.93	2.47	2.82	3.19
Interest on TL	0.58	0.43	0.25	0.12
Total [A]	2.51	2.90	3.07	3.31
Interest on TL	0.58	0.43	0.25	0.12
Repayment of TL	--	1.75	1.75	1.70
Total [B]	0.58	2.18	2.00	1.82
DSCR [A] ÷ [B]	4.33	1.33	1.53	1.81
Average DSCR	----- 2.25 -----			

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 7.40 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%	24%
1	1.93	1.66	1.63	1.61	1.56
2	2.47	1.84	1.77	1.71	1.61
3	2.82	1.81	1.72	1.63	1.48
4	3.19	1.76	1.65	1.54	1.35
5	3.48	1.66	1.52	1.40	1.19
	13.89	8.73	8.29	7.89	7.19

The IRR is around 22%.

Some of the machinery suppliers are

1. AMS Engg, Station road, Patna
2. Punjab Engg Works, Ram Krishna Samadhi Road, Kolkata
3. Prabhat Agency, Siwan, Bihar