

# ASSORTED CHIKKIES



## 1.0 INTRODUCTION

Chikki is a sweet product prepared by mixing various types of nuts and other ingredients either with jaggery or sugar. These ingredients are mixed with thick syrup made of jaggery or sugar. The mixture is cooled and then smaller pieces are made and packed. There are many ingredients which are used like groundnut or cashewnut kernels, sesame seeds, pieces of dried coconut, dry-fruits and so on. Chikki is popular all over the country amongst all age groups but school going children and rural areas are the main targets. This product can be manufactured anywhere on the country, but this note considers the North-Eastern States as a preferred location, in view of growing market.

## 2.0 PRODUCTS

### 2.1 Applications

Chikkies can be made from many dry ingredients as explained above. It is a dry and sweet preparation. It can be made by using costly ingredients like dry fruits but market for such costly chikkies is limited and demand is only during winter season. But chikkies made from groundnut kernels, dry coconut and sesame seeds have vast market round the year. This note deals with such low cost high volume products.

### 2.2 Availability of technology and compliances

DFRL, Mysore has successfully developed the technology. Compliance with the PFA Act is compulsory.

## 3.0 MARKET POTENTIAL

### 3.1 Demand and Supply:

Chikkies are not much popular in urban areas and are eaten in a very small quantity that too during winter season. But they are very popular in semi-urban and rural areas especially amongst school going children. Low priced chikkies packed individually in plastic sheets have large market. Apart from sale through retailers located near the schools, bus stands, weekly

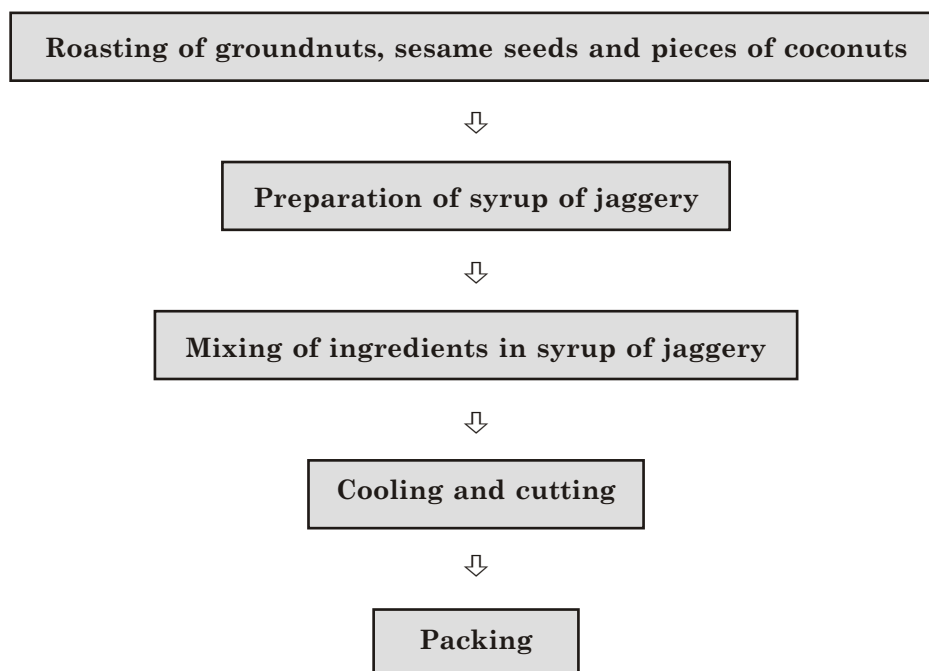
markets, cinema halls, taxi stands, rural fairs etc. are the places where they are sold briskly. Thus, the market is scattered.

### 3.2 Marketing Strategy:

Generally, the market is catered to by the local manufacturers and there are very few dominant brands. Lonawala on Mumbai-Pune highway is famous for chikkies with more than 100 manufacturers. But on the whole, the market is controlled by the unorganised sector and retailers play a critical role.

## 4.0 MANUFACTURING PROCESS

The process is very simple. Groundnut kernels are roasted to remove the outer red skin and they are split in the splitting machine. In case of sesame seeds or dry coconut they are roasted and small pieces of coconut are made manually. Simultaneously, jaggery is boiled in water till thick syrup is formed and then filtered to remove unwanted particles. This hot syrup is mixed with groundnut splits or roasted sesame seeds or pieces of roasted coconut and then this mixture is poured in trays for drying. After about couple of hours, small square sized pieces are cut and individual piece is packed in plastic wrappers. The Process Flow Chart is as follows:



## 5.0 CAPITAL INPUTS

### 5.1 Land and Building

A plot of land of about 700 sq.mtrs. with built up area of 400 sq.mtrs. is adequate. The production area would have two major sections. One would have furnaces (bhattis) and the second one would accommodate trays for drying. A packing room of about 50 sq.mtrs. and raw materials storage of 50 sq.mtrs. is sufficient. Finished goods godown can be accommodated in 40-45 sq.mtrs. Price of land would vary according to location but it is taken at Rs. 300/- per sq.mtr. whereas average construction cost is considered @ Rs.2, 500/- per sq.mtr.

## 5.2 Machinery

Keeping in mind the size of the market, it is suggested to have rated capacity of 15 tonnes per month or 180 tonnes per year with two shift working and 300 working days every year. Increasing of capacity would not require huge capital investment or time and hence moderate capacity is suggested. Following equipments shall be required.

Item	Qty.	Price (Rs)
Oil-fired Furnaces	4	60,000
Stainless Steel Utensils of Different Sizes	10	40,000
Large Capacity Pans	6	20,000
Platform-type Weighing Scale	1	15,000
Electronic Weighing Scale	1	7,000
Drying Trays	25	50,000
Other Miscellaneous Equipments	--	10,000
	<b>Total</b>	<b>2,02,000</b>

## 5.3 Miscellaneous Assets

A provision of Rs.50,000/- would be sufficient to take care of other assets like furniture and fixtures, exhaust fans, electricals, storage facilities, etc.

## 5.4 Utilities

The all important requirement will be furnace oil. It is also possible to use either coal or wood. Power requirement will be 7.5 HP whereas water requirement per day will be 800-1000 ltrs. Total expenditure on utilities at 100% capacity level will be Rs.2.00 lacs.

## 5.5 Raw Material

The major raw material will be groundnut kernels, sesame seeds, dry coconut and jaggery. Groundnut chikki is very popular and hence 60% of the total production will be of groundnut chikkies. Very small quantity of essences shall be required. As regards packing materials, small sized wrappers, card-board boxes or plastic jars and second-hand corrugated cartons will be required.

## 6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs)	Total Monthly Salary (Rs)
Skilled Worker	6	2,000	12,000
Helpers	8	1,250	10,000
Salesman	1	2,500	2,500
		<b>Total</b>	<b>24,500</b>

## 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	700	2,10,000
Building	400	10,00,000
	<b>Total</b>	<b>12,10,000</b>

### 8.2 Machinery

For the installation of 180 tonnes per year of production capacity, the total investment under this head will be Rs.2, 02,000/- as explained earlier.

### 8.3 Miscellaneous Assets

A provision of Rs. 50,000/- is adequate to buy other support assets as explained earlier.

### 8.4 Preliminary & Pre-operative Expenses

An amount of Rs. 60,000/- would take care of certain pre-production expenses like registration and administrative expenditure, interest during implementation, trial run expenses and so on.

### 8.5 Working Capital Requirement

It is envisaged that the plant would operate at 60% capacity in the first year and the working capital needs shall be as under:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw and Packing Materials	½ Month	30%	1.30	0.90	0.40
Stock of Finished Goods	½ Month	25%	1.70	1.28	0.42
Receivables	½ Month	25%	2.10	1.58	0.52
Working Expenses	1 Month	100%	0.25	--	0.25
		<b>Total</b>	<b>5.35</b>	<b>3.76</b>	<b>1.59</b>

## 8.6 Cost of the Project and Means of Financing

(Rs. in lacs)

Item	Amount
Land and Building	12.10
Machinery	2.02
Miscellaneous Assets	0.50
P&P Expenses	0.60
Contingencies @ 10% on Land and Building & Plant & Machinery	1.40
Working Capital Margin	1.59
<b>Total</b>	<b>18.21</b>
<b>Means of Finance</b>	
Promoters' Contribution	5.46
Term Loan from Bank/FI	12.75
<b>Total</b>	<b>18.21</b>
Debt Equity Ratio	2.33 : 1
Promoters' Contribution	30%

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 capacity of 180 tonnes per year, the actual capacity utilisation in the first year is assumed to be 60% and second year onwards, it is limited to 75%.

### 9.2 Sales Revenue at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Sales Value
Groundnut Chikki	108	46,000	49.68
Sesame Seed Chikki	36	47,500	17.10
Coconut Chikki	36	48,000	17.28
		<b>Total</b>	<b>84.06</b>

### 9.3 Raw Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Sales Value
Groundnuts	55	23,000	12.65
Sesame Seeds	28	28,000	7.84
Coconut	28	30,000	8.40
Jaggery	90	18,000	16.20
Essences	--	--	0.72
		<b>Total [A]</b>	<b>45.81</b>
<b>Packing Material</b>			
Plastic Wrappers, Bags, labels, etc.	--	--	2.50
Card-board Boxes, used corrugated cartons, etc.	--	--	3.80
<b>Total [B]</b>			<b>6.30</b>
<b>Total [A]+[B]</b>			<b>52.11</b>

### 9.4 Utilities

The annual expenditure on utilities at 100% capacity utilisation shall be Rs. 2.00 lacs as explained earlier.

### 9.5 Selling Expenses

A provision of 17.5% of sales income has been made mainly to take care of selling commission for retailers and transportation costs.

### 9.6 Interest

Interest on Term Loan is calculated @ 12% per annum assuming complete repayment in 5 years including a moratorium period of 1 year. Interest on working capital assistance from bank is taken at 14% per annum.

### 9.7 Depreciation

The method adopted is WDV and rates assumed are 10% on building and 20% on machinery.

## 10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
<b>A</b>	<b>Installed Capacity</b>	--- 180 Tonnes ---	
	Capacity Utilisation	60%	75%
	Sales Realisation	50.43	63.04
<b>B</b>	<b>Cost of Production</b>		
	Raw and Packing Materials	31.27	39.08
	Utilities	1.20	1.50
	Salaries	2.94	3.35
	Stores and Spares	0.21	0.30
	Repairs & Maintenance	0.36	0.48
	Selling Expenses	8.82	11.03
	Administrative Expenses	0.60	0.84
	<b>Total</b>	<b>45.40</b>	<b>56.58</b>
<b>C</b>	<b>Profit before Interest &amp; Depreciation</b>	<b>5.03</b>	<b>6.46</b>
	Interest on Term Loan	1.44	1.08
	Interest on Working Capital	0.53	0.66
	Depreciation	1.40	1.22
	Profit before Tax	1.66	3.50
	Income-tax @ 20%	0.36	0.70
	Profit after Tax	1.30	2.80
	Cash Accruals	2.70	4.02
	Repayment of Term Loan	--	3.00

## 11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		<b>63.04</b>
[B]	<b>Variable Costs</b>		
	Raw and Packing Materials	39.08	
	Utilities (70%)	1.05	
	Salaries (50%)	1.65	
	Stores & Spares	0.30	
	Selling Expenses (50%)	6.62	
	Admn. Expenses (50%)	0.42	
	Interest on WC	0.56	<b>49.78</b>
[C]	<b>Contribution [A] - [B]</b>		<b>13.26</b>
[D]	<b>Fixed Cost</b>		<b>8.54</b>
[E]	<b>Break-Even Point [D] ÷ [C]</b>		<b>64%</b>

**12.0 [A] LEVERAGES**

**Financial Leverage**

= EBIT/EBT

= 3.63 ÷ 1.66

= 2.19

**Operating Leverage**

= Contribution/EBT

= 9.02 ÷ 1.66

= 5.43

**Degree of Total Leverage**

= FL/OL

= 2.19 ÷ 5.43

= 0.40

**[B] Debt Service Coverage Ratio (DSCR)**

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Cash Accruals	2.70	4.02	4.32	4.87	5.51
Interest on TL	1.44	1.08	0.72	0.36	0.14
<b>Total [A]</b>	<b>4.14</b>	<b>5.10</b>	<b>5.04</b>	<b>5.23</b>	<b>5.65</b>
Interest on TL	1.44	1.08	0.72	0.36	0.14
Repayment of TL	--	3.20	3.20	3.20	3.20
<b>Total [B]</b>	<b>1.44</b>	<b>4.28</b>	<b>3.92</b>	<b>3.56</b>	<b>3.33</b>
<b>DSCR [A] ÷ [B]</b>	<b>2.88</b>	<b>1.25</b>	<b>1.35</b>	<b>1.56</b>	<b>1.81</b>
<b>Average DSCR</b>	----- <b>1.77</b> -----				



**[C] Internal Rate of Return (IRR)**

Cost of the project is Rs. 18.21 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%
1	2.70	2.33	2.29	2.25
2	4.02	2.99	2.89	2.79
3	4.32	2.77	2.63	2.50
4	4.87	2.69	2.51	2.35
5	5.51	2.62	2.41	2.22
6	6.02	2.47	2.23	2.02
7	6.41	2.27	2.01	1.79
8	6.78	2.07	1.80	1.58
	<b>40.63</b>	<b>20.21</b>	<b>18.77</b>	<b>17.50</b>

The IRR is around 19%.

**Some of the machinery suppliers are as under:**

1. Sujata Enterprises, Laxmi Road Pune 400 030
2. Apurva Engg Works, Borivali, Mumbai 400 098
3. Guru Nanak Engg. & Foundry Works, 166,Focal Point, Mehta Road, Amritsar- 143039  
Tel No. 2583542-2587943, Fax: 2587944
4. Sadanand Approtech Pvt. Ltd, B-34, Mini Nagar, Dahisar(E), Mumbai- 400068  
Tel No. 28114536-28104143
5. Sahyog Steel Fabrication, 28, Bhojrajpara, Gondal- 360311. Tel No. 224075