EDIBLE GROUNDNUT FLOUR

1.0 INTRODUCTION

Groundnut flour is a cheap but good source of proteins compared to milk, eggs, meat etc. With more and more energy food plants coming up in many parts of the country, demand for groundnut flour is increasing. Legumes and oilseed cakes with high protein content are cheap sources for supplementing the diets of the poor sections of society.

2.0 PRODUCT

2.1 Applications

The major bulk buyers are energy food manufacturers. This flour is also used in the production of fortified atta and ready to eat food items. Many households, especially in western India also use groundnut flour. The unit can be set up in Gujarat, Maharashtra, AP and other groundnut cultivating states.

2.2 Availability of Technology & Compliance

CFTRI provides the process technology. Compliance under the PFA Act is necessary.

3.0 MARKET POTENTIAL

Groundnuts are rich in protein and are cultivated in many parts of the country. Groundnut is one of the major oilseeds. Since last few years, many energy food manufacturing plants have come up and they mix around 15-20% of groundnut flour along with other ingredients. Hence a firm tie up with such manufacturers is advisable. Other major customers are fortified atta producers and ready-to-eat food formulators.

4.0 MANUFACTURING PROCESS

CFTRI, Mysore, has successfully developed the process. Groundnuts in shell are passed through bucket elevators to destoner and decoraticator wherein shells are broken and groundnut kernels are seperated. Kernels are fed to viabratory grader to remove immature kernels. Then they are mild-roasted to facilitate removal of red skin. Then these roasted kernels are passed through blancher and skin and germs are seperated. Blanched kernels are once again visually inspected on picking tables. Then these kernels are fed to a screw type expeller and oil and buff coloured cake is obtained. Cake is allowed to cool and then ground in a hammer mill. Oil is then passed through a pressure filter of the plate and frame type and this filtered oil is packed in tins or barrels.

5.0 CAPITAL INPUTS

5.1 Land & Building

A plot of 300 sq.mtrs. with built up area of 150 sq.mtrs. would cost Rs. 90,000/- and Rs. 3,75,000/- respectively.

5.2 Machinery

500 kgs. of edible groundnut flour making capacity per shift with working of 250 days per year would require following machines.

(Rs. in lacs)

Particulars	Qty	Amount
Bucket Elevator	--	0.50
Destoner	1	0.60
Decorticator	1	0.60
Grader	1	1.00
Roaster	1	0.80
Blancher	1	1.25
Baby Expeller	1	0.75
Baby Boiler	1	0.80
Cake Grinder	1	0.40
Picking Tables	4	0.30
Weighing Scales, stitching machine,		
sealing machine etc.	--	0.40
Total		**7.40**

5.3 Miscellaneous Assets

Other assets like furniture & fixtures, oil storage tanks, packing tables, SS utensils etc. would cost Rs. 1.50 lacs.

5.4 Utilities

Power requirement shall be 20 KW whereas LDO requirement per month would be around 1500 ltrs. Water shall be required for potable and sanitation purposes.

5.5 Raw and Packing Materials

The only raw material would be good quality groundnuts in shell. Poly-lined jute bags and barrels or tins/plastic jars and corrugated boxes will be the packing material.

6.0 MANPOWER REQUIREMENTS

Particulars	No	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	2	2,500	5,000
Semi-skilled Workers	2	1,750	3,500
Helpers	6	1,500	9,000
Salesman	1	2,500	2,500
		Total	**20,000**

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	2
Completion of civil work and placement of orders for machinery	6
Erection, installation and trial runs	2

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Land and Building

Total expenditure under this head is likely to be Rs. 4.65 lacs as stated before.

8.2 Machinery

Cost of machinery is estimated to be Rs.7.40 lacs, as explained earlier.

8.3 Miscellaneous Assets

A provision of Rs. 1.50 lacs would take care of other assets as stated before.

8.4 Preliminary and Pre-Operative Expenses:

An amount of Rs. 1.75 lacs would be needed towards pre-production expenses.

8.5 Working Capital Requirement

At 60% capacity utilisation in the first year, the total working capital needs would be as under:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw and Packing Materials	½ Month	30%	0.75	0.55	0.20
Stock of Finished Goods	½ Month	25%	1.00	0.75	0.25
Receivables	½ Month	25%	1.30	0.95	0.35
Working Expenses	1 Month	100%	0.40	--	0.40
		Total	**3.45**	**2.25**	**1.20**

8.6 Cost of the Project and Means of Financing

(Rs. in lacs)

Items	Amount
Land and Buildings	4.65
Machinery	7.40
Miscellaneous Assets	1.50
Preliminary and Pre-operative Expenses	1.75
Contingencies @ 10% on land and building and machinery	1.20
Working Capital Margin	1.20
Total	**17.70**
Means of Finance	
Promoter's Contribution	5.20
Term Loan from Bank/FI	12.50
Total	**17.70**
Debt Equity Ratio	2.40 : 1
Promoters' Contribution	29%

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 and Build-up

As against the rated capacity of 125 tonnes per season, actual utilisation in the first year is assumed to be 60% and thereafter it is limited to 75%.

9.2 Sales Revenue at 100% Capacity

(Rs. in lacs)

Product	Qty. Tons	Selling Price Per Ton/Rs.	Value
Groundnut Flour	125	30,000	37.50
Edible Oil	20	40,000	8.00
Misc. Income	--	--	5.50
		Total	**51.00**

9.3 Raw and Packing Materials Required at 100%

Around 200 tonnes of groundnuts in shell shall be required and assuming average price of Rs. 14,000/- per ton, per season expenditure would be Rs. 28.00 lacs whereas expenditure on packing materials will be Rs. 2.50 lacs.

9.4 Utilities

Annual expenses on utilities at 100% shall be Rs. 2.00 lacs.

9.5 Interest

Interest on term loan of Rs. 12.50 lacs is calculated @ 12% per annum with complete repayment in 6 years including a moratorium period of 1 year and on working capital from bank, it is computed @ 14% per annum.

9.6 Depreciation

It is calculated on WDV basis @ 10% on building and 15% on machinery and miscellaneous assets.

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No	Particulars	1st Year	2nd Year
A	**Installed Capacity**	**----- 125 tonnes------**	
	Capacity Utilisation	60%	75%
	Sales Realisation	30.60	38.25
B	**Cost of Production**		
	Raw and Packing Materials	18.30	22.85
	Utilities	1.20	1.50
	Salaries	2.40	3.00
	Stores and Spares	0.30	0.42
	Repairs and Maintenance	0.36	0.48
	Selling Expenses @ 7.50%	2.30	2.87
	Administrative Expenses	0.60	0.72
	Total 25.46	**31.84**	
C	**Profit before Interest & Depreciation**	**5.14**	**6.41**
	Interest on Term Loan	1.50	1.27
	Interest on Working Capital	0.32	0.40
	Depreciation	1.81	1.55
	Profit before Tax	1.51	3.19
	Income Tax @ 20%	0.30	0.64
	Profit after Tax	1.21	2.55
	Cash Accrual	3.02	4.10
	Repayment of Term Loan	--	2.50

11.0 BREAK-EVEN POINT ANALYSIS

(Rs. in lacs)

No.	Particulars		Amount
A	**Sales**		**38.25**
B	**Variable Cost**		
	Raw and Packing Materials	22.85	
	Utilities (70%)	1.05	
	Salaries (70%)	2.10	
	Stores and Spares	0.42	
	Selling Expenses (70%)	2.01	
	Administrative Expenses (50%)	0.36	
	Interest on working capital	0.40	**29.19**
C	**Contribution**		**9.06**
D.	**Fixed Cost**		**5.87**
E.	**Break-Even Point (D ÷ C)**		**64%**

12.0 [A] LEVERAGES

Financial leverage:

= EBIT/EBT

= 4.86 ÷ 3.19

= 1.52

Operating Leverage:

= Contribution/EBT

= 9.06 ÷ 3.19

= 2.84

Degree of Total Leverage

= FL/OL

= 1.52 ÷ 2/84

= 0.54

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	**1st Yr**	**2nd Yr**	**3rd Yr**	**4th Yr**	**5th Yr**	**6th Yr**
Cash Accruals	3.02	4.10	4.46	4.69	5.16	5.43
Interest on Term Loan	1.50	1.27	0.98	0.68	0.38	0.22
Total (A)	**4.52**	**5.37**	**5.44**	**5.37**	**5.54**	**5.65**
Interest on Term Loan	1.50	1.27	0.98	0.68	0.38	0.22
Repayment of Term Loan	--	2.50	2.50	2.50	2.50	2.50
Total (B)	**1.50**	**3.77**	**3.48**	**3.18**	**2.88**	**2.72**
DSCR (A) ÷ (B)	**3.01**	**1.42**	**1.56**	**1.68**	**1.92**	**2.08**
Average DSCR	**---------- 1.95 ----------**					

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 17.70 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%
1	3.02	2.60	2.56	2.52
2	4.10	3.05	2.94	2.85
3	4.46	2.86	2.72	2.58
4	4.69	2.59	2.42	2.26
5	5.16	2.46	2.25	2.07
6	5.43	2.23	2.01	1.82
7	5.95	2.11	1.87	1.66
	32.81	**17.90**	**16.77**	**15.76**

The IRR is around 17%.

Some of the machinery suppliers are

1. Lakhanpal Food Processing Machinery, 36/6 Balkashwar Road, Agra 282 004, Tel. No. : 2540726, Fax : 2540789
2. Vashist Fodo Pvt Ltd, 315 Ambika Vihar, New Delhi 110 087, Tel. No. : 25271619, 25271636
3. Sahyog Steel Fabrication, 28 Bhojrajpara, Gondal 360 311 (Gujarat), Tel. No. : 224075
4. Raylons Metal Works, PB No 17426, JB Nagar, Andheri (E), Mumbai 400 059
5. International Food Machinery Corpn, Opp Deep Bhavan, Pandit Nehru Marg, Jamnagar 361 008
6. Harvest Sortmac Shosha Pvt Ltd, Nutech Vikas, No.6, 1st Avenue, Ashoknagar, Chennai 600 083, Tel. No. : 24717588