

# PROJECT REPORT

Of

## GINGER PROCESSING

### PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Ginger Processing**.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



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# PROJECT REPORT ON GINGER PROCESSING



## **INTRODUCTION**

The Ginger or Adrak is the dried underground stem or rhizome of the Zingiberous herbaceous plant. Ginger is obtained from the rhizomes of *Zingiber officinale*. Ginger is harvested by digging out the rhizomes when the tops have died down.

Ginger is a seasonal product but it is used extensively in many food preparations. Therefore, it is essential to convert a part of produce into low volume high value ginger to make the crop remunerative. As it is abundantly available in the region, different products like dehydrated ginger, ginger oil, ginger oleoresin may be developed. Ginger oil is primarily used as a flavoring agent in confectionary as well as in soft drinks. The ginger is also used for several medicinal purposes.

Considering the potential market opportunity of such units, the present detail project report has been developed. The main objective of such initiative is to productively utilize the abundantly available resources of the local area and to enable uninterrupted supply of the products to market throughout the year.

A detailed analysis has been carried out considering mainly the aspects mentioned

### **PROJECT DESCRIPTION**

The proposed project is that of setting up of a Ginger Processing unit at suitable location.

The key products of the proposed project are as follows;

- Dehydrated Ginger
- Ginger Oil

Ginger is a seasonal product but it is used extensively in many food preparations. Hence, dried ginger or ginger oil is used in large quantity during off-season. Ginger oil is distilled from the dried spice.

The proposed project would procure the raw materials from the farm level available locally. After processing, the products would be supplied to the market through distributors/ wholesalers/retailers.

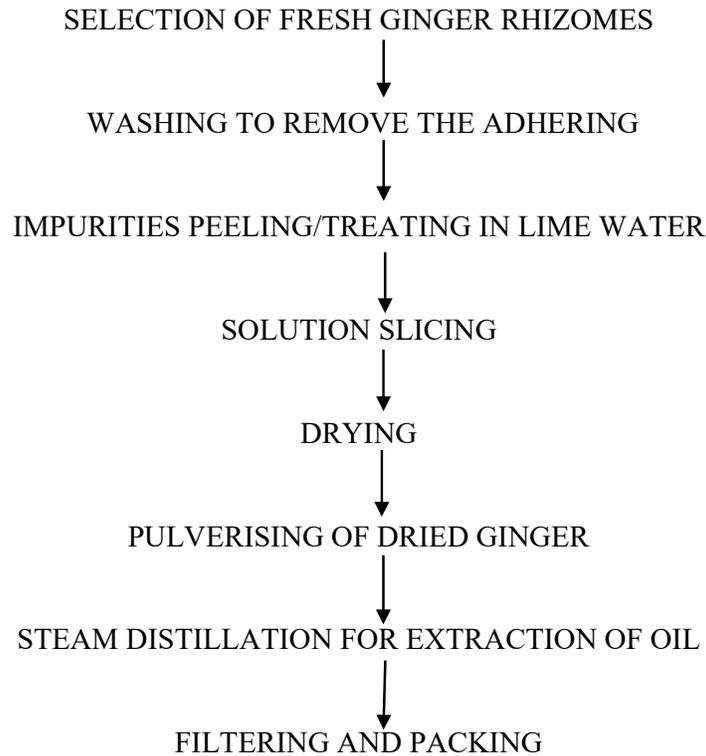
### **MARKET PROSPECT**

Among the various vegetable crops, ginger offers tremendous scope for commercialization in north eastern region. Fresh and dried ginger, ginger oil and ginger powder are used in large quantities in many vegetarian and non-vegetarian food preparations in Indian, Continental and Chinese cuisine. Ginger also has medicinal attributes and is used in many households as well as by pharmaceutical companies. The exports of these products have also increased manifold in recent times. In view of the increasing application of these products in the various food and allied industries in the country and abroad, these is a good scope for the development of ginger-based industry to meet the future requirements of this industry in the region.

Market Promotion plays a vital role for the generation of the potential customers therefore, application of marketing strategies is recommended. Marketing plan of the proposed project may include good quality maintenance, promotional campaign like offering special discounts, referrals, advertisement and tying up with buying houses.

## TECHNOLOGICAL PROCESS

The process flow diagram is as follows:



**Dehydrated Ginger:** Ginger is washed and cleaned in water and then skin of ginger is peeled partially with the help of peeling machine. It is then dried in electrically operated tray drier at a temperature of about 60 C. Even if ginger is to be used for extraction purposes, this temperature is advisable as oil contents in ginger are not affected till 80 degrees Celsius. Drying time is 24 hours in crossflow type drier and 14 hours in through-flow drier. Dried ginger slices are packed in polythene bags and sealed. Average yield after drying is around 25%.

**Ginger Oil:** Dry ginger are pulverized by the grinder to the required mesh size. Steam distillation is the preferred method for all essential oils produced in large quantities. The steam, produced in a boiler is introduced into an evaporation vessel which contains the ginger powder & water. The ginger powder is located on a grid placed at a certain distance above the level of the water which fills the bottom of the vessel.

The water is vaporized indirectly, by steam flowing in a pipe coil submerged by the water. The water vapour plus the distilled oil coming from the evaporator vessel is recovered in a separate water-cooled condenser. This mixture flowing out of the condenser is separated by decantation in a Florentine flask. The essential oil is collected at the top and distilled water leaves the flask at the bottom of the flask. As water still contains some soluble parts of the oil, it is sent back to the evaporator vessel to recover the soluble components by means of second distillation.

### **QUALITY CONTROL AND STANDARDS**

The bureau of Indian Standards has formulated the following specifications for dehydrated ginger. Ginger whole & ground- IS: 1908-1980 (First Revision). The quality should conform to standards laid down in PFA Act. However, for better marketing of this product standards may be maintained as per "AGMARK" and BIS specifications.

**FSSAI LICENSE:** FSSAI License is issued by the Food Safety and Standards Authority of India (FSSAI), Ministry of Family Health & Welfare, Government of India. Application to commence a food business must be made to the FSSAI in the prescribed format. Based on the application and supporting documents, FSSAI will accord approval. The Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations 2011 introduced to improve the hygiene and quality of food has brought about tremendous changes in the food industry. As per the Act, no person shall commence or carry on any food business except under a FSSAI license or FSSAI registration. Therefore, any food manufacturing or processing or packaging or distributing entity is now required to obtain a FSSAI License or Registration.

**POLLUTION CONTROL:** There is no major pollution problem associated with this industry except for disposal of waste which should be managed appropriately. However, waste water resulting from washing of ginger & lime treated ginger water may be safely dispersed over a large area of land for irrigation purpose. The promoter is advised to take "No Objection Certificate" from the State Pollution Control Board.

**EFFLUENT DISPOSAL:** Disposal of any effluent out of the project unit should be treated with recycling facility or dumped in such a way that these does not cause hazard in the vicinity of the site.

**ENERGY CONSERVATION:** Proper care should be taken in running the machineries and equipment to avoid over run and high electricity consumption. The machineries selected for the plant should be most energy efficient for economical production.

### **CONSUMABLES. POWER AND UTILITY**

The major consumables required are as follows;

1. Ginger
2. Citric Acid and
3. Packaging Materials.

POWER:

The total requirement of power for the project is 20 KW.

UTILITY:

WATER: Constant flow of water would be necessary in the operation of the plant. Water would be obtained from bore well and can be stored in an overhead tank, from where it will be supplied to the required areas. Process water should be free of mud and suspended particles. It should be available at a pressure of 3 Kg/sq.cm.

### **INSTALLED CAPACITY**

In assessing the proposed plant capacity, due consideration has been given to technological and financial factors, marketing considerations, availability of consumables, infrastructure facilities and economic viability. The detailed requirement of the plant and machineries to achieve the plant capacity is assessed by the unit technician. While arriving at the requirement of various type of equipment and machinery required for the unit, due considerations has been given to the following points.

- a) Minimum Wastage
- b) High Productivity
- c) Maximum flexibility in operation
- d) Adequate stock by provision wherever necessary

The installed production capacity of the unit per annum is as follows;

Dehydrated Ginger	-	15 Ton
Ginger Oil	-	5 Ton

For the purpose of carrying out this economic viability of the proposed project, it is assumed that the plant will operate at following efficiencies during the first 5(Five) years.

### **BASIS AND PRESUMPTIONS**

- While deriving figures and projections in this Project report, following Basis and Presumptions have been made.
- The project is based on a single shift basis and 300 days of working schedule in a year, working for 8 hours a day, 25 days a month.
- The project cost and other projections etc. have been made on present market conditions and the sources available within our sources only and therefore it may vary on account of market fluctuations and with different suppliers and qualities.
- The cost of machinery and equipment/materials indicated refer to a particular make and the prices are approximate to these prevailing at the time of preparation of this report.
- Power rate is assumed at Rs.8.00 per unit and monthly fixed rental charges.
- Water would be made available through bore well facility at the project site.
- Manpower requirement for the project has been planned considering the size of the unit.
- Interest rates considered is 11.50% on term loan and Working capital loan for financial assistance.
- For repayment, a period of 5 years is planned with moratorium period of one year.
- At the plant site, availability of unskilled labour is not a problem. Skilled and unskilled labour can be recruited for operating the plant. Initial training will be required for smooth and efficient running of the plant. It is felt that the skilled manpower available locally having some experience in operation can be recruited to satisfy the manpower need.
- Project would be set up at a site that is well connected by road and there is adequate supply of power and water.

**PROJECT AT A GLANCE**

- 1 Name of the Entrepreneur : XXXXXXXX
- 2 Constitution (legal Status) : XXXXXXXX
- 3 Father's/Spouce's Name : XXXXXXXX
- 4 Unit Address : XXXXXXXX
- Taluk/Block: XXXXX
- District : XXXXX State:
- Pin: XXXXX
- E-Mail : XXXXX
- Mobile XXXXX
- 5 Product and By Product : **Ginger Processing**
- 6 Name of the project / business activity proposed **Ginger Processing**
- 7 Cost of Project : Rs25.00lac
- 8 Means of Finance
- |                   |                              |
|-------------------|------------------------------|
| Term Loan         | Rs.17.04 Lacs                |
| KVIC Margin Money | - As per Project Eligibility |
| Own Capital       | Rs.2.5 Lacs                  |
| Working Capital   | Rs.5.47 Lacs                 |
- 9 Debt Service Coverage Ratio : 3.85
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 8 Months
- 12 Break Even Point : 26%
- 13 Employment : 10 Persons
- 14 Power Requirement : 20.00 HP
- 15 Major Raw materials : Green Ginger
- 16 Estimated Annual Sales Turnover : 38.88 Lacs
- 16 Detailed Cost of Project & Means of Finance

**COST OF PROJECT**

(Rs. In Lacs)

Particulars	Amount
Land 2000 Sqft	Owned
Building /shed (1200 Sq Ft)	3.90
Plant & Machinery	13.85
Furniture & Fixtures	0.58
Pre-operative Expenses	0.60
Working Capital Requirement	6.08
<b>Total</b>	<b>25.00</b>

**MEANS OF FINANCE**

Particulars	Amount
Own Contribution @10%	2.50
Term Loan	17.04
Workign Capital Finance	5.47
<b>Total</b>	<b>25.00</b>

Beneficiary's Margin Money (% of Project Cost)	<b>General</b> 10%	<b>Special</b> 5%
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**PLANT & MACHINERY**

<b>PARTICULARS</b>	<b>QTY.</b>	<b>RATE</b>	<b>AMOUNT IN RS.</b>
Solar Cabinet Dryer- 200 Kg	1		
Skin Peeling Machine	1		
Steam Distillation Unit	2		
Baby Boiler	1		
Steam Jacketed Kettle	1		1,250,000.00
Aluminium Top Working Table	1		
Sealing Machine	1		
Gas Burners	2		
Washing Tanks, SS Utensils, Weighing Scales, Aluminium Trays, Plastic Tubs and Laboratory Equipment	LS		85,000.00
Miscellaneous Equipmen	LS		50,000.00
			1,385,000.00

**PROJECTED CASH FLOW STATEMENT**

<b>PARTICULARS</b>	<b>IST YEAR</b>	<b>IIND YEAR</b>	<b>IIIRD YEAR</b>	<b>IVTH YEAR</b>	<b>VTH YEAR</b>
<b><u>SOURCES OF FUND</u></b>					
Share Capital	2.50	-	-	-	-
Reserve & Surplus	10.69	13.93	17.81	21.55	25.12
Depriciation & Exp. W/off	2.50	2.17	1.87	1.60	1.38
Increase in Cash Credit	5.47	-	-	-	-
Increase In Term Loan	17.04	-	-	-	-
Increase in Creditors	0.68	0.90	0.23	0.23	0.23
Increase in Provisions	0.36	0.04	0.04	0.04	0.05
<b>TOTAL :</b>	<b>39.23</b>	<b>17.04</b>	<b>19.94</b>	<b>23.42</b>	<b>26.78</b>
<b><u>APPLICATION OF FUND</u></b>					
Increase in Fixed Assets	18.33	-	-	-	-
Increase in Stock	4.81	0.80	0.80	0.80	0.80
Increase in Debtors	1.94	0.54	0.36	0.36	0.36
Increase in Deposits & Adv	2.50	0.25	0.28	0.30	0.33
Repayment of Term Loan	-	4.26	4.26	4.26	3.23
Taxation	1.07	1.39	3.56	4.31	5.02
<b>TOTAL :</b>	<b>28.65</b>	<b>7.24</b>	<b>9.26</b>	<b>10.03</b>	<b>9.75</b>
Opening Cash & Bank Balance	-	10.58	20.37	31.06	44.45
Add : Surplus	10.58	9.80	10.69	13.39	17.03
Closing Cash & Bank Balance	<b>10.58</b>	<b>20.37</b>	<b>31.06</b>	<b>44.45</b>	<b>61.48</b>

**PROJECTED BALANCE SHEET**

<b>PARTICULARS</b>	<b>IST YEAR</b>	<b>IIND YEAR</b>	<b>IIIRD YEAR</b>	<b>IVTH YEAR</b>	<b>VTH YEAR</b>
<b><u>SOURCES OF FUND</u></b>					
Capital Account	2.50	2.50	2.50	2.50	2.50
Retained Profit	9.62	22.16	36.41	53.65	73.75
Term Loan	17.04	12.78	8.52	4.26	1.03
Cash Credit	5.47	5.47	5.47	5.47	5.47
Sundry Creditors	0.68	1.58	1.80	2.03	2.25
Provisions & Other Liab	0.36	0.40	0.44	0.48	0.53
<b>TOTAL :</b>	<b>35.66</b>	<b>44.88</b>	<b>55.13</b>	<b>68.38</b>	<b>85.52</b>
<b><u>APPLICATION OF FUND</u></b>					
<b>Fixed Assets ( Gross)</b>	18.33	18.33	18.33	18.33	18.33
Gross Dep.	2.50	4.67	6.53	8.14	9.52
Net Fixed Assets	15.83	13.66	11.80	10.19	8.81
<b>Current Assets</b>					
Sundry Debtors	1.94	2.48	2.84	3.20	3.56
Stock in Hand	4.81	5.61	6.41	7.21	8.01
Cash and Bank	10.58	20.37	31.06	44.45	61.48
Deposits & Advances	2.50	2.75	3.03	3.33	3.66
<b>TOTAL :</b>	<b>35.66</b>	<b>44.88</b>	<b>55.13</b>	<b>68.38</b>	<b>85.52</b>
	-	-	-	-	-

**PROJECTED PROFITABILITY STATEMENT**

<b>PARTICULARS</b>	<b>IST YEAR</b>	<b>IIND YEAR</b>	<b>IIIRD YEAR</b>	<b>IVTH YEAR</b>	<b>VTH YEAR</b>
<b><u>A) SALES</u></b>					
Gross Sale	38.88	49.68	56.88	64.08	71.28
<b>Total (A)</b>	<b>38.88</b>	<b>49.68</b>	<b>56.88</b>	<b>64.08</b>	<b>71.28</b>
<b>B) COST OF SALES</b>					
Raw Mateiral Consumed	13.50	15.75	18.00	20.25	22.50
Elecricity Expenses	1.72	2.01	2.29	2.58	2.86
Repair & Maintenance	-	0.50	0.57	0.64	0.71
Labour & Wages	5.28	5.81	6.39	7.03	7.73
Depriciation	2.50	2.17	1.87	1.60	1.38
Consumables,packaging and Other Expenses	1.94	2.48	2.84	3.20	3.56
<b>Cost of Production</b>	<b>24.94</b>	<b>28.72</b>	<b>31.96</b>	<b>35.31</b>	<b>38.75</b>
<b>Add: Opening Stock /WIP</b>	<b>-</b>	<b>3.46</b>	<b>4.03</b>	<b>4.61</b>	<b>5.18</b>
<b>Less: Closing Stock /WIP</b>	<b>3.46</b>	<b>4.03</b>	<b>4.61</b>	<b>5.18</b>	<b>5.76</b>
Cost of Sales (B)	21.48	28.14	31.38	34.73	38.18
<b>C) GROSS PROFIT (A-B)</b>	<b>17.40</b>	<b>21.54</b>	<b>25.50</b>	<b>29.35</b>	<b>33.10</b>
	<b>45%</b>	<b>43%</b>	<b>45%</b>	<b>46%</b>	<b>46%</b>
D) Bank Interest (Term Loan )	1.47	1.78	1.29	0.80	0.32
Bank Interest ( C.C. Limit )	0.63	0.63	0.63	0.63	0.63
E) Salary to Staff	3.83	4.21	4.63	5.10	5.60
F) Selling & Adm Expenses Exp.	0.78	0.99	1.14	1.28	1.43
<b>TOTAL (D+E)</b>	<b>6.70</b>	<b>7.61</b>	<b>7.68</b>	<b>7.80</b>	<b>7.98</b>
H) NET PROFIT	10.69	13.93	17.81	21.55	25.12
I) Taxation	1.07	1.39	3.56	4.31	5.02
J) PROFIT (After Tax)	9.62	12.54	14.25	17.24	20.10



**COMPUTATION OF CLOSING STOCK & WORKING CAPITAL**

<b>PARTICULARS</b>	<b>IST YEAR</b>	<b>IIND YEAR</b>	<b>IIIRD YEAR</b>	<b>IVTH YEAR</b>	<b>VTH YEAR</b>
<b>Finished Goods</b>					
(30Days requirement)	3.46	4.03	4.61	5.18	5.76
<b>Raw Material</b>					
(30 Days requirement)	1.35	1.58	1.80	2.03	2.25
<b>Closing Stock</b>	<b>4.81</b>	<b>5.61</b>	<b>6.41</b>	<b>7.21</b>	<b>8.01</b>

**COMPUTATION OF WORKING CAPITAL REQUIREMENT**

<b>Particulars</b>			<b>Total</b>
			<b>Amount</b>
Stock in Hand			4.81
Sundry Debtors			1.94
		Total	6.75
Sundry Creditors			0.68
Working Capital Requirement			<b>6.08</b>
Margin			0.61
Working Capital Finance			<b>5.47</b>

**BREAK UP OF LABOUR**

Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		12,000.00	1	12,000.00
Skilled Worker		8,000.00	2	16,000.00
Unskilled Worker		6,000.00	4	24,000.00
				40,000.00
Add: 10% Fringe Benefit				4,000.00
Total Labour Cost Per Month				44,000.00
Total Labour Cost for the year ( In Rs. Lakhs)			7	5.28

**BREAK UP OF SALARY**

Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Accountant		9,000.00	1	9,000.00
Sales		10,000.00	2	20,000.00
Total Salary Per Month				29,000.00
Add: 10% Fringe Benefit				2,900.00
Total Salary for the month				31,900.00
Total Salary for the year ( In Rs. Lakhs)			3	3.83

**COMPUTATION OF DEPRECIATION**

Description	Land	Building/shed	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation		10.00%	15.00%	10.00%	
<b>Opening Balance</b>	Leased	-	-	-	-
Addition	-	3.90	13.85	0.58	18.33
	-	3.90	13.85	0.58	18.33
Less : Depreciation	-	0.39	2.08	0.03	2.50
WDV at end of Ist year	-	3.51	11.77	0.55	15.83
Additions During The Year	-	-	-	-	-
	-	3.51	11.77	0.55	15.83
Less : Depreciation	-	0.35	1.77	0.06	2.17
WDV at end of IInd Year	-	3.16	10.01	0.50	13.66
Additions During The Year	-	-	-	-	-
	-	3.16	10.01	0.50	13.66
Less : Depreciation	-	0.32	1.50	0.05	1.87
WDV at end of IIIrd year	-	2.84	8.51	0.45	11.80
Additions During The Year	-	-	-	-	-
	-	2.84	8.51	0.45	11.80
Less : Depreciation	-	0.28	1.28	0.04	1.60
WDV at end of IV year	-	2.56	7.23	0.40	10.19
Additions During The Year	-	-	-	-	-
	-	2.56	7.23	0.40	10.19
Less : Depreciation	-	0.26	1.08	0.04	1.38
WDV at end of Vth year	-	2.30	6.15	0.36	8.81

**REPAYMENT SCHEDULE OF TERM LOAN**

11.5%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
<b>IST YEAR</b>	Opening Balance						
	Ist Quarter	-	17.04	17.04	-	-	17.04
	Iind Quarter	17.04	-	17.04	0.49	-	17.04
	IIIrd Quarter	17.04	-	17.04	0.49	-	17.04
	Ivth Quarter	17.04	-	17.04	0.49	-	17.04
					1.47	-	
<b>IIIND YEAR</b>	Opening Balance						
	Ist Quarter	17.04	-	17.04	0.49	1.06	15.97
	Iind Quarter	15.97	-	15.97	0.46	1.06	14.91
	IIIrd Quarter	14.91	-	14.91	0.43	1.06	13.84
	Ivth Quarter	13.84		13.84	0.40	1.06	12.78
					1.78	4.26	
<b>IIIRD YEAR</b>	Opening Balance						
	Ist Quarter	12.78	-	12.78	0.37	1.06	11.71
	Iind Quarter	11.71	-	11.71	0.34	1.06	10.65
	IIIrd Quarter	10.65	-	10.65	0.31	1.06	9.58
	Ivth Quarter	9.58		9.58	0.28	1.06	8.52
					1.29	4.26	
<b>IVTH YEAR</b>	Opening Balance						
	Ist Quarter	8.52	-	8.52	0.24	1.06	7.45
	Iind Quarter	7.45	-	7.45	0.21	1.06	6.39
	IIIrd Quarter	6.39	-	6.39	0.18	1.06	5.32
	Ivth Quarter	5.32		5.32	0.15	1.06	4.26
					0.80	4.26	
<b>VTH YEAR</b>	Opening Balance						
	Ist Quarter	4.26	-	4.26	0.12	1.06	3.19
	Iind Quarter	3.19	-	3.19	0.09	1.06	2.13
	IIIrd Quarter	2.13	-	2.13	0.06	0.55	1.58
	Ivth Quarter	1.58		1.58	0.05	0.55	1.03
					0.32	3.23	

CALCULATION OF D.S.C.R

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<b><u>CASH ACCRUALS</u></b>	12.12	14.71	16.12	18.84	21.48
Interest on Term Loan	1.47	1.78	1.29	0.80	0.32
Total	13.59	16.49	17.40	19.64	21.80
<b><u>REPAYMENT</u></b>					
Instalment of Term Loan	4.26	4.26	4.26	3.23	3.23
Interest on Term Loan	1.47	1.78	1.29	0.80	0.32
Total	5.73	6.03	5.55	4.03	3.55
<b>DEBT SERVICE COVERAGE RAT</b>	<b>2.37</b>	<b>2.73</b>	<b>3.14</b>	<b>4.88</b>	<b>6.14</b>
<b>AVERAGE D.S.C.R.</b>			<b>3.85</b>		

**COMPUTATION OF SALE**

Particulars	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Op Stock	-	1.20	1.40	1.60	1.80
Production	12.00	14.00	16.00	18.00	20.00
	12.00	15.20	17.40	19.60	21.80
Less : Closing Stock	1.20	1.40	1.60	1.80	2.00
Net Sale	10.80	13.80	15.80	17.80	19.80
Sale Price per MT (Average)	360,000.00	360,000.00	360,000.00	360,000.00	360,000.00
<b>Sale (in Lacs)</b>	<b>38.88</b>	<b>49.68</b>	<b>56.88</b>	<b>64.08</b>	<b>71.28</b>

Particulars	Qty	Price per Unit (Rs.)	Amount (Rs.)
Dehydrated Ginger	15 Ton	150,000.00	2,250,000.00
Ginger Oil	5 Ton	1,000,000.00	5,000,000.00
Total Sales per annum at 100% capacity (Rs)	20 Ton		7,250,000.00

**COMPUTATION OF ELECTRICITY**

<b>(A) POWER CONNECTION</b>				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	20	
Load Factor			0.7460	
Electricity Charges		per unit	8.00	
Total Working Days			300	
<b>Electricity Charges ( 8 Hrs Per day )</b>				286,464.00
Add : Minimim Charges (@ 10%)				
<b>(B) DG set</b>				
No. of Working Days			300	days
No of Working Hours			-	Hour per day
Total no of Hour			-	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			-	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			-	
Add : Lube Cost @15%			-	
Total			-	
Total cost of Power & Fuel at 100%				2.86
Year		Capacity		Amount (in Lacs)
IST YEAR		60%		1.72
IIND YEAR		70%		2.01
IIIRD YEAR		80%		2.29
IVTH YEAR		90%		2.58
VTH YEAR		100%		2.86

## BREAK EVEN POINT ANALYSIS

Year	I	II	III	IV	V
<b>Net Sales &amp; Other Income</b>	38.88	49.68	56.88	64.08	71.28
Less : Op. WIP Goods	-	3.46	4.03	4.61	5.18
Add : Cl. WIP Goods	3.46	4.03	4.61	5.18	5.76
<b>Total Sales</b>	<b>42.34</b>	<b>50.26</b>	<b>57.46</b>	<b>64.66</b>	<b>71.86</b>
<b>Variable &amp; Semi Variable Exp.</b>					
Raw Material & Tax	13.50	15.75	18.00	20.25	22.50
Electricity Exp/Coal Consumption at 85%	1.46	1.70	1.95	2.19	2.43
Manufacturing Expenses 80%	1.56	2.38	2.73	3.08	3.42
Wages & Salary at 60%	5.46	6.01	6.61	7.27	8.00
Selling & administrative Expenses 80%	0.62	0.79	0.91	1.03	1.14
Intt. On Working Capital Loan	0.63	0.63	0.63	0.63	0.63
<b>Total Variable &amp; Semi Variable Exp</b>	<b>23.23</b>	<b>27.27</b>	<b>30.83</b>	<b>34.44</b>	<b>38.13</b>
<b>Contribution</b>	<b>19.10</b>	<b>22.98</b>	<b>26.63</b>	<b>30.21</b>	<b>33.73</b>
<b>Fixed &amp; Semi Fixed Expenses</b>					
Manufacturing Expenses 20%	0.39	0.60	0.68	0.77	0.86
Electricity Exp/Coal Consumption at 15%	0.26	0.30	0.34	0.39	0.43
Wages & Salary at 40%	3.64	4.01	4.41	4.85	5.33
Interest on Term Loan	1.47	1.78	1.29	0.80	0.32
Depreciation	2.50	2.17	1.87	1.60	1.38
Selling & administrative Expenses 20%	0.16	0.20	0.23	0.26	0.29
<b>Total Fixed Expenses</b>	<b>8.41</b>	<b>9.05</b>	<b>8.81</b>	<b>8.66</b>	<b>8.61</b>
<b>Capacity Utilization</b>	<b>60%</b>	<b>70%</b>	<b>80%</b>	<b>90%</b>	<b>100%</b>
<b>OPERATING PROFIT</b>	<b>10.69</b>	<b>13.93</b>	<b>17.81</b>	<b>21.55</b>	<b>25.12</b>
<b>BREAK EVEN POINT</b>	<b>26%</b>	<b>28%</b>	<b>26%</b>	<b>26%</b>	<b>26%</b>
<b>BREAK EVEN SALES</b>	<b>18.64</b>	<b>19.79</b>	<b>19.02</b>	<b>18.54</b>	<b>18.33</b>

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