

BISCUIT MAKING



1.0 INTRODUCTION

Biscuit making is a conventional activity in many parts of the country. Despite the advent of modern, large capacity and automatic biscuit making plants, large section of people especially in semi-urban and rural areas still prefer fresh biscuits from local bakery as they are cheap and offer many varieties. These manufacturers are able to cater to some typical local palate as well. Thus, they are able to withstand competition from organised sector units.

2.0 PRODUCTS

2.1 Applications

Biscuits are eaten by all sections of people across the board round the year. They are, thus, mass consumption items with number of varieties and shapes. The market is scattered. There are some dominant national and regional brands. Biscuits can be manufactured at a location which is close to the market.

2.2 Quality Standards and Compliances

The BIS has specified quality standards vide IS 1011:1992. Compliance with PFA Act is necessary.

3.0 MARKET POTENTIAL

3.1 Demand and Supply

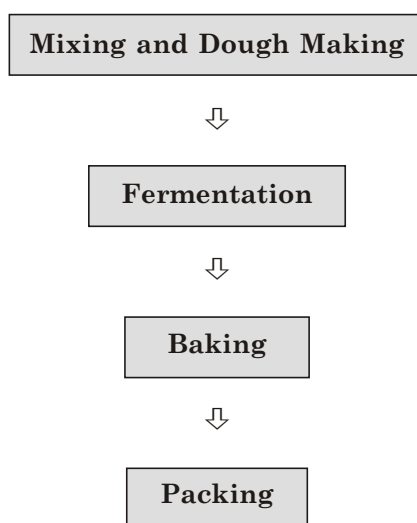
Market for biscuits is scattered all over the country. There are three distinct market segments viz. urban, semi-urban and rural. Urban and semi-urban markets are dominated by many national and regional brands but even then many local manufacturers have also carved a special niche as their products are fresh, they offer many varieties and they are cheaper.

3.2 Marketing Strategy:

Rural and certain semi-urban markets are mainly captured by small manufacturers. This note primarily suggests to enter this market. Apart from domestic customers, there is a vast market at bus and taxi stands, railway stations, weekly hats or bazaars, highway eateries or dhabas and melas or fairs. A small delivery vehicle can take care of destinations located in the vicinity of about 50-60 km. Attractive margins to traders/retailers will be crucial.

4.0 MANUFACTURING PROCESS

The process is conventional and easy. Wheat flour along with other ingredients is mixed with water and dough is prepared. Then it is kept at a normal room temperature for about couple of hours to allow proper fermentation. Then it is placed in biscuit moulding trays and these trays are placed in oven for baking. After requisite baking, trays are taken out, cooled and biscuits are packed. The process flow chart is as under:



5.0 CAPITAL INPUTS

5.1 Land and Building

It is advisable to buy a readymade shed of around 75 sq.mtrs. rather than buying land and then undertaking construction. This would save cost as well as time. The main production area would occupy about 40 sq.mtrs. whereas a store-cum-packing room and sales counter would be accommodated in remaining 35 sq.mtrs. The total cost would be Rs. 1.25 lacs.

5.2 Plant and Machinery

It is suggested to have installed production capacity to manufacture 50 tonnes of biscuits per year assuming working for about 330 days for 12-14 hours every day. This would require following set-up.

| Item | Qty. | Price (Rs.) |
|--|--------------|-----------------|
| Flour Sifter | 1 | 5,000 |
| Dough Kneader-50Kgs Capacity | 1 | 50,000 |
| Electrically-operated Oven- Size 48 inches | 1 | 80,000 |
| Biscuit Moulding Trays | 20 | 30,000 |
| Delivery Vehicle | 1 | 1,50,000 |
| | Total | 3,15,000 |

5.3 Miscellaneous Assets

Other assets like storage facilities, furniture and fixtures, weighing scales, sealing and wrapping machine and glass covered display counter for sales would need investment of about Rs. 90,000/-.

5.4 Utilities

Electricity requirement shall be 20 HP whereas daily consumption of water for process and potable and sanitation purposes will be around 500 ltrs.

5.5 Raw Materials

The all important raw material will be wheat flour. The requirement will not be substantial but supply arrangements with flour mill of the region would ensure smooth supplies. Other items like yeast, sugar, ghee, milk powder, salt, edible colours, flavours etc. will be required in small quantities. Packing wrappers and polythene bags will be the packing materials.

6.0 MANPOWER REQUIREMENTS

| Particulars | Nos. | Monthly Salary (Rs.) | Total Monthly Salary (Rs.) |
|----------------------|------|----------------------|----------------------------|
| Skilled Worker | 1 | 2,500 | 2,500 |
| Semi-skilled Workers | 2 | 1,750 | 3,500 |
| Salesmen | 1 | 2,000 | 2,000 |
| Driver-cum-Salesman | 1 | 2,000 | 2,000 |
| | | Total | 10,000 |

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

Readymade shed of around 75 sq.mtrs. will be sufficient as explained earlier. Its cost is assumed to be Rs. 1.25 lacs.

8.2 Plant and Machinery

The total cost under this head is likely to be Rs. 3.15 lacs as detailed earlier.

8.3 Miscellaneous Assets

A provision of Rs. 0.90 lac would take care of all the requirements.

8.4 Preliminary & Pre-operative Expenses

A provision of Rs. 50,000/- would take care of pre-production expenses like establishment, administrative and legal charges, travelling, interest during implementation, trial runs etc.

8.5 Working Capital Requirement

It is assumed that the plant would operate at 60% activity level in the first year for which following working capital will be required:

(Rs. in lacs)

| Particulars | Period | Margin | Total | Bank | Promoters |
|------------------------|---------|--------------|-------------|-------------|-------------|
| Stock of Raw Materials | ½ Month | 30% | 0.31 | 0.21 | 0.10 |
| Receivables | ½ Month | 25% | 0.70 | 0.53 | 0.17 |
| Working Expenses | 1 Month | 100% | 0.25 | -- | 0.25 |
| | | Total | 1.26 | 0.74 | 0.52 |

8.6 Cost of the Project and Means of Financing

(Rs. in lacs)

| Item | Amount |
|---|-------------|
| Building | 1.25 |
| Machinery | 3.15 |
| Miscellaneous Assets | 0.90 |
| P&P Expenses | 0.50 |
| Contingencies @ 10% on Building and Machinery | 0.45 |
| Working Capital Margin | 0.52 |
| Total | 6.77 |
| Means of Finance | |
| Promoters' Contribution | 2.17 |
| Term Loan from Bank/FI | 4.60 |
| Total | 6.77 |
| Debt Equity Ratio | 2.12 : 1 |
| Promoters' Contribution | 31% |

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 installed production capacity of 50 tonnes, the actual capacity utilisation is expected to be 60% and 75% respectively during first 2 years.

9.2 Sales Revenue at 100%

(Rs. in lacs)

| Product | Qty. (Tonnes) | Selling Price Rs. | Sales |
|-------------------|------------------|----------------------|-------|
| Assorted Biscuits | 50 | 55,000/- | 27.50 |

9.3 Raw and Materials Required at 100%

(Rs. in lacs)

| Product | Qty. Tonnes | Rate per Ton (Rs.) | Value |
|--------------------------------|----------------|-----------------------|--------------|
| Wheat Flour | 35 | 12,000 | 4.20 |
| Yeast | 1 | 35,000 | 0.35 |
| Sugar | 20 | 17,000 | 3.40 |
| Ghee | 2.5 | 90,000 | 2.25 |
| Milk Powder | 0.5 | 80,000 | 0.40 |
| Salt | 1 | 4,000 | 0.04 |
| Edible Colours and Flavours | -- | -- | 0.24 |
| Packing Materials | -- | -- | 1.20 |
| | | Total | 12.08 |

9.4 Utilities

Requirement of utilities are already discussed. Annual expenditure at 100% activity level is expected to be Rs.60,000/-.

9.5 Selling Expenses

Marketing will be very crucial. Traders/retailers shall have to be paid attractive commission in the range of 12½% to 15½ %. Hoardings shall have to be put up or pamphlets to be distributed. Hence a provision of 20% of sales income is made.

9.6 Interest

Interest on term loan of Rs. 4.60 lacs is calculated @ 12% per annum considering repayment in 4 years including a moratorium period of 1 year. Interest on bank assistance for working capital is calculated @ 14% per annum.

9.7 Depreciation

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

10.0 PROJECTED PROFITABILITY

(Rs. in Lacs)

| No. | Particulars | 1st Year | 2nd Year |
|----------|--|---------------------|--------------|
| A | Installed Capacity | ---- 50 Tonnes ---- | |
| | Capacity Utilisation | 60% | 75% |
| | Sales Realisation | 16.50 | 20.65 |
| B | Cost of Production | | |
| | Raw and Packing Materials | 7.25 | 9.06 |
| | Utilities | 0.36 | 0.45 |
| | Salaries | 1.20 | 1.40 |
| | Stores & Spares | 0.30 | 0.42 |
| | Repairs & Maintenance | 0.60 | 0.80 |
| | Selling Expenses 20% | 3.30 | 4.15 |
| | Administrative Expenses | 0.24 | 0.36 |
| | Total | 13.25 | 16.64 |
| C | Profit before Interest & Depreciation | 3.25 | 4.01 |
| | Interest on Term Loan | 0.52 | 0.35 |
| | Interest on Working Capital | 0.10 | 0.14 |
| | Depreciation | 0.94 | 0.76 |
| | Net Profit | 1.69 | 2.76 |
| | Income-tax @ 20% | 0.33 | 0.56 |
| | Profit after Tax | 1.36 | 2.20 |
| | Cash Accruals | 2.30 | 2.96 |
| | Term Loan Repayment | -- | 1.40 |

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

| No | Particulars | Amount | |
|-----|----------------------------|--------|-------|
| [A] | Sales | 16.50 | |
| [B] | Variable Costs | | |
| | Raw and Packing Materials | 7.25 | |
| | Utilities (65%) | 0.23 | |
| | Salaries (65%) | 0.78 | |
| | Stores & Spares | 0.30 | |
| | Selling Expenses (70%) | 2.31 | |
| | Admn Expenses (50%) | 0.12 | |
| | Interest on WC | 0.10 | 11.09 |
| [C] | Contribution [A] - [B] | | 5.41 |
| [D] | Fixed Cost | | 3.26 |
| [E] | Break-Even Point [D] ÷ [C] | | 60% |

12.0 (A) LEVERAGES

Financial Leverage

$$= \text{EBIT/EBT}$$

$$= 2.31 \div 1.69$$

$$= 1.37$$

Operating Leverage

$$= \text{Contribution/EBT}$$

$$= 5.41 \div 1.69$$

$$= 3.20$$

Degree of Total Leverage

$$= \text{FL/OL}$$

$$= 1.37 \div 3.20$$

$$= 0.43$$

(B) Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

| Particulars | 1st Yr | 2nd Yr | 3rd Yr | 4th Yr |
|---------------------|-------------------------|-------------|-------------|-------------|
| Cash Accruals | 2.30 | 2.96 | 2.53 | 2.10 |
| Interest on TL | 0.52 | 0.35 | 0.18 | 0.07 |
| Total [A] | 2.82 | 3.31 | 2.71 | 2.17 |
| Interest on TL | 0.52 | 0.35 | 0.18 | 0.07 |
| Repayment of TL | -- | 1.40 | 1.40 | 1.50 |
| Total [B] | 0.52 | 1.75 | 1.58 | 1.57 |
| DSCR [A] [B] | 5.42 | 1.89 | 1.72 | 1.38 |
| Average DSCR | ----- 2.60 ----- | | | |

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 6.77 lacs.

(Rs. in lacs)

| Year | Cash Accruals | 18% | 20% | 24% |
|------|---------------|-------------|-------------|-------------|
| 1 | 2.30 | 1.95 | 1.92 | 1.85 |
| 2 | 2.96 | 2.13 | 2.05 | 1.92 |
| 3 | 2.53 | 1.54 | 1.46 | 1.33 |
| 4 | 2.10 | 1.08 | 1.01 | 0.89 |
| 5 | 1.85 | 0.81 | 0.74 | 0.63 |
| | 11.74 | 7.51 | 7.18 | 6.62 |

The IRR is around 22%.

Some of the machinery suppliers are

1. Master Mechanical Works Pvt Ltd, 75, Link Road, Lajpat Nagar 3, New Delhi- 110024
2. Nagpal Brothers, C-127, Phase 2, Mayapuri Industrial Area, New Delhi- 110064
3. Delight Engg. Works, Lane No. 8 Aslat pura, Moradabad-244001.
Tel No. 2498398/2491687, Fax: 2494378
4. Foodmac Engg. Pvt. Ltd. 37038, Sector 2, Parwanoo-173220 (HP).
Tel No. 233294/233295, Fax: 233296
5. KGN Engg., Plot No. 174, Old Airport Road, Secunderabad-500011. Tel No. 27952147