SOYA PANEER

1.0 INTRODUCTION

Soya bean is a leguminous crop and is rich in proteins. Many value-added products are made from it like milk, sauce, paneer etc. Soya products are increasingly becoming popular especially amongst health-conscious people. This product has potential in states like Maharashtra, MP, Gujarat etc. But this note considers Gujarat as the preferred location. Soya beans are cultivated in Bharuch and Panchmahal districts and the project can be located somewhere near Bharuch with nearby industrially developed towns being the target markets. Soya paneer is made from soya milk which is a rich source of high quality proteins and vitamins. Paneer is made by coagulating soya bean milk. It is white & soft.

2.0 PRODUCT

Paneer is one of the popular milk-based products. Many vegetarian preparations are made from it. Milk paneer is an established product but it is a costly product. Soya paneer would be an ideal substitute in terms of price as well as nutritious values.

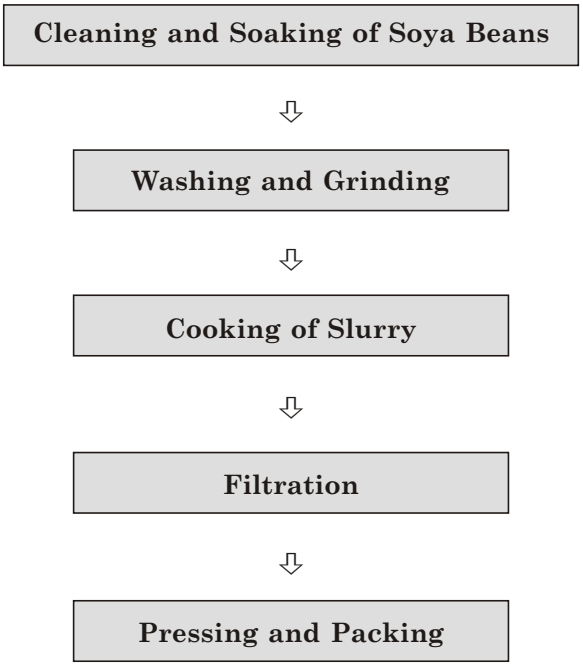
2.1 Compliance with PFA Act is mandatory.

3.0 MARKET POTENTIAL

Soya beans are very nutritious and their acceptance is increasing rapidly. Soya sauce, soya milk and soya bean edible oil are some of the examples. With increasing health awareness, soya-based products are preferred. Yet another favourable aspect of soya paneer would be its price. As against the price of milk paneer which is in excess of Rs.100/- per kg; soya paneer can be offered at half the price. This would be a major feature. At the same time, it is still a new concept and soya paneer is gradually being accepted by the consumers. Hence adequate marketing efforts coupled with attractive commission to the middlemen shall have to be offered. Nearby semi-urban and urban locations should be targeted.

4.0 MANUFACTURING PROCESS

Soya bean milk will not be available easily and hence it is contemplated to produce it in-house. Good quality soya beans shall have to be cleaned and then soaked in water for around 4 hours. Then they are washed in warm water before grinding them in water. Quantity of water is 7-8 times more than the beans with some hot water poured in the grinder through a hopper during the process. Grinding time is about 25 minutes. Then the slurry is cooked in grinder-cum-cooker for about 3 minutes at a temperature of around 120 °C. Then this slurry is filtered through muslin cloth to obtain soya milk. Small quantity of citric acid is added to the milk and this coagulated material is pressed in the mechanical press for about half an hour which removes bulk of the water and finally paneer is packed. The process flow chart is as under:



5.0 CAPITAL INPUTS

5.1 Land and Building

A readymade constructed area of around 75 sq.mtrs. may be bought which may cost Rs. 2.00 lacs. All equipments would need about 40 sq.mtrs. and balance area can be utilised for storage and packing.

5.2 Machinery

Since the concept of soya paneer is still not very popular, rated production capacity of 75 kgs. per day or annual capacity of 26 tonnes considering 350 working days is suggested.

This would need following machines:

Item	Qty.	Price (Rs.)
Filter Press	1	10,000
Grinder-cum-Cooker	1	80,000
Gas-fired Furnace (Bhatti)	1	15,000
Deep-freezer	1	35,000
SS Vessels, Weighing scales etc.	--	30,000
	Total	**1,70,000**

5.3 Miscellaneous Assets

Some other assets like furniture & fixtures, storage racks etc. shall be required for which a provision of Rs. 25,000/- is made.

5.4 Utilities

Power requirement shall be 7.5 HP whereas per day water requirement will be 750-800 ltrs. for process and potable and sanitation purposes. Around 3 LPG cylinders shall be required every month.

5.5 Raw Materials

The most important raw material will be good quality soya beans. Bharuch district reportedly produces around 4000 tonnes of soya beans whereas the annual requirement even at 100% capacity would be 26 tonnes. Citric acid will be required in small quantity. Prior arrangement for packing materials like wax paper and polythene bags should be made.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Worker	1	2,250	2,250
Helpers	2	1,250	2,500
Salesman	1	2,500	2,500
		Total	**7,250**

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

It is envisaged that a readymade constructed area of around 75 sq.mtrs. would cost Rs. 2.00 lacs.

8.2 Machinery

Expenditure on machinery would be Rs.1.70 lacs as explained earlier.

8.3 Miscellaneous Assets

A provision of Rs. 25,000/- would take care of other assets as stated before.

8.4 Preliminary & Pre-operative Expenses

An amount of Rs. 50,000/- is allocated towards pre-production expenses like registration, establishment and administrative charges, interest during implementation, trial runs etc.

8.5 Working Capital Requirements

Stocks of raw materials as well as finished goods will not be much and sales would be to scattered retailers in small quantity. Hence, it is assumed that the bank would sanction adhoc facilities of Rs. 25,000/- and the promoters would bring in Rs. 25,000/-.

8.6 Cost of the Project & Means of Financing

(Rs. in lacs)

Item	**Amount**
Building	2.00
Machinery	1.70
Miscellaneous Assets	0.25
P&P Expenses	0.50
Contingencies @ 10% on Building & Plant & Machinery	0.35
Working Capital Margin	0.25
Total	**5.05**
Means of Finance	
Promoters' Contribution	1.55
Term Loan from Bank/FI	3.50
Total	**5.05**
Debt Equity Ratio	2.26 : 1
Promoters' Contribution	35%

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 rated capacity of 26 tonnes per year, the actual utilisation is taken at 60% during first year and 75% in subsequent years.

9.2 Sales Revenue at 100%

Assuming selling price of Rs. 70,000/- per ton, total sales revenue at 100% would be Rs. 18.20 lacs.

9.3 Raw and Packing Materials Required at 100%

Average price of good quality soya beans during the year is taken at Rs.28,000/- per ton. Annual cost at 100% would be Rs.7.28 lacs. Citric acid and packing materials would cost Rs. 35,000/-.

9.4 Utilities

Annual cost of utilities at 100% activity level would be Rs.50,000/-.

9.5 Selling Expenses

A provision of 22.5% of annual sales revenue is made towards selling commission, transportation charges, scroll type advertisement on local TV channel, banners, pamphlets, sampling etc.

9.6 Interest

Interest on term loan of Rs.3.50 lacs is calculated @ 12% per annum assuming complete repayment in 3 years including a moratorium period of 6 months, whereas on bank assistance for working capital it is computed @ 14% per annum.

9.7 Depreciation

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

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	**Installed Capacity**	**---- 26 Tonnes ---**	
	Capacity Utilisation	60%	75%
	Sales Realisation	10.92	13.65
B	**Cost of Production**		
	Raw and Packing Materials	4.58	5.72
	Utilities	0.30	0.37
	Salaries	0.87	0.95
	Stores and Spares	0.12	0.15
	Repairs & Maintenance	0.18	0.24
	Selling Expenses @ 22.5%	2.45	3.07
	Administrative Expenses	0.24	0.30
	Total	**8.74**	**10.80**
C	**Profit before Interest & Depreciation**	**2.18**	**2.85**
	Interest on Term Loan	0.36	0.21
	Interest on Working Capital	0.04	0.05
	Depreciation	0.60	0.49
	Profit before Tax	1.18	2.10
	Income-tax @ 20%	0.08	0.40
	Profit after Tax	1.10	1.70
	Cash Accruals	1.70	2.19
	Repayment of Term Loan	0.65	1.30

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	**Sales**		**10.92**
[B]	**Variable Costs**		
	Raw and Packing Materials	4.58	
	Utilities (70%)	0.21	
	Salaries (70%)	0.62	
	Stores & Spares	0.12	
	Selling Expenses (75%)	1.84	
	Admn Expenses (50%)	0.12	
	Interest on WC	0.04	**7.53**
[C]	**Contribution [A] - [B]**		**3.39**
[D]	**Fixed Cost**		**2.21**
[E]	**Break-Even Point [D] ÷ [C]**		**65%**

12.0 [A] LEVERAGES

Financial Leverage

= EBIT/EBT

= 1.58 ÷ 1.18

= 1.34

Operating Leverage

= Contribution/EBT

= 3.39 ÷ 1.18

= 2.87

Degree of Total Leverage

= FL/OL

= 1.34 ÷ 2.87

= 0.47

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	**1st Yr**	**2nd Yr**	**3rd Yr**
Cash Accruals	1.70	2.19	2.52
Interest on TL	0.36	0.21	0.08
Total [A]	**2.06**	**2.40**	**2.60**
Interest on TL	0.36	0.21	0.08
Repayment of TL	0.70	1.40	1.40
Total [B]	**1.06**	**1.61**	**1.48**
DSCR [A] ÷ [B]	**1.94**	**1.49**	**1.75**
Average DSCR	**---------- 1.73 ----------**		

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 5.05 lacs.

(Rs. in lacs)

Year	Cash Accruals	24%	28%	32%
1	1.70	1.37	1.33	1.29
2	2.19	1.42	1.34	1.26
3	2.52	1.32	1.20	1.10
4	2.87	1.21	1.07	0.94
	9.28	**5.32**	**4.94**	**4.59**

The IRR is around 27%.

Some of the machinery suppliers are

1. De Leval Pvt. Ltd., A-3, Abhimanshree Society, Pashan Road, Pune-411008, Tel. No. 25675881/2, Fax: 25675916
2. Foodmac Engg., Pvt. Ltd., 37038, Sector II, Parwanoo-173220(HP). Tel No. 233294/5, Fax: 233296
3. Sahyog Steel Fabrications, 28, Bhojrajpara, Gondal-360311. Tel No. 224075
4. Milkcraft Projects and Consultants Pvt. Ltd. , A-417, Kalkaji Double Storey, New Delhi-110019. Tel No. 26473112