

## **AUTOMATIC CHIKKI PLANT: ALL TYPES OF CHIKKI**

### **1. INTRODUCTION**

Chikki is a traditional Indian sweet generally made from groundnuts (peanuts) and jaggery. There are several different varieties of chikki in addition to the most common groundnut chikki. Each variety of chikki is named depending upon the ingredients used, which include puffed or roasted Bengal gram, sesame, puffed rice, beaten rice, or desiccated coconut. Chikki are also made from dry fruits (cashews, almonds, pistachio, etc.).

### **2. PRODUCTS AND ITS APPLICATION:**

Chikki made from quality ingredients like edible nuts, oilseeds, roasted or puffed cereals, pulses or legumes; incorporated with good quality jaggery, sugar and liquid glucose as binding agent. Chikki having lot of health benefits as being rich source of proteins, mono-unsaturated fatty acids, antioxidants, minerals and vitamins. It is a good source of calories, beneficial in coronary, nervous and skin diseases; as well help in overall growth and development of human body. Chikki are consumed directly.

#### **Plant Capacity & Product Mix:**

Generally, chikki making units are of small or home scales units to produce from 500 kg/day to 5000 kg/day or more. Here, it is proposed to produce 300 kg/hr. chikki on semi-automatic line where cooking is manual whereas rolling, sheeting, cutting and packing operations are automatic on indigenous machinery. On the same line other cooked rolled bar type food products can be manufactured. Chikki season generally considered of three months, from November to January, however, it is consumed and can be consumed throughout the year.

### 3. DESIRED QUALIFICATION FOR PROMOTER:

As such promoters do not required any specific qualification but the entrepreneur must be well versed with process and raw materials quality as well able to sale the products in a competitive markets.

### 4. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

Peanut *chikki*, also called as peanut brittle in western countries is a ready to eat traditional sweet snack, which is popular throughout the country and consumed by all the sections of the population. The functional food industry in India is strong and is a growing force in the international health foods market. The health and wellness foods market is currently estimated to be in the vicinity of USD 1.6 billion and was of USD 7.5–10 billion by the year 2015. According to market statistics, the global functional food and nutraceuticals market is increasing with a compound annual growth rate (CAGR) of 7.4% that is outpacing the traditional processed food market and is expected to reach USD 180 billion in 2018.

### 5. RAW MATERIAL REQUIREMENTS:

#### Requirements of Raw Material

INGREDIENTS	Qty./yr. MT	Rate/ton	Rs. Lacs
Roasted Blanched Peanuts	450.00	85,000.00	382.50
Sugar	180.00	40,000.00	72.00
Jaggery	180.00	45,000.00	81.00
Liquid Glucose	90.00	28,000.00	25.20
Total	<b>900.00</b>	Rs.	<b>560.70</b>
Wastage @ 10%			616.77
Total Cost of Raw Materials		Rounding	620.00

### 6. MANUFACTURING PROCESS:

All ingredients are weighing accurately. The syrup is prepared by melting jaggery, adding some water and then dissolving required quantity of sugar. Thus prepared syrup is cook properly and then mixed with split roasted blanched peanuts. The prepared mass is rolled and

sheeted to required thickness and width to cut the chikki pieces of required dimensions for 10g and 25g chikki. Thus prepared bars are cooled and packed in flow-wrap packing machine, followed by put chikki bars in PET jars and corrugated carton for further distribution.

## 7. MANPOWER REQUIREMENT:

### Manpower Requirement

Sr. No.	MAN POWER CATEGORIES	Nos.
1	Technical Staff	4.00
2	Administrative Staff	4.00
3	Marketing Staff	10.00
4	Labour	34.00
	Total	52.00

## 8. IMPLEMENTATION SCHEDULE:

Project Stages	MONTHS									
	1	2	3	4	5	6	7	8	9	10
Purchase of Land	Yellow	Yellow	Yellow							
Completion of Building	Green	Green	Green	Green						
Ordering of Machinery	Light Green	Light Green								
Delivery of Machinery			Light Red	Light Red	Light Red					
Term/Wkg Loan Sanction		Light Blue	Light Blue	Light Blue						
Installation of Machinery				Light Orange	Light Orange					
Commissioning of Plant					Red					
RM/Inputs Procurement					Light Purple					
Manpower Appointments					Light Blue					
Commercial Production					Green					

## 9. COST OF PROJECT:

### Cost Of Project

Sr. No.	Costing Heads	Qty.	Rate/Unit	Rs. Lacs
1	Land in Sq. M. + Expenses	500.00	1,000.00	5.00
2	Building	250.00	9,000.00	22.50
3	Plant & Machinery			84.10
4	Other Capital Investment			10.00
5	Contingency			5.00
	<b>Total Cost of Project</b>			<b>126.60</b>

## 10. MEANS OF FINANCE:

### Means Of Finance

No.	Means Heads	Rs. Lacs
1	Promoters Capital	31.65
2	Term Loan	72.96
3	MFPI Subsidy	21.99
4	Unsecured Deposits	-
5	<b>Total Means of Finance</b>	<b>126.60</b>

## 11. WORKING CAPITAL CALCULATION:

### Calculation of Working Capital

Particulars	Total Amount	Stock Period Days	Value of Stock Period	Promoter Margin	Promoter Share	Bank Borrowing
Raw Material	620.00	15	31.00	0.50	15.50	15.50
Packing Material	792.65	30	79.27	0.40	31.71	47.56
Work in Process	1,603.61	3	16.04	0.40	6.41	9.62
FP Stock	1,755.00	15	87.75	0.40	35.10	52.65
Bills Receivable	1,755.00	15	87.75	0.40	35.10	52.65
Working Expense	12.00	30	1.20	1.00	1.20	0.00
<b>Total:</b>	<b>6,538.26</b>			<b>0.00</b>	<b>125.02</b>	<b>177.98</b>

## 12. LIST OF MACHINERY REQUIRED:

### List of Machinery

No	Equipment	Qty.
1	Syrup Making Vessels	2
2	Chikki Cooking cum Mixing Pans	3
3	Chikki Rolling, Sheeting & Cutting Line	1
4	Flow Wrap Packing Machine	2
5	Gas Station & Pipelines	1
6	RO Plant 15000 Lit/hr.	1
7	Electrification: 30 HP	1
8	Miscellaneous Equipment	1

## 13. PROFITABILITY CALCULATIONS:

### Profitability Calculations

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
<b>A</b>	<b>Gross Sales</b>	1228.5	1404	1579.5	1579.5	1579.5
	Less:					
1	Raw Materials	434	496	558	558	558
2	Packing Material	554.855	634.12	713.385	713.385	713.385
3	Fuel	3.528	4.032	4.536	4.536	4.536
4	Power	7.056	8.064	9.072	9.072	9.072
5	Manpower	69.5994	78.5224	87.4454	87.4454	87.4454
6	Depreciation	18.452	21.088	23.724	23.724	23.724
7	Sundry Expenses	4.2	4.8	5.4	5.4	5.4
8	Interest on Term Loan	6.132	7.008	7.884	7.884	7.884
9	Interest on WC Loan	17.85	20.4	22.95	22.95	22.95
9	Repairs & Maintenance	3.5	4	4.5	4.5	4.5
10	Marketing Expenses	10.5	12	13.5	13.5	13.5
<b>B</b>	<b>Production Cost</b>	1129.672	1290.034	1450.396	1450.396	1450.396
<b>C</b>	<b>Gross Profit (A-B):</b>	98.8276	113.9656	129.1036	129.1036	129.1036
	Taxes @ 30%	29.64828	34.18968	38.73108	38.73108	38.73108
	Net Profit	69.17932	79.77592	90.37252	90.37252	90.37252

#### 14. BREAKEVEN ANALYSIS:

Particulars	Rs. In lacs.
Break Even Point	
Annual Fixed Cost x100/	53.92
Annual Fixed Cost + Profit	

#### 15. CRITICAL FACTORS FOR THE PROJECT:

1. Chikki is generally a seasonal product so it needs to plan product-mix in such a way to run the plant throughout the year.
2. Jaggery used in chikki making is of specific quality and need to purchase in season and make available throughout the year by keeping in cold storage.
3. Plant and machinery selection and setting its parameters for commercial production are of utmost important.
4. Quality of liquid glucose and jaggery are important as important the quality of peanut used.