

BAKERY



1.0 INTRODUCTION

Bakery is a traditional activity and occupies an important place in food processing industry. Despite the advent of fully automatic/semi-automatic bread and biscuit making plants, a sizeable number of people still prefer fresh bread and other products from bakery. Bread and biscuit consumption is more in cities and towns where industrial working group population is more. They are also being increasingly used for various feeding programmes managed by voluntary agencies and government departments.

This project profile is for setting up of Bakery for bread and biscuits making unit with installed production capacity of 240 kgs of bread and 25 kgs of biscuits per day.

2.0 MARKET POTENTIAL

India produces more than 80 million tonnes of wheat. Most of it is used for direct consumption in the form of chapati & bakery products. The per capita consumption of bakery products in India is about 2 kg per annum, against 50-100 kg bread alone in western countries. Consumption of bread and biscuits is increasing at estimated rate of 135% with a scope for further enhancement. The bread and biscuits making unit in

small towns and villages will meet the local demands as the consumers are compelled to buy branded ones sourced from outside in absence of fresh products which are made locally.

3.0 PROCESS DETAILS

3.1 Bread: The production process of bread is as follows.

- (i) Sifting of flour
- (ii) Preparation of suspension
- (iii) Preparation of dough by kneading all the ingredients
- (iv) Fermentation of dough
- (v) Baking
- (vi) Cooling and packing.

3.2 Biscuit: The production process of biscuit is as follows

- (i) Mixing of ingredients except flour in required proportion in paste form
- (ii) Preparation of dough by mixing with flour
- (iii) Placing dough in biscuit moulding and cutting machine
- (iv) Baking
- (v) Cooling and packing.

4.0 COST OF THE PROJECT

The estimated project cost is given below:

Particulars	Amount (Rs Lacs)
Land & Site Development	-
Building & Civil Works	4.03
Machinery & Equipments	3.03
Misc. Fixed Assets	1.68
Preliminary & Pre-operative Expenses	0.59
Contingencies & Escalation @ 3%	0.26
Working Capital	1.02
TOTAL	10.62

4.1 Land & Site Development: No cost has been considered for land & site development. It is assumed that the project 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)
Factory Building (Half brick wall, CGI sheet roof, Concrete Floor)	80	4500	360000
Add: Electrification, water supply, etc @ 12%			43200
TOTAL			403200
Say (Rs. in lacs)			4.03

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Dough Kneader	1	275000	275000
Flour Sifter	1		
Hand Dividers	4		
Oven	1		
Baby boiler	1		
Moulds & Dies			
Weighing Scale	1		
Mixing Vessels	4		
Miscellaneous items			
Add: Installation, transportation, etc @ 10%			27500
TOTAL			302500
Say (Rs. in lacs)			3.03

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Power connection (20 HP)	1	150000	150000
Furniture & fixtures	LS	LS	5000
Miscellaneous items	LS	LS	5000
Sub total			160000
Add: Installation, transportation, etc @ 5%			8000
TOTAL			168000
Say (Rs. in lacs)			1.68

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

Particulars	Amount (Rs lacs)
Travelling expenses	0.20
Professional & other fees	0.20
Interest during implementation	0.14
Miscellaneous expenses	0.05
TOTAL	0.59

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

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

	Period (Days)	Amount (Rs lacs)		
		Year 1	Year 2	Year 3
Raw Materials & Consumables	30	0.34	0.39	0.45
Power	30	0.06	0.07	0.08
Salary	30	0.22	0.22	0.22
Receivables	15	0.40	0.47	0.53
Total		1.02	1.16	1.29
Working Capital Margin in Year 1 (100%)	1.02			

5.0 MEANS OF FINANCE

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

Particulars	Percent	Amount (Rs lacs)
EQUITY		
A. Equity from Promoters	40%	4.25
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	6.37
TOTAL	100%	10.62

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Installed capacity (Nos/annum)					
(a) Bread	180000	180000	180000	180000	180000
(b) Biscuit	30000	30000	30000	30000	30000
Capacity utilisation	60%	70%	80%	80%	80%
Production at capacity utilisation					
(a) Bread	108000	126000	144000	144000	144000
(b) Biscuit	18000	21000	24000	24000	24000
Price (Rs/packet)					
(a) Bread	6	6	6	6	6
(b) Biscuit	18	18	18	18	18
Income from sales/annum (Rs lacs)	9.72	11.34	12.96	12.96	12.96
B. OPERATING EXPENSES					
Raw Materials & Consumables	4.11	4.80	5.48	5.48	5.48
Power	0.75	0.88	1.00	1.00	1.00
Salary	2.70	2.71	2.73	2.74	2.75
Repair & Maintenance	0.13	0.14	0.15	0.17	0.18
Selling Expenses	0.10	0.11	0.13	0.13	0.13
Miscellaneous Expenses	0.05	0.06	0.06	0.06	0.06
Total Operating Expenses	7.84	8.70	9.56	9.59	9.62
Less: Working expenses capitalised	1.02	0.00	0.00	0.00	0.00
Operating profit	2.91	2.64	3.40	3.37	3.34
C. FINANCIAL EXPENSES					
Depreciation	0.40	0.40	0.40	0.40	0.40
Interest on Term Loan	0.51	0.42	0.30	0.18	0.06
Net Profit	2.00	1.82	2.70	2.79	2.88
Net cash accruals	2.40	2.22	3.10	3.19	3.28
Principal Repayment	0.37	1.50	1.50	1.50	1.50

6.1 Production Capacity: Total production of bread and biscuit at installed capacity is estimated as below.

<u>Rated plant capacity (per day)</u>	
(a) Bread (kg)	240
(b) Biscuit (kg)	25
<u>Weight of each packaged product</u>	
(a) Bread (kg)	0.40
(b) Biscuit (kg)	0.25
<u>Production/day</u>	
(a) Bread (Nos.)	600
(b) Biscuit (Nos.)	100
<u>Days/annum</u>	
	300
<u>Total production per annum at installed capacity (No. of packets)</u>	
(a) Bread (Nos.)	180000
(b) Biscuit (Nos.)	30000

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

Particulars	Qty (Tonnes)	Rate (Rs)	Amount (Rs)
Flour	52	8000	416000
Yeast	0.8	22000	17600
Sugar	3.3	17000	56100
Ghee	2.5	45000	112500
Milk Powder	0.2	80000	16000
Salt	1.2	4000	4800
	Total		623000
Add: Packing materials, consumables, etc @ 10%			62300
Expenses on raw materials & consumables at installed capacity (Rs)			685300

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

Connected load (kw)	14.92
Avg. load factor	70%
Hrs/day	8
Days/annum	300
Annual power consumption (kwh)	25066
Rate per unit (Rs)	5.00
Expenses on power at installed capacity (Rs)	125328

6.4 Salary: Expenses on salary in the 1st year is estimated as given below. It is assumed that salary expenses will increase @ 0.5% every subsequent year.

Particulars of Employees	Numbers	Salary/ Month (Rs)	Cost/ annum (Rs)
Manager (Self)	-	-	-
Technicians/ machine operators	2	5000	120000
Helpers	5	2500	150000
Expenses on salary in the 1st year (Rs)			270000

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 @ 10% every subsequent year.

Particulars	Cost (Rs)	Rate	Amount (Rs lacs)
Building & Civil Works	4.03	1%	0.04
Machinery & Equipment	3.03	2%	0.06
Misc. Fixed assets	1.68	2%	0.03
Expenses on repair & maintenance in year 1			0.13

6.6 Selling Expenses: Selling expenses has 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.

Description	Cost (Rs)	Rate	Amount/ annum (Rs lacs)
Building & Civil Works	4.03	3.34%	0.13
Machinery & Equipment	3.03	5.28%	0.16
Misc. Fixed assets	1.68	6.33%	0.11
TOTAL			0.40

6.9 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 8%. 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	6.37	6.00	4.50	3.00	1.50
	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	6.37	5.87	4.37	2.87	1.37
Month 2	Opening balance	6.37	5.87	4.37	2.87	1.37
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.37	5.75	4.25	2.75	1.25
Month 3	Opening balance	6.37	5.75	4.25	2.75	1.25
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.37	5.62	4.12	2.62	1.12
Month 4	Opening balance	6.37	5.62	4.12	2.62	1.12
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.37	5.50	4.00	2.50	1.00
Month 5	Opening balance	6.37	5.50	4.00	2.50	1.00
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.37	5.37	3.87	2.37	0.87
Month 6	Opening balance	6.37	5.37	3.87	2.37	0.87
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.37	5.25	3.75	2.25	0.75
Month 7	Opening balance	6.37	5.25	3.75	2.25	0.75
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.37	5.12	3.62	2.12	0.62
Month 8	Opening balance	6.37	5.12	3.62	2.12	0.62
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.37	5.00	3.50	2.00	0.50
Month 9	Opening balance	6.37	5.00	3.50	2.00	0.50
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.37	4.87	3.37	1.87	0.37
Month 10	Opening balance	6.37	4.87	3.37	1.87	0.37
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.25	4.75	3.25	1.75	0.25
Month 11	Opening balance	6.25	4.75	3.25	1.75	0.25

	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.12	4.62	3.12	1.62	0.12
Month 12	Opening balance	6.12	4.62	3.12	1.62	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	6.00	4.50	3.00	1.50	0.00
Principal Repayment		0.37	1.50	1.50	1.50	1.50
Interest		0.51	0.42	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)	2.00	1.82	2.70	2.79	2.88	
Depreciation	0.40	0.40	0.40	0.40	0.40	
Interest	0.51	0.42	0.30	0.18	0.06	
Total	2.91	2.64	3.40	3.37	3.34	15.66
Interest	0.51	0.42	0.30	0.18	0.06	
Loan repayment	0.37	1.50	1.50	1.50	1.50	
Total	0.88	1.92	1.80	1.68	1.56	7.86
DSCR	3.29	1.37	1.89	2.00	2.14	

Average DSCR = 1.99

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	9.72	11.34	12.96
B. Variable cost			
Raw Materials & Consumables	4.11	4.80	5.48
Power	0.75	0.88	1.00
Selling Expenses	0.10	0.11	0.13
Miscellaneous Expenses	0.05	0.06	0.06
Total variable cost	5.01	5.84	6.68
C. Contribution (A-B)	4.71	5.50	6.28
D. Fixed & Semi-fixed Costs			
Salary	2.70	2.71	2.73
Repair & maintenance	0.13	0.14	0.15
Interest on Term Loan	0.51	0.42	0.30
Depreciation	0.40	0.40	0.40
Total fixed cost	3.73	3.68	3.59
E. BREAK EVEN POINT	79.28%	66.93%	57.09%
F. BEP at operating capacity	47.57%	46.85%	45.67%
G. Cash BEP	42.46%	41.74%	40.56%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	9.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	1.02	0.13	0.13	0.00	0.00
Total (A)	9.00	1.02	0.13	0.13	0.00	0.00
CASH INFLOW						
Profit After Tax		2.00	1.82	2.70	2.79	2.88
Add: Depreciation		0.40	0.40	0.40	0.40	0.40
Add: Interest		0.51	0.42	0.30	0.18	0.06
Add: Salvage Value						
Total (B)	0.00	2.91	2.64	3.40	3.37	3.34
NET FLOW (B-A)	-9.00	1.88	2.51	3.27	3.37	3.34

IRR = 16%

MACHINERY SUPPLIERS

- (a) Baker Enterprises
23, Bhera Enclave, Paschim Vihar, New Delhi - 110 087, Delhi, India
- (b) Kanteen India Equipments Co.
C. B - 59, Sector - 1, Salt Lake City, Near P. N. B., Tank No. 2, Opposite Mafatlal Showroom, Kolkata - 700 064, West Bengal, India
- (c) Perfect Bakery Engineers
Plot No. 266, Near Shivalik Play School, Tops Achar Factory Road, Matiyala Gaon, Uttam Nagar, New De lhi - 110 059, Delhi, India