

# BLANCHED & ROASTED PEANUTS



## 1.0 INTRODUCTION

Blanching and roasting provides substantial value addition to the HPS groundnuts. Few years back, critical machines like colour sorters and whole nut or split nut blanchers were not manufactured in India and landed cost of these machines were prohibitive. But they are now available in the country which has changed the scenario. India has been exporting large quantities of HPS groundnuts but blanching and roasting was uneconomical and thus the country was deprived of value addition. Demand for these products within the country from many snacks manufacturers, caterers, airlines, some big chikki manufacturers, army canteens etc. is also going up. Indian peanuts (more particularly the Saurashtra, Gujarat quality) are famous in the world for nutty flavour, sweet taste, crunchy texture and longer shelf life. Thus, this is a good project. Capital investment would be on higher side and the promoters must take active part in procurement of groundnut kernels as well as quality of inputs and finished products. The preferred locations are either Maharashtra or Gujarat.

## 2.0 PRODUCT

Good quality HPS peanuts are blanched (removal of red skin from peanuts) with the help of light roasting as without roasting, red skin of peanuts cannot be removed. During this process of blanching, around 20-25% peanuts break and they are known as splits. Buyer generally allows some percentage of splits and there is a market for splits abroad as well as locally.

**2.1 compliance with the PFA Act is mandatory.**

### **3.0 MARKET POTENTIAL**

#### **3.1 Demand and Supply**

There is tremendous potential for HPS as well as roasted and blanched peanuts worldwide especially in Europe. China and USA are the other two major suppliers. Indian quality or variety known as Bold & Jawa is famous throughout the world since long and there are regular exports of raw or HPS groundnuts but very small quantity is exported of roasted and blanched peanuts eventhough there is a substantial value-addition. This is mainly on account of age-old and unhygienic processing methods prevailing in the country and lack of mechanisation or modernisation. Moisture contents in peanuts result in development of fungus known as aflatoxin which causes cancer in the long run. International quality standards do not allow aflatoxin level of more than 3-5 PPB in case of roasted peanuts. Till recently, colour sorting machines capable of detecting and removing such infected nuts need to be imported which was a costly affair. Likewise good quality blanchers were also not available indigenously. But now they are available at reasonable prices.

#### **3.2 Stretegy**

There are some big export houses engaged in international trade of HPS groundnuts who are prepared to undertake marketing. Foreign buyers can be directly contacted through their websites. Local demand is also increasing and there are many bulk consumers as stated earlier.

### **4.0 MANUFACTURING PROCESS**

There are 5 main stages of processing.

#### **i) Decortication or Preparatory Section**

Groundnut shells or pods are destoned, broken open and groundnut kernels and husk and splits are seperated automatically.

#### **ii) Grading and Colour Sorting**

Whole raw nuts are graded according to different sizes or counts. Then they are passed through colour sorting machine to remove infested or unwanted kernels.

#### **iii) Roasting**

Roasting is done in the roaster at a temperature of 60° to 70 °C. This is done to ensure smooth blanching of kernels and to reduce percentage of splits during blanching operations.

#### **iv) Blanching**

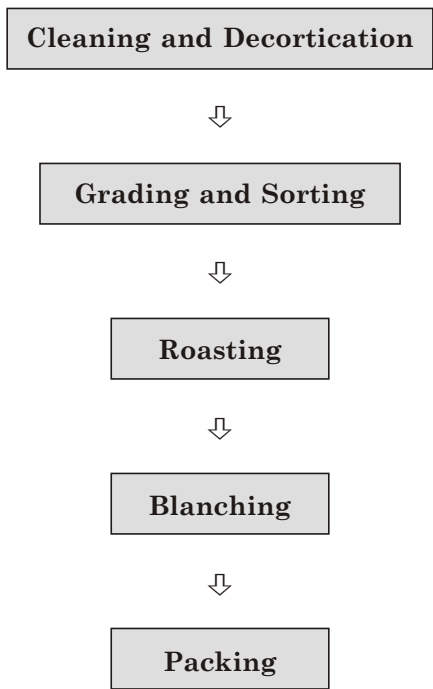
Blanching means removal of outer red skin from peanuts with mild pressure. During this process around 20 to 25% peanuts split.

#### **v) Packing**

Packing is done as per customer specifications. Generally they are packed in 10 or 12.5 kgs. capacity appropriate to polythene bags and then 2 such bags are packed in a corrugated box.

Recovery from groundnut shells are pods is 55% HPS groundnuts, 22% husk and balance 23% are splits or kapchi. Roasting results in further weight loss (due to drying of moisture) of 3 to 4 %.

The Process Flow Chart is as under:



## 5.0 CAPITAL INPUTS

### 5.1 Land and Building

A plot of land of around 1500 sq.mtrs. with built up area of 700 sq.mtrs. will be needed. This would facilitate scientific plant lay out. Main production area would occupy around 350 sq.mtrs. whereas balance area would have raw and finished goods godown, packing room, laboratory and office, utility room, toilet blocks and security cabin. Ceiling of the building should be at a height of about 25' so that elevators can be taken at a desirable height and bags of groundnut shells can be properly stacked. Asbestos sheets can be used for roofing. Land may cost Rs. 6.00 lacs including development charges whereas cost of construction is taken as Rs.25.00 lacs.

### 5.2 Plant and Machinery

Promoters may like to take an appropriate decision about capacity but in view of financial viability of the project, the minimum viable capacity has to be to process 10 tonnes of groundnut pods everyday on single shift working or 2000 tonnes annually considering 200 working days. This would give around 1100 tonnes of HPS groundnuts of different sizes out of which 300 tonnes can be roasted and blanched and balance can be sold in HPS form. For decortication, the factory can work for 18-20 hours but blanching and roasting has to be done for around 12-14 hours during day time to maintain quality standards.

To install these capacities, following equipments will be needed.

Item	Qty.	Price (Rs.)
Preparatory Section complete with elevators, destoner, hoppers, electricals and all accessories	1	20,00,000
Automatic Grading Machine with 4 chambers, electricals and accessories	1	7,00,000
Colour Sorting Machines with feeding system One ton capacity roaster with all accessories	2	12,00,000
and electricals	1	5,00,000
Whole-nut blancher with extra rubber rolls complete with accessories and electricals	1	10,00,000
Ball-type Sieves	2	1,50,000
Hoppers	4	2,00,000
DG Set	1	2,00,000
Power connection charges and electrification	--	5,00,000
Erection & Installation Charges	--	5,00,000
Miscellaneous Equipments	--	2,00,000
	<b>Total</b>	<b>71,50,000</b>

### 5.3 Utilities

The total power requirement shall be 75% HP Water shall be required primarily for potable and sanitation purposes and daily requirements will be around 2500 ltrs.

### 5.4 Miscellaneous Assets

Many other support assets like furniture and fixtures, office equipments, storage racks, electricals, telephones, jute bag sealing machines, weighing scales, etc. shall be required for which a provision of Rs. 3.00 lacs is made.

### 5.5 Raw and Packing Materials

The all important raw material will be good quality groundnuts in shell. Gujarat produces more than 1 million tonnes with summer and winter crops. Saurashtra region, in Gujarat, is famous all over the world for good quality groundnuts and is considered to be groundnut bowl. Thus, availability of groundnut would not be a problem. But the promoters should always be in touch with the market and should buy directly from the farmers. Prior arrangements for good quality plastic bags, corrugated boxes, box strappings etc. must be made in advance.

## 6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Works Manager	1	10,000	10,000
Supervisors	2	3,500	7,000
Machine Operators	4	3,000	12,000
Skilled Workers	4	2,250	9,000
Semi-skilled Workers	4	1,750	7,000
Helpers	15	1,250	18,750
Personnel Manager	1	6,000	6,000
Accountant	1	5,000	5,000
Clerks	3	2,500	7,500
Peons	3	1,250	3,750
Sales Staff	3	3,500	10,500
		<b>Total</b>	<b>96,500</b>

Helpers shall be employed for only 8 months.

## 7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	2
Completion of civil work and placement of orders for machinery	6
Erection, installation and trial runs:	2

## 8.0 DETAILS OF THE PROPOSED PROJECT

### 8.1 Land and Building

Particulars	Area (Sq.Mtrs)	Cost (Rs.)
Land	1500	6,00,000
Building	700	25,00,000
	<b>Total</b>	<b>31,00,000</b>

### 8.2 Plant and Machinery

The total cost would be Rs.71.50 lacs as discussed in detail earlier.

### 8.3 Miscellaneous Assets

A provision of Rs.3.00 lacs is made as explained earlier.

#### 8.4 Preliminary & Pre-operative Expenses

There will be many expenses under this head like registration, travelling and administrative charges, expenses on feasibility study, legal fees and scrutiny charges, interest during implementation, trial run expenses and so on. A provision of Rs. 12.50 lacs is made.

#### 8.5 Working Capital Requirements

The capacity utilisation in the first year is assumed to be 60% for which following working funds shall be required.

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw Materials	½ Month	30%	7.70	5.40	2.30
Stock of Finished Goods	½ Month	25%	9.00	6.75	2.25
Receivables	1 Month	25%	19.60	14.70	4.90
Other Expenses	1 Month	100%	1.50	--	1.50
		<b>Total</b>	<b>37.80</b>	<b>26.85</b>	<b>10.95</b>

#### 8.6 Cost of the Project & Means of Financing

(Rs. in lacs)

Item	Amount
Land and Building	31.00
Plant and Machinery	71.50
Miscellaneous Assets	3.00
P&P Expenses	12.50
Contingencies @ 10% on Land and Building & Plant & Machinery	10.00
Working Capital Margin	10.95
<b>Total</b>	<b>138.95</b>
<b>Means of Finance</b>	
Promoters' Contribution	43.10
Term Loan from Bank/FI	95.85
<b>Total</b>	<b>138.95</b>
Debt Equity Ratio	2.22 : 1
Promoters' Contribution	31%

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 & Build-up

As against the installed capacity of 2000 tonnes per year, the actual utilisation in the first year is taken at 60% and thereafter 75%.

### 9.2 Sales Revenue at 100%

Since big sized peanuts shall be taken for roasting and blanching, the average sales realisation of HPS groundnuts is taken at Rs. 24,000 per ton.

(Rs. in lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Sales Value
Roasted & Blanched Peanuts	285	45,000	128.25
HPS Groundnuts	800	24,000	192.00
Husk	440	4,000	17.60
Splits	460	15,000	69.00
		<b>Total</b>	<b>406.85</b>

### 9.3 Raw and Packing Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Value
HPS Groundnuts Kernels	2000	15,000	300.00
Plastic Bags	29,000 Nos.	Rs.3/Piece	0.87
Corrugated Boxes	11500 Nos	Rs.35/ Piece	4.02
Jute Bags	16,000 Nos	Rs.15/ Piece	2.40
Lables, Box Strappings etc.	--	--	0.80
		<b>Total</b>	<b>308.09</b>

### 9.4 Utilities

Annual expenditure at 100% is expected to be Rs. 3.60 lacs.

### 9.5 Interest

Interest on term loan of Rs. 95.85 lacs is calculated @ 14% per annum assuming complete repayment in 6 years including a moratorium period of 1 year whereas on working capital from bank it is computed @ 14% per annum.

### 9.6 Depreciation

It is calculated on WDV basis @ 10% on building and plant and machinery and miscellaneous assets.

## 10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
<b>A</b>	<b>Installed Capacity</b>	<b>--- 2000 Tonnes ---</b>	
	Capacity Utilisation	60%	75%
	Sales Realisation	244.10	305.15
<b>B</b>	<b>Cost of Production</b>		
	Raw and Packing Materials	184.85	231.05
	Utilities	2.15	2.70
	Salaries	10.83	12.45
	Stores and Spares	1.20	1.50
	Repairs & Maintenance	1.50	1.80
	Selling & Admn. Expenses @ 3%	7.32	9.15
	<b>Total</b>	<b>207.85</b>	<b>258.65</b>
<b>C</b>	<b>Profit Before Interest &amp; Depreciation</b>	<b>36.25</b>	<b>46.50</b>
	Interest on Term Loan	12.45	10.60
	Interest on Working Capital	3.75	4.68
	Depreciation	10.55	9.50
	Profit Before Tax	9.50	21.72
	Income-tax @ 20%	1.90	4.32
	Profit After Tax	7.60	17.40
	Cash Accruals	18.15	26.90
	Repayment of Term Loan	--	17.80

## 11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
<b>[A]</b>	<b>Sales</b>		<b>305.15</b>
<b>[B]</b>	<b>Variable Costs</b>		
	Raw and Packing Materials	231.05	
	Utilities (70%)	1.89	
	Salaries (70%)	8.71	
	Stores & Spares	1.50	
	Selling & Admn. Expenses (60%)	6.40	
	Interest on WC	4.68	<b>254.23</b>
<b>[C]</b>	<b>Contribution [A] - [B]</b>		<b>50.92</b>
<b>[D]</b>	<b>Fixed Cost</b>		<b>29.20</b>
<b>[E]</b>	<b>Break-Even Point [D] ÷ [C]</b>		<b>57%</b>



**12.0 [A] LEVERAGES**

**Financial Leverage**

= EBIT/EBT

= 25.70 ÷ 9.50

= 2.70

**Operating Leverage**

= Contribution/EBT

= 40.83 ÷ 9.50

= 4.30

**Degree of Total Leverage**

= FL/OL

= 2.70 ÷ 4.30

= 0.63

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

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	6th Yr
Cash Accruals	18.15	26.90	27.37	29.47	33.28	38.32
Interest on TL	12.45	10.60	8.08	5.60	3.09	1.21
<b>Total [A]</b>	<b>30.60</b>	<b>37.50</b>	<b>35.45</b>	<b>35.07</b>	<b>36.37</b>	<b>39.53</b>
Interest on TL	12.45	10.60	8.08	5.60	3.09	1.21
Repayment of TL	--	19.20	19.20	19.20	19.20	19.05
<b>Total [B]</b>	<b>12.45</b>	<b>29.80</b>	<b>27.28</b>	<b>24.80</b>	<b>22.29</b>	<b>20.26</b>
<b>DSCR [A] ÷ [B]</b>	<b>2.46</b>	<b>1.26</b>	<b>1.30</b>	<b>1.42</b>	<b>1.64</b>	<b>1.95</b>
<b>Average DSCR</b>	----- <b>1.68</b> -----					

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

Cost of the project is Rs. 138.95 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%
1	18.15	15.65	15.37	15.12
2	26.90	19.99	19.31	18.67
3	27.37	17.54	16.67	15.85
4	29.47	16.27	15.21	14.20
5	33.28	15.84	14.54	13.38
6	38.32	15.71	14.18	12.84
7	48.21	17.07	15.14	13.45
8	59.72	18.21	15.89	13.91
9	66.16	17.40	14.95	12.84
	<b>347.58</b>	<b>138.03</b>	<b>125.89</b>	<b>115.14</b>

The IRR is around 16%.

**Some of the machinery suppliers are**

1. Shreeji Nut Co, Jam Kadorana,360 405 (Gujarat)
2. Parmar Engg Co, Jasdan (Gujarat)
3. Buhler (India) Ltd, 13 D, KAIDB Industrial Area, Attibele, Bangalore - 562 107  
Tel No: 27820000, Fax: 27820001
4. Shiv Shakti Engg, Junagadh (Gujarat)