

Model Detailed Project Report

GAJAK MANUFACTURING UNIT

Prepared by

National Institute of Food Technology Entrepreneurship and Management(NIFTEM)

Plot No. 97, Sector 56, HSIIDC, Industrial Estate, Kundli, Sonipat, Haryana 131028 Ministry of Food Processing Industries, Government of India

1. INTRODUCTION



Jaggery and confectionery are the classical decentralized cane sweets prepared and used by many people all over the world. Both are playing an overriding role in the sugar economy by reaching the demands of export trade. Traditionally, India has been

producing jaggery and confectionery for export revenues and is the foremost leading countries in exporting jaggery and confectionery since the ancient period. The current stage of jaggery exports is not consistent with high variance in prices due to changing market scenario, income and taste patterns. India with divergent food habits is having a number of traditional foods, including sweet products. Brittle Gazak is one of the popular Indian traditional sweet snacks. Brittle Gazak is mainly prepared using jaggery as a sweetener and roasted nuts/sesame. Mostly liked by all age groups, also possesses nutritional importance in it.

The story of gazak, a sesame and jaggery confection with roots in Madhya Pradesh, and how it found its way in the narrow alleyways of the Old Exhibition neighbourhood of Karachi, is a tale of migration, resettlement and economic survival.

2. MARKET POTENTIAL:

Gazak, 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.

In the world, India ranks first in the production and area of sesame seeds and is grown in different seasons covering practically all agro-ecological zones. Sesame is a rich source of calcium (approx. 1%) and phosphorous (approx. 0.7%). Sesame contains ample amounts of oleic (43%), linoleic (35%), palmitic (11%) and stearic acid (7%) which together comprise 96% of the total fatty acids (saydut A et al., 2008) It has many uses and it is markedly different from other vegetable oils due to its high nutritional and therapeutic values. Gur (Jaggery) is a natural, traditional sweetener made by the concentration of sugarcane juice and is known all over the world in different local names. India is the largest producer and consumer of jaggery. Out of total world production, more than 70% is produced in India.

3. PRODUCT DESCRIPTION

3.1 PRODUCT BENEFITS

The demand for functional ingredients in Gajak is rising, owing to their nutritional benefits.

Boosts Digestion: Sesame seeds and jaggery are both great for digestion and ensure regular bowel movements.

- Boosts Skin Health: Sesame seeds have anti-inflammatory properties that are good for the skin, which tends to become dry and flaky during winters.
- Boosts Energy Levels: The presence of jaggery in gajak makes it a great energiser. Even sesame seeds are great for boosting energy levels, due to the presence of high levels of good fat in them. Eating a small piece before or after your workout may boost energy or fasten recovery, respectively.
- Satiating Fiber: Gajak is filling, as sesame seeds are rich in fiber, which makes it a good winter snack.

3.2 RAW MATERIAL

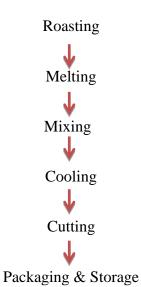
The raw materials required for Gazak is as follow:

- ➢ Sesame
- ➤ Jaggery
- ➤ Water
- Packing Material

3.3 MANUFACTURING PROCESS

- First step is to roast the sesame in the roasting machine to withdraw the rawness in the seeds and kept aside to cool down.
- Side by side jaggery and water is melted together to make a sugary syrup which later after cooling is kneading to look like a loosened dough.

- Next step involves the mixing of sesame and the jaggery syrup together and are properly mashed and mixed such that the sesame seeds break into coarse material mixed in the melted jaggery.
- The mixture is then put into the machine for further cooling, shaping and cutting into bars.
- The final stage is the packaging stage, where the finished confectionery is packaged by using packaging machine or it can also be done manually.



Flow chart of Gazak Making

4. PROJECT COMPONENTS

4.1 Land & Building

The approximate total area required for complete factory setup is 1000-1500 Sq. ft. approximately smooth production including storage area.

4.2 Plant & Machinery

Jaggery syrup making kettle	These kettles have the limpet elaborate heating surface which helps in making the syrup quickly without charring and burning.	
Sesame Roasting Machine	Used in roasting sesame. This machine can also roast all types of edible seeds.	
Sesame Bar making machine	 This compact machine includes: ✓ Gazak mix rolling and feeding system ✓ Gazak mix cooling system ✓ Gazak bar cutting/slicing machine 	

Note: Approx. Total Machinery cost shall be Rs 15.60 lakhs including equipment's but excluding GST and Transportation Cost.

4.3 **Power Requirement**

The borrower shall require power load of 7 KW which shall be applied with Power Corporation.

4.4 Manpower Requirement

12 Manpower are required for the Gajak Manufacturing Business.

Includes:

- 1 Supervisor
- 2 Skilled Labour
- 4 Unskilled Labour
- 1 Manager
- 1 Accountant

5. <u>FINANCIALS</u>

5.1 Cost of Project

COST OF PROJECT					
	(in Lacs)				
	Amount				
PARTICULARS	Amount				
Land & Building	Owned/Rented				
Plant & Machinery	15.60				
Miscellaneous Assets	0.90				
Working capital	5.51				
Total	22.01				

5.2 Means of Finance

MEANS OF FINANCE					
PARTICULARS	AMOUNT				
Own Contribution (min 10%)	2.20				
Subsidy @35%(Max. Rs 10 Lac)	5.78				
Term Loan @ 55%	9.08				
Working Capital (bank Finance)	4.96				
Total	22.01				

5.3 Projected Balance Sheet

PROJECTED BALANCE SHEET

<u>Liabilities</u> Capital					
ananing halanca		E 74	0 10	0.00	10.42
opening balance	2 20	5.74	8.19	8.98	10.43
Add:- Own Capital	2.20				
Add:- Retained Profit	3.54	6.44	8.79	11.45	14.38
Less:- Drawings	-	4.00	8.00	10.00	12.00
Closing Balance	5.74	8.19	8.98	10.43	12.81
Subsidy Reserve	5.78	5.78	5.78	5.78	5.78
Term Loan	8.07	6.05	4.03	2.02	-
Working Capital Limit	4.96	4.96	4.96	4.96	4.96
Sundry Creditors	0.59	0.68	0.77	0.87	0.98
Provisions & Other Liab	1.00	0.78	0.94	1.12	0.90
TOTAL :	26.13	26.43	25.46	25.18	25.43
<u>Assets</u>					
Fixed Assets (Gross)	16.50	16.50	16.50	16.50	16.50
Gross Dep.	2.43	4.50	6.26	7.77	9.05
Net Fixed Assets	14.07	12.00	10.24	8.73	7.45
Subsidy FD in Lien	5.78	5.78	5.78	5.78	5.78
Current Assets					
Sundry Debtors	2.90	3.45	3.95	4.51	5.11
Stock in Hand	3.20	3.65	4.13	4.64	5.18
Cash and Bank	0.19	1.55	1.37	1.52	1.90
TOTAL :	26.13	26.43	25.46	25.18	25.43

5.4 Projected Cash Flow

PROJECTED CASH FLOW STATEMENT

	1st	2nd	3rd	4th	5th
PARTICULARS SOURCES OF FUND	year	year	year	year	year
Own Margin	2.20				
Net Profit	3.54	6.44	9.25	12.74	16.44
Depreciation & Exp. W/off	2.43	2.07	1.76	1.50	1.28
Increase in Cash Credit	4.96	-	-	-	-
Increase In Term Loan	9.08	-	-	-	-
Increase in Creditors	0.59	0.09	0.10	0.10	0.11
Increase in Provisions & Oth lib	1.00	0.22	0.16	0.19	0.22
Subsidy/grant	5.78				
TOTAL :	29.57	8.38	11.27	14.53	17.60
APPLICATION OF FUND					
Increase in Fixed Assets	16.50				
Increase in Stock	3.20	0.45	0.48	0.51	0.54
Increase in Debtors	2.90	0.55	0.49	0.56	0.60
Repayment of Term Loan	1.01	2.02	2.02	2.02	2.02
Subsidy FD in Lien	5.78				
Drawings	-	4.00	8.00	10.00	12.00
Taxation	-	-	0.46	1.30	2.06
TOTAL :	29.38	7.02	11.45	14.39	17.21
Opening Cash & Bank Balance	-	0.19	1.55	1.37	1.52
Add : Surplus	0.19	1.36	(0.18)	0.15	0.39

Closing Cash & Bank Balance	0.19	1.55	1.37	1.52	1.90
0					

5.5 Projected Profitability

PROJECTED PROFITABILITY STATEMENT							
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year		
Capacity Utilisation %	50%	55%	60%	65%	70%		
SALES							
Gross Sale							
Gajak	58.00	69.09	78.98	90.25	102.24		
Total	58.00	69.09	78.98	90.25	102.24		
COST OF SALES							
Raw Material Consumed	25.20	29.04	33.12	37.44	42.00		
Electricity Expenses	1.68	1.93	2.22	2.56	2.81		
Depreciation	2.43	2.07	1.76	1.50	1.28		
Wages & labour	11.40	12.54	13.79	15.17	16.69		
Repair & maintenance	0.58	0.69	0.79	0.90	1.02		
Packaging Expenses	4.35	5.18	5.92	6.77	7.67		
Cost of Production	45.64	51.45	57.61	64.34	71.47		
Add: Opening Stock /WIP	-	1.52	1.72	1.92	2.14		
Less: Closing Stock /WIP	1.52	1.72	1.92	2.14	2.38		
Cost of Sales	44.12	51.26	57.41	64.12	71.23		
GROSS PROFIT	13.88	17.83	21.57	26.13	31.00		

	23.93%	25.81%	27.31%	28.95%	30.32%
Salary to Staff	4.20	4.62	5.08	5.59	6.15
Interest on Term Loan	0.89	0.79	0.56	0.34	0.12
Interest on working Capital	0.55	0.55	0.55	0.55	0.55
Rent	1.80	1.98	2.18	2.40	2.64
selling & adm exp	2.90	3.45	3.95	4.51	5.11
TOTAL	10.34	11.39	12.32	13.39	14.56
NET PROFIT	3.54	6.44	9.25	12.74	16.44
	6.11%	9.33%	11.72%	14.12%	16.08%
Taxation	-	-	0.46	1.30	2.06
PROFIT (After Tax)	3.54	6.44	8.79	11.45	14.38

5.6 Production and Yield

COMPUTATION OF PRODUCTION OF GAJAK		
Items to be Manufactured		
Gajak		
Machine capacity Per hour	50	KG
Total working Hours	8	
Machine capacity Per Day	400	
working days in amonth	25	Days
working days per annum	300	
machine capacity per annum	120000	KG

Production of Gajak		
Production	Capacity	KG
1st year	50%	60,000
2nd year	55%	66,000
3rd year	60%	72,000
4th year	65%	78,000
5th year	70%	84,000

Raw Material Cos	t		
Year	Capacity	Rate	Amount
	Utilisation	(per KG)	(Rs. in lacs)
1st year	50%	42.00	25.20
2nd year	55%	44.00	29.04
3rd year	60%	46.00	33.12
4th year	65%	48.00	37.44
5th year	70%	50.00	42.00

5.7 <u>Sales Revenue</u>

COMPUTATION OF SALE							
Particulars	1st year	2nd year	3rd year	4th year	5th year		
Op Stock	-	2,000	2,200	2,400	2,600		
Production	60,000	66,000	72,000	78,000	84,000		
Less : Closing Stock	2,000	2,200	2,400	2,600	2,800		
Net Sale	58,000	65,800	71,800	77,800	83,800		
sale price per KG	100.00	105.00	110.00	116.00	122.00		
Sales (in Lacs)	58.00	69.09	78.98	90.25	102.24		

5.8 Working Capital Assessment

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL									
	1st	2nd	3rd	4th					
PARTICULARS	year	year	year	year	5th year				
Finished Goods									
Raw Material	1.52	1.72	1.92	2.14	2.38				
	1.00	1.04	2.21	2.50	2.00				
<u>-</u>	1.68	1.94	2.21	2.50	2.80				
Closing Stock	3.20	3.65	4.13	4.64	5.18				

COMPUTATION OF WORKING CAPITAL REQUIREMENT							
TRADITIONAL METHOD			(in Lacs)			
Particulars	Amount	Own Margin	Bank Fi	nance			
Finished Goods & Raw Material	3.20						
Less : Creditors	0.59						
Paid stock	2.61	^{10%} 0.26	90%	2.35			
Sundry Debtors	2.90	10% 0.29	90%	2.61			
	5.51	0.55		4.96			
MPBF							
WORKING CAPITAL LIMIT DEMAND (from Bank)							
Working Capital Margin				0.55			

5.9 Power, Salary & Wages Calculation

Utility Charges (per month)								
Particulars	value	Description						
Power connection								
required	7	KWH						
consumption per day	56	units						
Consumption per month	1,400	units						
Rate per Unit	10	Rs.						
power Bill per month	14,000	Rs.						

BREAK UP OF LABOUR CHARGES			
Particulars	Wages Rs. per	No of	Total
	Month	Employees	Salary
Supervisor	20,000	1	20,000
Skilled (in thousand rupees)	12,000	2	24,000
Unskilled (in thousand rupees)	8,500	6	51,000
Total salary per month			95,000
Total annual labour charges	(in lacs)		11.40

BREAK UP OF STAFF SALARY CHARGES			
Particulars	Salary Rs. per	No of	Total
	Month	Employees	Salary
Manager	20,000	1	20,000
Accountant	15,000	1	15,000
Total salary per month			35,000
Total annual Staff charges	(in lacs)		4.20

5.10 <u>DSCR</u>

CALCULATION OF D.S.C.R					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	5.97	8.51	10.56	12.95	15.66
Interest on Term Loan	0.89	0.79	0.56	0.34	0.12
Total	6.87	9.30	11.12	13.29	15.78
REPAYMENT					
Instalment of Term Loan	1.01	2.02	2.02	2.02	2.02
Interest on Term Loan	0.89	0.79	0.56	0.34	0.12
Total	1.90	2.80	2.58	2.36	2.14
	1.50	2.00	2.30	2.30	2.17
DEBT SERVICE COVERAGE RATIO	3.61	3.32	4.31	5.64	7.39
AVERAGE D.S.C.R.					4.85

5.11 Depreciation

			(in				
COMPUTATION OF DEPRECIATION							
		Miss.					
Description	Plant & Machinery	Assets	TOTAL				
Rate of Depreciation	15.00%	10.00%					
Opening Balance	-	-	-				
Addition	15.60	0.90	16.50				
Total	15.60	0.90	16.50				
Less : Depreciation	2.34	0.09	2.43				
WDV at end of Year	13.26	0.81	14.07				

Additions During The Year	-	-	-
Total	13.26	0.81	14.07
Less : Depreciation	1.99	0.08	2.07
WDV at end of Year	11.27	0.73	12.00
Additions During The Year	-	-	-
Total	11.27	0.73	12.00
Less : Depreciation	1.69	0.07	1.76
WDV at end of Year	9.58	0.66	10.24
Additions During The Year	-	-	-
Total	9.58	0.66	10.24
Less : Depreciation	1.44	0.07	1.50
WDV at end of Year	8.14	0.59	8.73
Additions During The Year	-	-	-
Total	8.14	0.59	8.73
Less : Depreciation	1.22	0.06	1.28
WDV at end of Year	6.92	0.53	7.45

5.12 <u>Repayment schedule</u>

	REPAYMENT SCHEDULE OF TERM LOAN									
						Interest	11.00%			
				_			Closing			
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Balance			
ist	Opening Balance									
	1st month	-	9.08	9.08	-	-	9.08			
	2nd month	9.08	-	9.08	0.08	-	9.08			
	3rd month	9.08	-	9.08	0.08	-	9.08			
	4th month	9.08	-	9.08	0.08		9.08			
	5th month	9.08	-	9.08	0.08		9.08			
	6th month	9.08	-	9.08	0.08		9.08			
	7th month	9.08	-	9.08	0.08	0.17	8.91			

1							I
	8th month	8.91	-	8.91	0.08	0.17	8.74
	9th month	8.74	-	8.74	0.08	0.17	8.57
	10th month	8.57	-	8.57	0.08	0.17	8.40
	11th month	8.40	-	8.40	0.08	0.17	8.23
	12th month	8.23	_	8.23	0.08	0.17	8.07
2nd	Opening Balance				0.89	1.01	
2110	Opening balance						
	1st month	8.07	-	8.07	0.07	0.17	7.90
	2nd month	7.90	-	7.90	0.07	0.17	7.73
	3rd month	7.73	-	7.73	0.07	0.17	7.56
	4th month	7.56	-	7.56	0.07	0.17	7.39
	5th month	7.39	-	7.39	0.07	0.17	7.23
	6th month	7.23	-	7.23	0.07	0.17	7.06
	7th month	7.06	-	7.06	0.06	0.17	6.89
	8th month	6.89	-	6.89	0.06	0.17	6.72
	9th month	6.72	-	6.72	0.06	0.17	6.55
	10th month	6.55	-	6.55	0.06	0.17	6.39
	11th month	6.39	-	6.39	0.06	0.17	6.22
	12th month	6.22	-	6.22	0.06	0.17	6.05
3rd	Onening Polones				0.79	2.02	
510	Opening Balance						
	1st month	6.05	-	6.05	0.06	0.17	5.88
	2nd month	5.88	-	5.88	0.05	0.17	5.71
	3rd month	5.71	-	5.71	0.05	0.17	5.55

	12th month	2.18	-	2.18	0.02 0.34	0.17 2.02	2.02
		2.35	-	2.35	0.02	0.17	2.18
	11th month						
	10th month	2.52	_	2.52	0.02	0.17	2.35
	9th month	2.69	-	2.69	0.02	0.17	2.52
	8th month	2.86	-	2.86	0.03	0.17	2.69
	7th month	3.03	-	3.03	0.03	0.17	2.86
	6th month	3.19	-	3.19	0.03	0.17	3.03
	5th month	3.36	-	3.36	0.03	0.17	3.19
	4th month	3.53	-	3.53	0.03	0.17	3.36
	3rd month	3.70	-	3.70	0.03	0.17	3.53
	2nd month	3.87	-	3.87	0.04	0.17	3.70
	1st month	4.03	-	4.03	0.04	0.17	3.87
4th	Opening Balance						
		0		0	0.56	2.02	
	12th month	4.20	_	4.20	0.04	0.17	4.03
	11th month	4.37	-	4.37	0.04	0.17	4.20
	10th month	4.54	-	4.54	0.04	0.17	4.37
	9th month	4.71	-	4.71	0.04	0.17	4.54
	8th month	4.87	-	4.87	0.04	0.17	4.71
	7th month	5.04	-	5.04	0.05	0.17	4.87
	6th month	5.21	-	5.21	0.05	0.17	5.04
	5th month	5.38	-	5.38	0.05	0.17	5.21
	4th month	5.55	-	5.55	0.05	0.17	5.38

5th	Opening Balance						
	1st month	2.02	-	2.02	0.02	0.17	1.85
	2nd month	1.85	-	1.85	0.02	0.17	1.68
	3rd month	1.68	-	1.68	0.02	0.17	1.51
	4th month	1.51	-	1.51	0.01	0.17	1.34
	5th month	1.34	-	1.34	0.01	0.17	1.18
	6th month	1.18	-	1.18	0.01	0.17	1.01
	7th month	1.01	-	1.01	0.01	0.17	0.84
	8th month	0.84	-	0.84	0.01	0.17	0.67
	9th month	0.67	-	0.67	0.01	0.17	0.50
	10th month	0.50	-	0.50	0.00	0.17	0.34
	11th month	0.34	-	0.34	0.00	0.17	0.17
	12th month	0.17	_	0.17	0.00	0.17	-
					0.12	2.02	
	DOOR TO DOOR	60	MONTHS				
	RATORIUM PERIOD	6	MONTHS				
	PAYMENT PERIOD	54	MONTHS				

5.13 Break Even Point Analysis

BREAK EVEN POINT ANALYSIS					
Year	I	II	111	IV	v
Net Sales & Other Income	58.00	69.09	78.98	90.25	102.24
Less : Op. WIP Goods	-	1.52	1.72	1.92	2.14
Add : Cl. WIP Goods	1.52	1.72	1.92	2.14	2.38

	I		I	I	
Total Sales	59.52	69.28	79.19	90.47	102.47
Variable & Sami Variable Eve					
Variable & Semi Variable Exp.	25.20	20.04	22.42	27.44	42.00
Raw Material Consumed	25.20	29.04	33.12	37.44	42.00
Electricity Exp/Coal Consumption at 85%	1.43	1.64	1.89	2.17	2.39
Wages & Salary at 60%	9.36	10.30	11.33	12.46	13.70
Selling & administrative Expenses 80%	2.32	2.76	3.16	3.61	4.09
Interest on working Capital	0.5456	0.5456	0.5456	0.5456	0.5456
Repair & maintenance	0.58	0.69	0.79	0.90	1.02
Packaging	4.35	5.18	5.92	6.77	7.67
Total Variable & Semi Variable Exp	43.78	50.16	56.75	63.90	71.42
Contribution	15.74	19.12	22.43	26.58	31.06
Fixed & Semi Fixed Expenses					
Electricity Exp/Coal Consumption at 15%	0.25	0.29	0.33	0.38	0.42
Wages & Salary at 40%	6.24	6.86	7.55	8.31	9.14
Interest on Term Loan	0.89	0.79	0.56	0.34	0.12
Depreciation	2.43	2.07	1.76	1.50	1.28
Selling & administrative Expenses 20%	0.58	0.69	0.79	0.90	1.02
Rent	1.80	1.98	2.18	2.40	2.64
Total Fixed Expenses	12.19	12.68	13.18	13.83	14.62
Capacity Utilization	50%	55%	60%	65%	70%
OPERATING PROFIT	3.54	6.44	9.25	12.74	16.44
BREAK EVEN POINT	39%	36%	35%	34%	33%
BREAK EVEN SALES	46.12	45.94	46.52	47.09	48.23

6. LICENSE & APPROVALS

- Obtain the GST registration.
- Additionally, obtain the Udyam registration Number.
- Fire/pollution license as required.
- FSSAI License
- Factory License
- Choice of a Brand Name of the product and secure the name with Trademark if required.

7. ASSUMPTIONS

1. Production Capacity of Gajak is 400 kg per day. First year, Capacity has been taken @ 50%.

- 2. Working shift of 8 hours per day has been considered.
- 3. Raw Material stock is for 20 days and Finished goods Closing Stock has been taken for 10 days.
- 4. Credit period to Sundry Debtors has been given for 15 days.
- 5. Credit period by the Sundry Creditors has been provided for 7 days.
- Depreciation and Income tax has been taken as per the Income tax Act, 1961.
- 7. Interest on working Capital Loan and Term loan has been taken at 11%.
- 8. Salary and wages rates are taken as per the Current Market Scenario.
- 9. Power Consumption has been taken at 7 KW.
- 10. Increase in sales and raw material costing has been taken @ 5% on a yearly basis.

Limitations of the Model DPR and Guidelines for Entrepreneurs

Limitations of the Model DPR

i. This model DPR has provided only the basic standard components and methodology to be adopted by an entrepreneur while submitting a proposal under the Formalization of Micro Food Processing Enterprises Scheme of MoFPI.

ii. This is a model DPR made to provide general methodological structure not for specific entrepreneur/crops/location. Therefore, information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of his business, details of proposed DPR, project location, raw material base/contract sourcing, entrepreneurs own SWOT analysis, detailed market research, rationale of the project for specific location, community advantage/benefit from the project, employment generation and many more detailed aspects not included.

iii. The present DPR is based on certain assumptions on cost, prices, interest, capacity utilization, output recovery rate and so on. However, these assumptions in reality may vary across places, markets and situations; thus the resultant calculations will also change accordingly.