

SOYA SAUCE



1.0 INTRODUCTION

Soya bean is a leguminous crop and is rich in proteins. Soya products are increasingly becoming popular especially amongst health-conscious people. Soya sauce is used as taste and flavour enhancer with certain non-vegetarian, Chinese and western food varieties. It is prepared from de-fatted soya bean flour by hydrolysis process.

This project profile is for setting up of a Soya Sauce making with installed processing capacity of 15 MT of defatted soya flour per annum.

2.0 MARKET POTENTIAL

Market for soya-based products including soya sauce is in urban and semi-urban areas. Domestic use of soya sauce is limited to very few Indian households but restaurants, clubs, caterers, star hotels are major consumers. Since

regular use of soya sauce is still limited to the higher end of the society, the product has to be sold through departmental stores, shopping malls and super markets. Thrust has to be given on bulk packing rather than consumer packs so that institutional market can be captured.

3.0 PROCESS DETAILS

De-fatted soya flour is processed by using hydrolysis process. Flour and water along with other ingredients like salt, baking soda, vinegar, preservatives etc. are mixed homogenously to form a semi-liquid or paste-type mixture and it is passed through filter sieves to remove impurities. This mixture is then taken to SS neutralisation tanks and kept for about 2 hours before packing.

4.0 COST OF THE PROJECT

The estimated project cost is given below.

Particulars	Amount (Rs lacs)
Land & Site Development	-
Building & Civil Works	3.44
Machinery & Equipment	2.06
Misc. Fixed Assets	2.00
Preliminary & Pre-operative Expenses	0.85
Contingencies & Escalation @ 3%	0.22
Working Capital	1.71
TOTAL	10.28

4.1 Land & Site Development: No cost has been considered for land & site development. It is assumed that the unit will be set up in own land.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Work Shed (Half Brick wall, CGI sheet roof, Concrete Floor)	50	4000	200000
Office & Store (Brick wall, CGI sheet roof, Concrete Floor)	25	4500	112500
Sub total			312500
Add: Electrification, Water Supply, etc @ 10%			31250
TOTAL			343750
Say (Rs. in lacs)			3.44

4.3 Machinery & Equipment: Details of machinery & equipment are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
SS tanks with filter sieves	2	20000	40000
SS Collection and neutralisation tanks	4	13000	52000
Bottle Washing and Filling Machine	1	50000	50000
Miscellaneous items	LS	LS	20000
Sub total			162000
Add: Transportation, installation, etc @ 15%			24300
TOTAL			206300
Say (Rs. in lacs)			2.06

4.4 Misc. Fixed Assets: Details of miscellaneous fixed assets are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Power connection (30 HP)	1	100000	100000
Water supply system (STW boring, 3 HP pump set, storage, pipes & fittings)	1	80000	80000
Furniture & Fixtures	LS	LS	10000
Miscellaneous items	LS	LS	10000
TOTAL			200000
Say (Rs. in lacs)			2.00

4.5 Preliminary & Pre-operative Expenses: Details of preliminary & pre-operative expenses are given below.

Particulars	Amount (Rs lacs)
Travelling expenses	0.40
Professional & other fees	0.20
Interest during implementation	0.15
Miscellaneous expenses	0.10
TOTAL	0.85

4.6 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of the cost of building & civil works, machinery & equipment and miscellaneous fixed assets.

4.7 Working Capital: Details of working capital are given below.

	Period (days)	Amount (Rs lacs)		
		Yr 1	Yr 2	Yr 3
Raw Materials & Consumables	30	0.35	0.43	0.50
Utilities	30	0.08	0.09	0.11
Salary	30	0.39	0.40	0.40
Finished Goods	15	0.42	0.47	0.52
Receivables	15	0.46	0.55	0.65
TOTAL		1.71	1.94	2.17
Working Capital Margin in Yr 1 (100%)	1.71			

5.0 MEANS OF FINANCE

The means of finance for the project is estimated as below.

(Rs. in lacs)		
Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	40%	4.11
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	6.17
TOTAL	100%	10.28

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)					
Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production capacity (MT)	30	30	30	30	30
Capacity utilisation	50%	60%	70%	70%	70%
Production at capacity utilisation (MT)	15	18	21	21	21
Price (Rs/kg)	75	75	75	75	75
Income from sales/annum	11.25	13.50	15.75	15.75	15.75
B. OPERATING EXPENSES					
Raw Materials & Consumables	4.31	5.18	6.04	6.04	6.04
Utilities	0.94	1.13	1.32	1.32	1.32
Salary	4.80	4.85	4.90	4.95	4.99
Repair & Maintenance	0.07	0.09	0.11	0.13	0.16
Selling Expenses	0.11	0.14	0.16	0.16	0.16
Miscellaneous Expenses	0.06	0.07	0.08	0.08	0.08
Total Operating Expenses	10.30	11.44	12.59	12.66	12.74
Less: Working expenses capitalised	1.71	0.00	0.00	0.00	0.00
Operating profit	2.67	2.06	3.16	3.09	3.01
C. FINANCIAL EXPENSES					
Depreciation	0.39	0.39	0.39	0.39	0.39
Interest on Term Loan	0.49	0.41	0.30	0.18	0.06
Net Profit	1.79	1.26	2.48	2.52	2.56
Net cash accruals	2.17	1.65	2.86	2.91	2.95
Principal Repayment	0.36	1.45	1.45	1.45	1.45

6.1 Estimation of Production Capacity: Production of soya sauce at installed capacity is estimated as below.

Rated processing capacity (tonnes/ annum of defatted soya flour)	15
Yield of soya sauce after additives and water @ 1:1 (%)	200%
Production/ annum of soya sauce at installed capacity (MT)	30

6.2 Raw Materials & Consumables: Expenses on raw materials & consumables at installed capacity is estimated as below.

Particulars	Unit	Qty	Rate (Rs)	Amount (Rs)
Defatted soya flour	MT	15	25000	375000
Packing bottles (Avg. 0.5 kg capacity)	Nos	60000	5	300000
Add: Expenses on additives, etc @ 50% of soya flour				187500
Expenses on raw materials & consumables at installed capacity (Rs)				862500

6.3 Utilities: Expenses on utilities at installed capacity is estimated as below.Expenses on power

Connected Load (kw)	22
Avg. load factor	70%
Hrs/day	8
Days/annum	300
Annual power consumption (kwh)	37598
Rate per unit (Rs)	5
Expenses on power per annum at installed capacity (Rs)	187992

6.4 Salary: Expenses on salary in the 1st year is estimated as given below. It is assumed that salary expenses will increase @ 1% every subsequent year.

Particulars of Employees	Numbers	Salary/Month (Rs)	Cost/annum (Rs)
Manager (Self)	Self	-	-
Skilled Workers/Machine Operators	4	6000	288000
Sales Staff	1	4000	48000
Helpers	4	3000	144000
Expenses on salary in the 1st year (Rs)			480000

6.5 Repair & Maintenance: Expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 20% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount
Building & Civil Works	3.44	1%	0.03
Machinery & Equipment	2.06	1%	0.02
Misc. Fixed Assets	2.00	1%	0.02
Expenses on repair & maintenance in the 1st year (Rs)			0.07

6.6 Selling Expenses: Selling expenses have been assumed at 1% of sales.**6.7 Miscellaneous Expenses:** Miscellaneous expenses have been assumed at 0.5% of sales.**6.8 Depreciation:** Depreciation has been calculated by straight line method. The details of calculation are given below.

(Rs in lacs)

Description	Cost (Rs)	Rate	Amount/annum (Rs)
Building & Civil Works	3.44	3.34%	0.11
Machinery & Equipment	2.06	7.07%	0.15
Misc. Fixed Assets	2.00	6.23%	0.12
TOTAL			0.39

6.9 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 8% per annum. Duration of Loan repayment has been considered for a period of 5 years including moratorium period of 9 months with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5
Month 1	Opening balance	6.17	5.81	4.35	2.90	1.45
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest (8%)	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.17	5.68	4.23	2.78	1.33
Month 2	Opening balance	6.17	5.68	4.23	2.78	1.33
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.17	5.56	4.11	2.66	1.21

Month 3	Opening balance	6.17	5.56	4.11	2.66	1.21
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.17	5.44	3.99	2.54	1.09
Month 4	Opening balance	6.17	5.44	3.99	2.54	1.09
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.17	5.32	3.87	2.42	0.97
Month 5	Opening balance	6.17	5.32	3.87	2.42	0.97
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.17	5.20	3.75	2.30	0.85
Month 6	Opening balance	6.17	5.20	3.75	2.30	0.85
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.02	0.01
	Closing balance	6.17	5.08	3.63	2.18	0.73
Month 7	Opening balance	6.17	5.08	3.63	2.18	0.73
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.17	4.96	3.51	2.06	0.60
Month 8	Opening balance	6.17	4.96	3.51	2.06	0.60
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.17	4.84	3.39	1.94	0.48
Month 9	Opening balance	6.17	4.84	3.39	1.94	0.48
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.17	4.72	3.27	1.81	0.36
Month 10	Opening balance	6.17	4.72	3.27	1.81	0.36
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.05	4.60	3.14	1.69	0.24
Month 11	Opening balance	6.05	4.60	3.14	1.69	0.24
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	5.93	4.47	3.02	1.57	0.12
Month 12	Opening balance	5.93	4.47	3.02	1.57	0.12
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	5.81	4.35	2.90	1.45	0.00
Principal Repayment		0.36	1.45	1.45	1.45	1.45
Interest		0.49	0.41	0.30	0.18	0.06

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	Total
Profit After Tax (Net Profit)	1.79	1.26	2.48	2.52	2.56	
Depreciation	0.39	0.39	0.39	0.39	0.39	
Interest	0.49	0.41	0.30	0.18	0.06	
Total	2.67	2.06	3.16	3.09	3.01	13.97
Interest	0.49	0.41	0.30	0.18	0.06	
Loan repayment	0.36	1.45	1.45	1.45	1.45	
Total	0.85	1.86	1.75	1.63	1.51	7.61
DSCR	3.12	1.10	1.81	1.89	1.99	

Average DSCR = 1.84

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	11.25	13.50	15.75
B. Variable cost			
Raw Materials & Consumables	4.31	5.18	6.04
Utilities	0.94	1.13	1.32
Selling Expenses	0.11	0.14	0.16
Miscellaneous Expenses	0.06	0.07	0.08
Total variable cost	5.42	6.51	7.59
C. Contribution (A-B)	5.83	6.99	8.16
D. Fixed & Semi-fixed Costs			
Salary	4.80	4.85	4.90
Repair & Maintenance	0.07	0.09	0.11
Interest on Term Loan	0.49	0.41	0.30
Depreciation	0.39	0.39	0.39
Total fixed cost	5.75	5.73	5.68
E. BREAK EVEN POINT	98.67%	81.98%	69.66%
F. BEP at operating capacity	49.33%	49.19%	48.76%
G. Cash BEP	46.03%	45.89%	45.46%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	7.72	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	1.71	0.23	0.23	0.00	0.00
Total (A)	7.72	1.71	0.23	0.23	0.00	0.00
CASH INFLOW						
Profit After Tax		1.79	1.26	2.48	2.52	2.56
Add: Depreciation		0.39	0.39	0.39	0.39	0.39
Add: Interest		0.49	0.41	0.30	0.18	0.06
Add: Salvage Value (15%)						1.16
Total (B)	0.00	2.67	2.06	3.16	3.09	4.17
NET FLOW (B-A)	-7.72	0.95	1.83	2.93	3.09	4.17

IRR = 16%

MACHINERY SUPPLIERS

- Blenzor (India)
1,A, 1st Floor Sharda Mansion Dr Babasaheb Ambedkar Road, Mumbai, Maharashtra, India
- Sol Pack Systems
546, Upstair Saluja Plasticgill Road, Ludhiana, Punjab, India
- Shiv Traders
5 Rajputpara, 2 Trambakalaya complex, Opp Khodiyar Complex, Rajkot, Gujarat, India