

## **PROJECT PROFILE**

### **CORN FLAKES**

#### **1. INTRODUCTION**

Health awareness is increasing day-by-day and people are more watchful about their health. Health clubs are becoming popular along with health food. Corn has got many nutritional values. Corn flakes are a product which is being accepted by many as health food. Flakes can be deep fried and are used extensively while making chevada - a popular snack item in Western India. Dry roasted maize flakes along with a small quantity of sugar are mixed in milk and it becomes a health food especially for growing children. The preferred location is West Bengal.

#### **2. OBJECTIVES**

The objective of the profiles is to encourage and assist prospective entrepreneurs in MSME sector in and guiding making them aware of the opportunities of this sector. It is also being developed by the Directorate of the Food Processing Industries, Government of West Bengal to help entrepreneurs with knowledge about raw materials availability, knowledge of market, source of technology and plant and machinery suppliers. M/s ITV Agro & Food Technologies Pvt. Ltd., New Delhi has helped in developing the project profile.

#### **3. RAW MATERIAL AVAILABILITY**

The only raw material will be good quality maize nuts. Maize is grown in many parts of West Bengal. A proper assessment of total crop and quality has to be made while finalizing the location of the factory. Annual requirement of maize nuts even at 100% utilization will be 450 tons. Production of maize in West Bengal is estimated to be 30.00 lacs ton /year.

#### **4. MARKET OPPORTUNITIES**

With increasing health awareness, people are becoming health conscious and are choosy about their eating habits. Many health foods are becoming popular. Maize is considered to be good for health. Maize flour is very popular in many region and maize flakes are being accepted as health food. But people at large are still not familiar with this product and therefore, proper publicity will be crucial. The product shall have to be pushed with the help of retailers. Chevda is also a popular snack throughout West Bengal and it is prepared from rice flakes or maize flakes. Hence, there has to be bulk as well as consumer packing as restaurants, hotels, canteens.

#### **5. PROJECT DESCRIPTION**

##### ***a) Product & Its uses***

Maize is an agricultural produce and traditionally used, especially in rural areas, for preparation of roti. This product is good for health. On proper roasting and flaking, maize flakes are obtained. These flakes can be consumed along with sugar and milk or deep fried to make chevda. The project is meant to self roasted maize flakes.

##### ***b) Capacity***

The proposed capacity of the plant is to process 360 MT / annum of corn flakes.

##### ***c) Manufacturing process***

The process is very simple. Maize nut are cleaned and graded to remove mud, stones etc. and then soaked in hot water. After drying, they are roasted and then taken to flakes polisher wherein flakes are formed. Flakes are then passed through sieves to remove bran and broken maize and are then suitably packed in polythene bags. During this process of manufacture, the net recovery of flakes is 80%. Of the balance 20%, process loss is 5% and remaining 15% is bran and broken flakes or maize which is sold to cattle-feed manufacturers.

## 6. PROJECT COMPONENTS & COST

### a) *Land & Building*

About 250 sq. mtrs. of land is sufficient as built -up area requirement is 75 sq. mtrs consisting of production hall of 45 mtrs and two rooms for packing and storage. Cost of land is taken at Rs 1.25 lacs whereas civil work may cost Rs. 4.50 lacs including soaking tanks.

### b) *Plant & Machinery*

In this case, the major factor deciding the proposed production capacity is market. Hence before taking a final decision, a market survey of nearby major towns / cities must be undertaken. But keeping in mind the financial viability, annual rated capacity of 360 tons and 300 working days is suggested for which, the following machines shall be required :

(Rs. in lacs)

Item	Qty	Amount
Electrically-operated Roaster	1	2.60
Flaker Polisher	1	2.00
Coal-fired furnace	1	0.60
Sieves	2	0.30
Sealing Machine, weighing scales etc.	-	0.50
Electricals etc		1.50
<b>Total</b>		<b>7.50</b>

### c) *Miscellaneous Assets*

A provision of Rs. 1.30 lacs has been made towards furniture and fixtures, storage facilities, working tables, exhaust fans, etc.

**d) Utilities**

Power requirement shall be 25 HP and hard coke of 18 tons will be required during the year. Water requirement per day will be 5000 ltrs. Expected annual expenditure at 100% will be Rs. 2.30 lacs.

**e) Prel. & Pre Operative Expenses**

Expenses incurred prior to the commencement of commercial production are covered under this head. A provision of Rs. 1.40 lacs would take care of registration, establishment and other administrative charges, market survey expenses, interest during implementation and trial run expenses.

**f) Working Capital Assessment**

Capacity utilization in the first year is considered to be 60%. At this level of activity, the requirement of working capital will be as under :

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of raw material & packing material	½ month	30%	1.82	1.27	0.55
Stock of Finished Goods	¼ month	30%	2.56	1.92	0.64
Receivable	½ month	25%	3.19	2.39	0.80
Total			7.57	5.58	1.99

**g) Project cost & Means of finance**

Item	Amount (Rs. in lacs)
Land and Building	5.75
Plant and Machinery	7.50

Miscellaneous Assets	1.30
P & P Expenses	1.40
Contingencies @ 10% on building and plant & machinery	1.20
Working capital margin	1.99
Total	19.14
<b>Means of Finance</b>	
Promoters' contribution	7.65
Term loan from Bank / FI	11.49
Total	19.14
Debt Equity Ratio	1.5:1
Promoters contribution	40%

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.

## 7) PROJECTED PROFITABILITY

### a) *Production Capacity*

The rated production capacity of the plant is to process 450 tons per year of maize whereas actual capacity utilization is expected to be 60% and 75% during 1<sup>st</sup> year and 2<sup>nd</sup> year of operation respectively.

### b) *Sales Revenue at 100%*

Product	Qty (Tons)	Selling Price (Rs. / Ton)	Sales (Rs. in lacs)
Maize Flakes	360	35000	126.00
Bran & Broken flakes	45	4000	1.80
<b>Total</b>			<b>127.80</b>

*c) Raw Material Required at 100%*

Details of raw material required are as under :

(Rs. in lacs)

Product	Qty (Tons)	Rate (Rs. / Ton)	Value
Maize Nuts	450	15,000	67.50
Packing Material	-	-	5.40
	<b>Total</b>		<b>72.90</b>

*d) Projected Profitability*

(Rs. in lacs)

S. No.	Particulars	1 <sup>st</sup> year	2 <sup>nd</sup> year
<b>A.</b>	<b>Installed capacity</b>	<b>450 Tons</b>	
	Capacity Utilisation	60%	75%
	Sales Realisation	76.68	95.85
<b>B.</b>	<b>Cost of Production</b>		
	Raw Materials Packing Material	43.74	54.67
	Utilities	1.38	1.72
	Salaries	5.46	6.00
	Stores and Spares	1.20	1.50
	Repairs and Maintenance	0.90	1.12
	Selling Expenses @ 25%	7.68	9.58
	Administrative Expenses	1.20	1.50
	Total	61.56	76.09
<b>C.</b>	<b>Profit before Interest &amp; Depreciation</b>	<b>15.12</b>	<b>19.76</b>
	Interest on Term Loan	1.14	0.90
	Interest on Working Capital	0.67	0.84

	Depreciation.	1.20	1.00
	Net Profit	12.11	17.02
	Income-tax @ 20%	2.42	3.40
	Profit after tax	9.69	13.62
	Cash Accruals	10.89	14.62
	Repayment of Term Loan	Nil	2.50

*e) Break Even Point Analysis*

S. No.	Particulars	Amount (Rs. In lacs)	
(A)	Sales		95.85
(B)	Variable Costs		
	Raw Material & Packing Material	54.67	
	Utilities(70%)	1.03	
	Salaries (60%)	3.90	
	Stores and Spares	1.50	
	Selling Exps (70%)	6.27	
	Admn Expenses (50%)	0.75	
	Interest on WC	0.84	68.96
(C)	Contribution (A) - (B)		26.89
(D)	Fixed Costs		8.87
(E)	Break Even Point		33%

*f) Debt Service Coverage Ratio (DSCR)*

*(Rs. in lacs)*

Particulars	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
Cash Accruals	10.89	14.62	17.54
Interest on TL	1.14	0.90	0.65
Total (A)	12.03	15.52	18.19
Interest on TL	1.14	0.90	0.65

Repayment of TL	Nil	2.50	2.50
<b>Total (B)</b>	<b>1.14</b>	<b>3.40</b>	<b>3.15</b>
DSCR (A) / (B)	10.55	4.56	5.77
Average DSCR	6.96		

*g) Internal Rate of Return (IRR)*

Cost of the project is Rs. 19.14 lacs

(Rs. in lacs)

Year	Cash Accruals	32%	50%
1	10.89	8.25	7.18
2	14.62	8.39	6.43
3	17.54	7.62	5.08
4	17.54	5.77	3.33
<b>Total</b>		<b>30.03</b>	<b>21.04</b>

The IRR is 50%

*h) Manpower requirement*

Particulars	Nos.	Monthly	Total Monthly Salary (Rs.)
Skilled workers	3	7,500	22,500
Semi Skilled Workers	3	5,000	15,000
Sales man	1	8,000	8,000
		<b>Total</b>	<b>45,500/-</b>

**8. ASSUMPTIONS**

- The plant will work for 300 days in a year. :
- The operating capacity is 60% , 75%, 90 % during 1<sup>st</sup> year , 2<sup>nd</sup> year and 3<sup>rd</sup> year respectively.



- The interest on term loan is taken at 10% per annum and on working capital it is 12% per annum.
- Price of raw material and selling price of finished products is taken at Rs. 15,000 / ton and Rs. 35,000 / ton respectively.

## **9. SOURCES OF TECHNOLOGY**

CFTRI, Mysore, has successfully developed the technical know-how for the product. BIS has laid down the quality standard. The compliance under FSSAI act is a must.

## **10. PLANT & MACHINERY SUPPLIERS**

1. Gurunanak Engg. Works (P) Ltd.  
C-33, Sector – 88, Phase – II, Gautam Budh Nagar (UP)  
Ph. : 9810378448 / 120-243674
2. Kailash Engg. Works  
H1-81, Napasar RIICO Industrial Area,  
Bikaner (Rajasthan)  
Ph. 151-2762534
3. Pagariya Food Products P. Ltd.  
15/1, 3<sup>rd</sup> cross, Kasturbanagar,  
Mysore Road, Bangalore – 560026  
Ph. 09953361350  
[www.indiamart.com](http://www.indiamart.com)