

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. INDUSTRY OUTLOOK/TREND

Products made from edible oil seeds and sugar are considered as healthy, nutritious and energetic. Chikki is one of them and demand for this product is increasing day by day due to ready to eat and easy availability in good packing with hygienic conditions. The trend of this sub sector is rising with increasing per capita income and GDP of the nation.

5. 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.

6. 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	900.00	Rs.	560.70
Wastage @ 10%			616.77
Total Cost of Raw		Rounding	620.00

Materials			
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7. MANUFACTURING PROCESS:

All ingredients are weigh 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.

8. MANPOWER REQUIREMENT:

Manpower Requirement

Sr. No.	MAN POWER CATEGORIES	Nos.
1	Technical Staff	4
2	Administrative Staff	4
3	Marketing Staff	10
4	Labour	34
	Total	52

9. 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	Purple	Purple								
Delivery of Machinery			Pink	Pink	Pink					
Term/Wkg Loan Sanction		Light Blue	Light Blue	Light Blue						
Installation of Machinery					Orange	Orange				
Commissioning of Plant							Red			
RM/Inputs Procurement						Purple				
Manpower Appointments						Light Blue				

Commercial Production									
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10. COST OF PROJECT:

Cost Of Project

Sr. No.	Costing Heads	Qty.	Rate/Unit	Rs. Lacs
1	Land in Sq. M. + Expenses	500	1,000.00	5.00
2	Building	250	9,000.00	22.50
3	Plant & Machinery			84.10
4	Other Capital Investment			10.00
5	Contingency			5.00
	Total Cost of Project			126.60

11. 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	Total Means of Finance	126.60

12. 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
Total:	6,538.2			0.00	125.02	177.98
	6					

13. 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

14. PROFITABILITY CALCULATIONS:

Profitability Calculations

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
A	Gross Sales	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	Production Cost	1129.67 2	1290.03 4	1450.39 6	1450.39 6	1450.39 6
C	Gross Profit (A-B):	98.8276	113.965 6	129.103 6	129.103 6	129.103 6
	Taxes @ 30%	29.6482 8	34.1896 8	38.7310 8	38.7310 8	38.7310 8
	Net Profit	69.1793 2	79.7759 2	90.3725 2	90.3725 2	90.3725 2

The proposed unit will have the production capacity of 720 MT of peanut chikki per year. The unit cost of power is taken at Rs. 8. The depreciation on building is taken at the rate of 5% whereas for plant and machinery it is at 10%.

The sales price of peanut chikki is taken at the rate of Rs. 244 per kg on an average for proposed project.

15. BREAKEVEN ANALYSIS:

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

16. STATUTORY/ GOVERNMENT APPROVALS

There is statutory requirement of FSSAI license for setting up of food processing industry. Moreover, MSME & GST registration, IEC Code for Export of end products and local authority clearance may be required for Shops and Establishment, for Fire and Safety requirement and registration for ESI, PF and Labour laws may be required if applicable. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

17. BACKWARD AND FORWARD INTEGRATION

Promoter can think of forward linkages by adding similar class of products such as energy bars, drinks and nut based confectionary products. There is not much scope for backward linkages.

18. TRAINING CENTERS/COURSES

For food processing industry training and short term courses are available at Indian Institute of Food Processing Technology, Thanjavur, Tamil Nadu and Central Food Technological Institute, Mysore.

Udyamimitra portal (link : www.udyamimitra.in) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

Disclaimer:

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.