

BANANA CHIPS

1.0 INTRODUCTION

Chips are the most popular variety of snacks and they are consumed round the year by people of all age groups from all income segments. Potato chips are more popular than banana chips but banana chips have a special category of consumers and they are preferred by many. Competition is not as fierce as in case of potato chips. There are some national as well as regional established brands for potato chips but they are not in banana chips as the market is small. This provides an ample opportunity to a new entrant as the market is not dominated by some brands and with good quality and competitive pricing, it is possible to capture adequate market share.

2.0 PRODUCT

2.1 Applications

Banana chips are made from unripe bananas. Chips or wafers are crispy, salty or spicy and consumers prefer fresh quality. Since they are made from banana, they have nutritious values as well. The product needs to be packed in transparent polythene bags.

2.2 Compliances and Quality Standards

Compliance with PFA Act and FPO is mandatory. Quality standards have been laid down vide IS 2397:1988

3.0 MARKET POTENTIAL

3.1 Demand and Supply

There is a very large market for banana chips and they can be sold at all such places where people assemble like theatres, picnic spots, bus stands or railway stations, traffic junctions etc. Retailing has to be done through small grocery shops as well as big departmental stores and super markets.

3.2 Marketing Strategy:

There is also institutional market consisting of clubs, canteens, railway and airline caterers, co-operative consumer societies and so on. There will be a competition from other small manufacturers and it can be effectively overcome by offering good quality and attractive packing, providing lucrative margins to retailers and charging very economical price. Volumes would compensate for low profit margins.

4.0 MANUFACTURING PROCESS

It is very well established and standardised. Damaged or ripe bananas are taken out during inspection and only good quality unripe bananas are washed in water. Then they are peeled and trimmed before slicing or cutting them in the required size. Then they are washed in boiled water and dried. Dried pieces are deep fried and then either salt or spices or both are applied on them. After cooling, they are packed. The process and weight loss is in the range of 15% to 20%.The process flow chart is as under.

Sorting and washing of bananas

K

Peeling and slicing

K

Washing in boiled water and drying

K

Deep frying

K

Seasoning and packing

5.0 CAPITAL INPUTS

5.1 Land and Building

Land of around 150 sq.mtrs. with built up area of 100 sq.mtrs. would be adequate. Production hall would occupy around 60 sq.mtrs. and balance area can be utilised for storage and packing. Land may cost Rs. 50,000/- whereas the cost of civil work could be Rs.2.50 lacs.

5.2 Machinery

Machineries required to process around 30 tonnes of banana chips with 300 working days and 1 shift, working shall be as under.

Item	Qty.	Price (Rs.)
Banana Peeling Machine	1	40,000
Fruit Washing Tanks	2	20,000
Slicer	2	25,000
Gas Furnace with Burners (Bhatti)	1	20,000
Frying Pans	2	20,000
SS Utensils	4	15,000
Weighing scales, plastic bags sealing machinesm, etc.	--	15,000
	Total	1,55,000

5.3 Miscellaneous Assets

Some other assets like furniture and fixtures, packing tables, storage racks etc. would cost Rs. 35,000/-.

5.4 Utilities

Power requirement shall be 7.5 HP whereas about 4 LPG cylinders will be required every month. Per day water requirement will be 1000 ltrs.

5.5 Raw and Packing Materials

The most important raw material will be fully grown but unripe bananas. The monthly requirement of 2.5 tonnes even at 100% utilisation is not very significant. Edible oil, salt and spices shall also be required in small quantity and can be easily procured. Printed polythene bags along with corrugated boxes shall be required for packing for which prior arrangements must be made.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Worker	1	2,250	2,250
Helpers	3	1,250	3,750
Salesman	1	2,500	2,500
		Total	8,500

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	1
Completion of civil work and placement of orders for machinery	4
Erection, installation and trial runs	1

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Land and Building

Particulars	Area (Sq.Mtrs)	Cost (Rs.)
Land	150	50,000
Building	100	2,50,000
	Total	3,00,000

8.2 Machinery

The total cost of machinery is expected to be Rs. 1.55 lacs as explained earlier.

8.3 Miscellaneous Assets

A provision of Rs. 35,000/- is adequate as narrated earlier.

8.4 Preliminary & Pre-operative Expenses

There will be several pre-operative expenses like registration, establishment, travelling and administrative charges, interest during implementation, trial run expenses etc. An amount of Rs. 50,000/- is provided towards that.

8.5 Working Capital Requirements

Bank may find it difficult to sanction working capital as stocks of raw and packing materials as well as finished goods will not be much and bulk of the customers would be scattered provision stores and even roadside shops. Hence, it is assumed that it would sanction adhoc facility of Rs.50,000 against second charge on fixed assets and the promoters would bring in Rs. 50,000/-.

8.6 Cost of the Project & Means of Financing (Rs. in Lacs)

Item	Amount
Land and Building	3.00
Machinery	1.55
Miscellaneous Assets	0.35
P&P Expenses	0.50
Contingencies @ 10% on Land and Building & Plant & Machinery	0.45
Working Capital Margin	0.50
Total	6.35
Means of Finance	
Promoters' Contribution	2.05
Term Loan from Bank/FI	4.30
Total	6.35
Debt Equity Ratio	2.10 : 1
Promoters' Contribution	32%

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 annual rated processing capacity of 30 tonnes, actual utilisation in the first year is taken at 60% and thereafter 75%.

9.2 Sales Revenue at 100%

The selling price is taken at Rs. 75,000/- per ton which is lower by 25% to 30% than the prevailing prices. Thus, annual turnover at 100% utilisation for 24 tonnes would be Rs. 18.00 lacs.

9.3 Raw and Packing Materials Required at 100%

(Rs. in Lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Value
Unripe Bananas	30	10,000	3.00
Edible Oil	5	50,000	2.50
Salt, Spices etc.	--	--	0.60
Packing Material	--	--	1.00
		Total	7.10

9.4 Utilities

Annual expenditure at 100% utilisation would be Rs. 60,000/-.

9.5 Selling Expenses

Apart from very competitive pricing, it is necessary to offer attractive commission to retailers and provide them some publicity material. There will be transportation cost as well. Hence, a provision of 17.5% of sales income is made.

9.6 INTEREST

Interest on term loan of Rs.4.30 lacs is computed @ 12% per annum considering complete repayment in 3 years including a moratorium period of 6 months. Interest on working capital from bank is taken at 14% per annum.

9.7 Depreciation

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

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	Installed Capacity	----- 30 Tonnes -----	
	Capacity Utilisation	60%	75%
	Sales Realisation	10.80	13.50
B	Cost of Production		
	Raw and Packing Materials	4.25	5.30
	Utilities	0.36	0.45
	Salaries	1.02	1.15
	Stores and Spares	0.12	0.18
	Repairs & Maintenance	0.18	0.24
	Selling Expenses @ 17.5%	1.90	2.35
	Administrative Expenses	0.36	0.42
	Total	8.19	10.09
C	Profit before Interest & Depreciation	2.61	3.41
	Interest on Term Loan	0.45	0.26
	Interest on Working Capital	0.07	0.10
	Depreciation	0.63	0.53
	Profit before Tax	1.46	2.52
	Income-tax @ 20%	0.39	0.50
	Profit after Tax	1.07	2.02
	Cash Accruals	1.70	2.55
	Repayment of Term Loan	0.80	1.60

11.0 BREAK-EVEN ANALYSIS

(Rs. in Lacs)

No	Particulars	Amount	
[A]	Sales		10.80
[B]	Variable Costs		
	Raw and Packing Materials	4.25	
	Utilities (70%)	0.25	
	Salaries (70%)	0.70	
	Stores & Spares	0.12	
	Selling Expenses (70%)	1.38	
	Admn. Expenses (50%)	0.18	
	Interest on WC	0.07	6.95
[C]	Contribution [A] - [B]		3.85
[D]	Fixed Cost		2.39
[E]	Break-Even Point [D] ÷ [C]		62%

12.0 [A] LEVERAGES

Financial Leverage

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

$$= 1.98 \div 1.46$$

$$= 1.36$$

Operating Leverage

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

$$= 3.85 \div 1.46$$

$$= 2.64$$

Degree of Total Leverage

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

$$= 1.36 \div 2.64$$

$$= 0.52$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr
Cash Accruals	1.70	2.55	3.19
Interest on TL	0.45	0.26	0.11
Total [A]	2.15	2.81	3.30
Interest on TL	0.45	0.26	0.11
Repayment of TL	0.80	1.60	1.70
Total [B]	1.25	1.86	1.81
DSCR [A] ÷ [B]	1.72	1.51	1.82
Average DSCR	----- 1.68 -----		

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 6.35 lacs.

(Rs. in lacs)

Year	Cash Accruals	20%	24%	28%
1	1.70	1.42	1.37	1.33
2	2.55	1.77	1.66	1.56
3	3.19	1.85	1.67	1.52
4	3.62	1.74	1.53	1.35
	15.14	6.78	6.23	5.76

The IRR is around 25%.

Some machinery and packing material suppliers are

1. Nagpal Brothers, C-127, Phase II, Mayapuri Industrial Area, New Delhi- 110064
2. B R Industries, Noida, New Delhi
3. SP Engg. Works, PB No. 218, Kanpur
4. Delight Engg. Works, Lane No. 8, Aslatpura, Moradabad-244001.
Tel No. 2498398/2491687, Fax: 2494378
5. Gaziabad Printing and Packing Industries Pvt. Ltd., Near DPS, Meerut Road, Gaziabad