BREAD

PRODUCT CODE	:	205101
QUALITY AND STANDARDS	:	IS 1483:1979 IS 4941:1968
PRODUCTION CAPACITY	:	Qty. : 36 lakh loaves of 400 gm bread per year Value : Rs. 165 Lakh
MONTH AND YEAR OF PREPARATION	:	February, 2003
PREPARED BY	:	Office of the Development Commissioner, (Small Scale Industries), Nirman Bhavan, New Delhi-110011

INTRODUCTION

Bread is a fast and convenient food based on wheat. There are many varieties of bread depending upon the local demand like whole flour bread, brown bread, bread fortified with vitamins and minerals, milk bread and bread for diabetic patients. Its consumption is more in cities and towns where industrial working group population is more. Bread and biscuit consumption is increasing day by day and these are being increasingly used for various feeding programmes for children managed by voluntary agencies and State Departments of Health.

The raw material required for bread is wheat flour/ maida which is available in plenty in the country considering increase in wheat production from 26 million tonnes in early 1950 to 54 million tonnes as of today. The manufacture of bread is exclusively reserved for small scale sector.

MARKET POTENTIAL

With the changing socio-economic environment i.e. increased literacy rate (about 65%), higher per capita income, larger number of women going out for work to sustain family, higher living standards and increased tourist population, etc., one can expect atleast 5% growth rate in case of bakery products in coming years. According to an estimate, there are about 1 lakh SSI Units producing items worth Rs. 3000 crores annually. Our per capita consumption of bakery products is the lowest in the world i.e. 1.27 kg. whereas in advanced countries, it ranges from 50–70 kgs.

Keeping in view these facts, the manufacture of bakery products has substantial scope for development in smaller towns, villages and backward areas and can provide good number of employment opportunities at different levels.

BASIS AND PRESUMPTIONS

(i) The scheme is based upon three shifts per day with installed capacity of 15000 loaves and 300 working days per annum.

(ii) The capacity utilization of plant is considered to be 70% with 3% overall wastages and other expenses. However, it will increase to 80% and 90% in 2nd and 3rd year respectively.

(iii) The construction of building and layout of plant is expected to meet the hygienic standards prevailing in other similar food processing Industries.

(iv) The yield of bread is about 910 numbers of breads (400gm.) taken from 280 kgs of Maida.

(v) The costs of machinery, raw material, finished product, salary, interest, etc. have been taken as prevailing in the market.

(vi) The water charges @ Rs 4.75/kl, include cost of pumping, processing and distribution of water.

IMPLEMENTATION SCHEDULE

Sl. No.	*Activity*	*Period (in months)*
1.	Arrangement of land, Registration, approval of loan and other formalities	2
2.	Site development, fencing and civil construction	1
3.	Machinery procurement	2
4.	Erection and commissioning	1
5.	Trial-cum-commercial production	1

TECHNICAL ASPECTS

Process of Manufacture

Dough is prepared by mixing all the ingredients together in the machine. The bowl is removed and mixing is done at intervals of 40 minutes. The mixed dough is fermented for two hours, knocked back and rested for 30 to 40 minutes. The dough is ready for dividing. The dividing is done as per the size of the loaf to be manufactured.

The divided dough pieces are panned and kept for final processing. When the dough attains a particular rising, they are baked for 40 minutes at 420°F. Baked dough is cooled sufficiently, sliced and then wrapped.

Quality Control and Standards

The Bureau of Indian Standards has specifications for bread and the number is IS1483:1979.

Production Capacity (per annum)

Sl. No.	Item	Qty. (No.)	Value (Rs. in lakhs)
1.	Bread	30 lakhs	165

Motive Power

The approximate requirement for the unit of above capacity is 25.00 KW.

Pollution Control

There is no major pollution problem in the manufacture of the above item.

Energy Conservation

Baking oven should be selected based on its performance of energy efficiency in terms of fuel/power because it involves high energy consuming process.

FINANCIAL ASPECTS

A. Fixed Capital

i) Land & Building		Amount (Rs. in lakh)
1.	Land 1000 sq mts @ Rs 250 sq mtr	2.50
2.	Land Development, Fencing etc.	1.00
Built-up Area		
3.	Main Factory Building 600 sq mts @ Rs 2500 sq mtr Other Constructions	15.00
4.	50 sq mts@ Rs 1500 sq mtr	0.75
	Total	19.25

ii) Machinery and Equipments

Sl. No.	Particulars	Indige-nous	Qty.	Amount (Rs. in lakh)
	1	2	3	4
	(a) *Production Unit*			
1.	Auto flour sifter with capacity to sift 2 bags per 5 minute complete with 0.373 KW motor and other accessories	Ind.	1	0.40
2.	Water measuring tank (S.S.) capacity 100 litres with all accessories	-do-	1	0.15
3.	100 Kg capacity double armed type dough kneader with 1.5 kW motor	-do-	2	1.2
4.	M.S. extra tub	-do-	2	0.12
5.	Single pocket slow speed dough dividing complete with 1 KW motor	-do-	1	0.80
6.	First prove rounder table type with 0.746 KW motor	-do-	1	0.30
7.	Conical umbrella type rounder complete with 1.12 KW motor and suitable reducing gear box	-do-	1	0.60
8.	Bread dough straight through moulder with 1.5 KW geared motor and switches	-do-	1	0.60
9.	Tunnel type final prover over all size 6'×6'×22' long double walled complete with recirculating fan (1HP) and with 1 HP automatic arrangement of mechanical pushing trollies through the tunnel	-do-	1	2.0
10.	Proofing Racks-A set of 8 No. for final proofing	-do-	1	1.0
11.	Oil, fired travelling type of oven having capacity of 1000 loaves charge having 1HP main drive motor, 3 HP recirculating fan, another 1 HP driven exhaust fan complete with medium pressure burner	-do-	1	3.75
12.	Hot loaves collection table 6' diameter turntable having sunmica top driven by 1 HP motor	-do-	1	0.30
13.	Slit conveyer for pan returned from oven to moulding area driven by 1 HP motor	-do-	1	0.80
14.	Slicing machine output 500-600 loaves per hour with 0.746 KW motor	-do-	3	0.75
15.	Wrapper sealing machine 8 simmer state 5 heaters 1.5 KW load	-do-	3	0.18
16.	Bread cooling racks	-do-	8	0.60
17.	Bread mould set of 3 pans with lid	Ind.		0.45
18.	Refrigerated cabinet for storing compressed yeast upto 200 kg capacity fitted with 1HP 3 phase motor	-do-		0.25
19.	Coal fired baby boiler of capacity 200 kg Steam/hr complete with all fittings	-do-	1	0.40

Sl. No.	Particulars	Indigenous	Qty.	Amount (Rs. in lakh)
20.	6" cotton canvas conveyer driven by 0.37 KW motor	-do-	2	0.30
b)	*Testing Equipment*	-do-	L.S.	0.50
c)	*Pollution Control Equipment*			Nil
d)	*Energy Conservation Facilities/Equipment*			Nil
e)	*(1) Cost of power connection*			0.50
	(2) Electrification and Installation charges @ 10% of the cost of machines and equipments			1.27
f)	*Cost of Moulds/ Other Fixtures*			0.20
g)	*Cost of Office Equipments and Furniture, etc*			0.50
	Total			17.92
iii)	Pre-operative Expenses			0.50
	Total Fixed Capital i)+ii)+iii)			37.67

B. Working Capital (per month)

(i) Personnel

Sl. No.	Designation	No.	Salary	Total (Rs. in lakh)
1.	Manager	1	6000	.06
2.	Supervisor-cum-chemist	4	4000	.16
3.	Mechanical supervisor	1	3000	.03
4.	Accountant (Senior)	1	4000	.04
5.	Sales-cum-purchase clerk	2	2500	.05
6.	Clerk-cum-cashier	1	2500	.025
7.	Skilled Workers	7	2500	.175
8.	Unskilled Workers	14	2000	.28
9.	Peon-cum-watchman	2	2000	.04
				0.86
	Perks @ 15% of Salaries			0.13
	Total			0.99

(ii) Raw Materials

Particulars	Ind.	Qty. (tonnes)	Rate (per Kg.)	Amount(Rs. in lakh)
Flour	-do-	92	Rs. 8.50/kg	7.82
Sugar	-do-	2.76	Rs. 14.50/kg	0.40
Salt	-do-	1.4	Rs. 4/kg	0.056
Dry yeast	-do-	0.7	Rs. 150/kg	1.05
Chemical and additives	—	L.S.		0.40
Packaging materials	—	L.S.		0.80
				10.526

(iii) Utilities			
Power	766 KWH units	@ Rs. 3/KWH	0.23
Fuel	L.S.		0.07
Water	—		0.005
			0.305

(iv) Other Contingent Expenses

Particulars	Amount (Rs. in lakh)
(i) Postage and Stationery	0.005
(ii) Telephone	0.005
(iii) Consumable stores	0.01
(iv) Repair and maintenance	0.005
(v) Transport charges	0.03
(vi) Advertisement and Publicity	0.03
(vii) Insurance	0.01
(viii) Taxes	0.005
(ix Sales expenses	0.02
(x) Other Miscellaneous Expenses	0.02
Total	0.14

(v) Total Recurring Expenditure (per month)
(Rs 0.99 + 10.526 + 0.305 + 0.14) = 11.961 lakhs

(vi) Working Capital for Bread Industry for one month-Recurring Expenditure = Rs 11.961 lakhs

C. Total Capital Investment

	(Rs. in lakh)
(i) Fixed Capital	37.67
(ii) Working Capital	11.961
Total	49.631

Machinery Utilization

The baking of bread is considered to be bottleneck operations for achieving projected capacity and anticipated utilization of 90–95%.

Financial Analysis

(1) Cost of Production (per year)

Particulars	Amount (Rs. in lakh)
(i) Total recurring cost	143.532
(ii) Depreciation on building @ 5%	0.84
(iii) Depreciation on machinery and equipment @ 10%	1.68
(iv) Depreciation on moulds and fixtures @ 25%	0.05
(v) Depreciation on office equipment @ 20%	0.20
(vi) Interest on total capital Investment @ 14%	6.95
Total	153.252

(2) Turn over (per year)

Item	Qty.	Rate	Amount (Rs. in lakh)
Bread	30 lakhs	@ Rs 5.60	168

(3) Net profit (per year) Rs. 168 lacs –153.252 lacs= *(before income tax)* Rs. 14.748 lakhs

(4) Net Profit Ratio

$$= \frac{\text{Net Profit per year} \times 100}{\text{Turn over per year}}$$

$$= \frac{14.748 \times 100}{168}$$

$$= 8.78\%$$

(5) Rate of Return

$$= \frac{\text{Net Profit per year} \times 100}{\text{Total Capital Investment}}$$

$$= 29.72\%$$

(6) Break-even Point

(i) Fixed Cost	Amount (Rs. in lakh)
(a) Depreciation (on machine and equipment, tools and fixtures and other equipment)	1.93
(b) Depreciation on building	0.84
(c) Interest on total investment	6.95
(d) Insurance	0.12
(e) 40% of Salary	4.128
(f) 40% of Other Contingent Expenses	0.62
Total	14.588

(ii) Net Profit (per year) 14.748

B.E.P.

$$= \frac{\text{Fixed Cost} \times 100}{\text{Fixed Cost + Profit}}$$

$$= \frac{14.588 \times 100}{14.588 + 14.748}$$

$$= \frac{1458.8}{29.336}$$

$$= 49.73\%$$

ADDITIONAL INFORMATION

For detailed technical information entrepreneurs may contact any SISI or Branch SISI located in the region.

Addresses of Machinery and Equipment Suppliers

1. M/s. Baker and Co. (P) Ltd.
   Oomrigal Building,
   Opp. Crawford Market,
   Mumbai-400008
2. Nagpal Brothers (Regd.)
   C-127, Phase-II,
   Mayapuri Industrial Area,
   New Delhi-110064
   Ph. 25400407, 25402631
3. M/s. Mangal Engg. Works
   Lahori Gate,
   Patiala,
   (Punjab)
4. M/s. J.SC. Dass and Bros.
   33/8, Anath Nath Dev Lane,
   Kolkata-700037
5. M/s. Ever Fresh Product
   Ram Bagh,
   Indore (M.P.)
6. M/s. New Engg. Industries
   Firozpur Road,
   Ludhiana.
7. M/s. Bijoy Engineers
   Mini Industries, Arimpur,
   Trichur - 680611 (Kerala)
8. Baker Enterprise
   23, Behra Engg. Lane
   Near Peeragarhi,
   New Delhi - 110041
9. Flora Engg. Corp.
   28-A, Phoolbag, Rampura,
   New Delhi -110035
   Phone: 25415335, 25411920.