



**DETAILED PROJECT REPORT**

**NUTMEG PROCESSING UNIT**

**UNDER PMFME SCHEME**



National Institute of Food Technology Entrepreneurship and Management

Ministry of Food Processing Industries

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**1. PROJECT SUMMARY**

1. Name of the proposed project	:	Nutmeg Processing Unit
2. Nature of proposed project	:	Proprietorship/Company/Partnership
3. Proposed project capacity	:	108000 Kg/annum (40,45,50,55&60% capacity utilization in 1 <sup>st</sup> to 5 <sup>th</sup> Year respectively)
4. Raw material	:	Ripe or mature nutmeg fruit
5. Major product outputs	:	Nutmeg
6. Total project cost	:	Rs. 30.41 Lakh
• Land development, building & Civil Construction	:	Nil
• Machinery and equipment's	:	Rs. 15.00 Lakh
• Miscellaneous Fixed Assets	:	Rs. 3.00 Lakh
• Working capital	:	Rs. 12.41 Lakh
7. Means of Finance		
• Subsidy (max 10lakhs)	:	Rs. 6.30 Lakh
• Promoter's contribution (min10%)	:	Rs. 3.03 Lakh
• Term loan	:	Rs. 9.90 Lakh
• Working Capital Requirement	:	Rs. 11.17 Lakh
8. Profit after Depreciation, Interest & Tax		
• 1 <sup>st</sup> year	:	Rs. 2.43 Lakh
• 2 <sup>nd</sup> year	:	Rs. 4.47 Lakh
• 3 <sup>rd</sup> year	:	Rs. 6.69 Lakh
• 4 <sup>th</sup> year	:	Rs. 8.71 Lakh
• 5 <sup>th</sup> year	:	Rs. 11.62 Lakh
9. Average DSCR	:	Rs. 3.61
10. Term loan repayment	:	5 Years with 6 months grace period

## 2. ABOUT THE PRODUCT

### 2.1. PRODUCT INTRODUCTION:

*Myristica fragrans* Houtt., also known in India as Jaiphal and Javitri, is a member of the Myristicaceae family. Nutmeg and mace are two spices that it makes. Mace is the fleshy red, net-like skin covering (aril) on the kernel, and nutmeg is the seed kernel inside the fruit. Nutmeg and mace are two distinct spices made from the fruit of an evergreen tree and It is a spreading aromatic evergreen tree that grows to a height of 5 to 13 meters, with a maximum height of 20 meters. The dried reticulated 'aril' of the fruit is mace, and the dried seed kernel is nutmeg. Fruit is a fleshy drupe with a longitudinal groove in the middle, spherical in shape and light yellow in color. When the fruit ripens, it bursts open along the groove, exposing the brightly colored mace hidden underneath the nutmeg seed's hard, black, gleaming shell. On 1 cm long leaf stems, the pointed dark green leaves are borne alternately along the branches. The tops of the leaves have a gleaming sheen to them. Male and female flowers are rarely found on the same tree, and flowers are usually sexed separately. Male flowers appear in clusters of one to three, while female flowers appear in clusters of one to ten. Flowers are waxy, fleshy, and bell-shaped, and are pale yellow. Fruits with a longitudinal ridge are fleshy, drooping, yellow, smooth, and 6 to 9 cm long. The succulent yellow fruit coat splits into two valves when fully mature, exposing a purplish-brown, shiny seed (nutmeg) surrounded by a red aril (mace). Nutmeg seeds are broadly ovoid (2 to 3 cm long), hard, fleshy, whitish, and have red-brown veins running through them. The aril (mace) is bright scarlet when young, but when dry, it becomes horny, brittle, and a yellowish-brown color. The trees do not bloom until they are about 9 years old, but once they do, they continue to flower for another 75 years. The trees produce two to three crops per year. The seeds (nutmegs) must dry for 3 to 6 weeks before they can be used.

## **2.2. MARKET POTENTIAL:**

Nutmeg is a spice that is commonly used in Asian cuisine and is gaining popularity in other parts of the world. Nutmeg is one of the most common spices in Europe. The growing popularity of ethnic cuisines such as Indian and Thai has boosted demand for spices like nutmeg among food producers. Nutmeg is used in the garam masala used to make seasonal curry dishes by the huge Asian population, which includes India and Indonesia, who live in various parts of the world. The Indonesian group in the Netherlands, for example, is a relatively large consumer of Nutmeg in the European Union. In 2017, the Netherlands was a big nutmeg importer, accounting for nearly a quarter of all European nutmeg imports. Because of the Western community's interest in Asian cuisines, the demand for nutmeg spice is expected to grow during the forecast period. Nutmeg spice is mostly consumed in Asian and Middle Eastern countries. The wide variety of regional dishes that use it as the main spice ingredient, as well as the long-standing, practice of using it in medicine, explain the spice's popularity. Nutmeg's main producers and export markets are Guatemala, India, and Indonesia. The nutmeg market in the area has been boosted by the development of the oleoresins industry. Spices such as nutmeg contain oleoresins, which are interesting ingredients to use in ethnic dishes for food producers. Nutmeg oleoresin is extracted in countries such as India and Sri Lanka, allowing for regional export. In both European and American communities, the demand for these extractions is high. Because of increased demand from the international community, the nutmeg market is expected to grow during the forecast period. During the forecast period, the global nutmeg market is expected to expand at a CAGR of 3.6 percent (2020-2025).

### **2.3. RAW MATERIAL DESCRIPTION:**

Ripe or mature fruit splits fruit of nutmeg which are required the husk is easily removed from the seed, while the thin and fragile mace is carefully removed. Farmers market their seeds as is or dried, with moisture content of 30-35 percent (wet basis) when harvested. Packaging material required for appropriate packaging.

## **3. PROCESS FLOW CHART**

### **Harvesting**

The ripe or mature fruit splits open at the groove while still on the tree and the seed surrounded by the red aril falls to the ground. The seed with aril is collected from the field during harvesting. Until harvesting, the fruits are usually allowed to fall on the ground, but in some areas, a long pole is used to take opened pods directly from the tree (rodding). This ensures a higher-quality harvest, but it can also damage flowers and young fruit. The seed's husk is quickly extracted, but the thin and delicate mace must be carefully removed. Farmers market their seeds as is or dried, with moisture content of 30-35 percent (wet basis) when harvested.

### **Receiving**

Seeds are discharged onto sorting trays and spread with a wooden pallet at the processing station. Hand-selected seeds, slightly discoloured seeds, water-logged seeds, empty or rotting seeds, mouldy seeds, very light seeds, and germinating seeds are normally returned to the delivering farmer. Scoop the remaining seeds into a receiving bag.

### **Drying**

Natural convection methods are used to dry the seeds, which are put in trays that are kept out of direct sunlight. The drying trays are usually located on the top floor of the processing station, directly under the roof, where temperatures range from 29 to 32 degrees Celsius. The seeds are dried to a final moisture content of 8-9 %, and the drying time ranges from 6-8 weeks.

### **Cracking**

Drying is necessary not only for storage but also for nutmeg removal from the shell. Cracking is accomplished manually or mechanically by a shelling machine.

### **Separation**

The cracking machine produces a loose mixture of broken shells, whole nutmegs, and damaged nutmegs as its production. These mixtures are separated mechanically or manually.

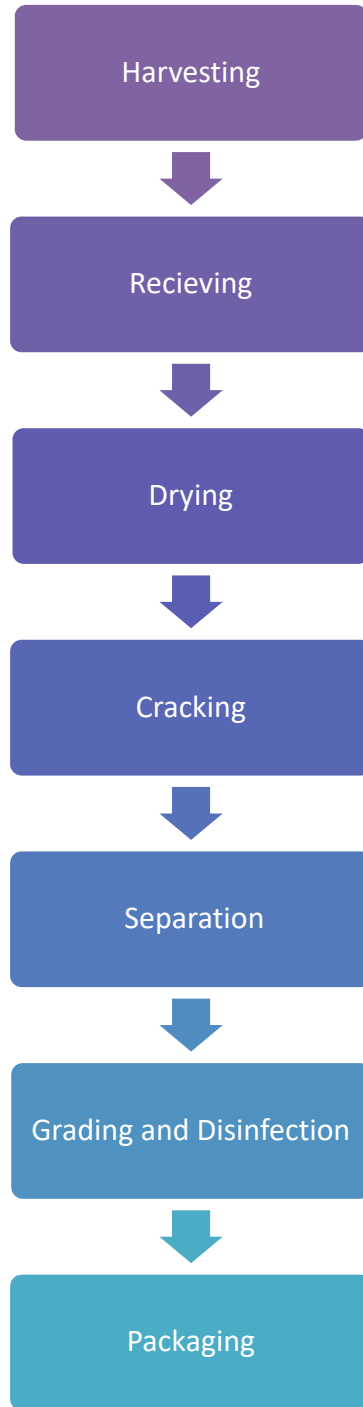
### **Grading & disinfections**

Nutmegs are then graded according to their weight, or the number of nutmegs per kilogramme. This method uses a series of three screens graders, but the final grading is performed by a group of professional and experienced labours. After being graded, the nutmegs are bagged and put in a fumigation chamber, where they are chemically treated (methyl bromide) to prevent infestation.

### **Packaging in different packages**

After ensure that the finished product is cleaning, well-dried, and of the desired colour final Chironji kernels are packed in different packages.

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## **4. ECONOMICS OF THE PROJECT**

### **4.1. BASIS & PRESUMPTIONS**

1. Production Capacity of Nutmeg is 400 Kg. per day. First year, Capacity has been taken @ 40%.
2. Working shift of 8 hours per day has been considered.
3. Raw Material stock is for 10 days and Finished goods Closing Stock has been taken for 10 days.
4. Credit period to Sundry Debtors has been given for 7 days.
5. Credit period by the Sundry Creditors has been provided for 7 days.
6. 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 19 KW.
10. Increase in sales and raw material costing has been taken @ 5% on a yearly basis.

## 4.2. CAPACITY, UTILIZATION, PRODUCTION & OUTPUT

<b>COMPUTATION OF PRODUCTION OF NUTMEG</b>		
<b>Items to be Manufactured</b>		
Nutmeg		
Machine capacity Per hour	50	Kg
Total working Hours	8	
Machine capacity Per Day	400	Kg
Working days in a month	25	Days
Working days per annum	300	
Wastage Considered	10%	
Raw material requirement	120000	Kg
Final Output per annum after wastage	108000	Kg
Final Product to be packed in 1 Kg packet		
Number of Packets per annum	108000	1 Kg packet

<b>Production of Nutmeg</b>		
<b>Production</b>	<b>Capacity</b>	<b>Packets</b>
1st year	40%	43,200
2nd year	45%	48,600
3rd year	50%	54,000
4th year	55%	59,400
5th year	60%	64,800

<b>Raw Material Cost</b>			
<b>Year</b>	<b>Capacity Utilisation</b>	<b>Rate (per kg)</b>	<b>Amount (Rs. in lacs)</b>
1st year	40%	300.00	144.00
2nd year	45%	315.00	170.10
3rd year	50%	331.00	198.60
4th year	55%	348.00	229.68
5th year	60%	365.00	262.80

<b>COMPUTATION OF SALE</b>					
<b>Particulars</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
Op Stock	-	1,440	1,620	1,800	1,980
Production	43,200	48,600	54,000	59,400	64,800
Less : Closing Stock	1,440	1,620	1,800	1,980	2,160
<b>Net Sale</b>	<b>41,760</b>	<b>48,420</b>	<b>53,820</b>	<b>59,220</b>	<b>64,620</b>
Sale price per packet	490.00	515.00	541.00	568.00	596.00
<b>Sales (in Lacs)</b>	<b>204.62</b>	<b>249.36</b>	<b>291.17</b>	<b>336.37</b>	<b>385.14</b>


### 4.3. PREMISES/INFRASTRUCTURE

The approximate total area required for complete factory setup is 2500-3500 Sq. ft. for smooth production including storage area. It is expected that the premises will be on rental.

#### 4.4. MACHINERY & EQUIPMENTS

Machine Name	Description	Machine Image.
Hot Air Dryer	The hot air is required for drying the nutmeg seed after receiving them from the plant.	
Nut Cracking Machine	Cracking is the removal of the Nutmeg from its outer husk. This shelling machine is used to minimize waste caused by cracks, increase efficiency, and reduce hard work and time as well.	
Vibro Separator	This machine is used to separate shell from cracking mixture of nutmegs.	
Grader Machine	This machine is used for grading the cleaned nutmeg before packaging on the weight basis.	
Metal Detector	A metal detector is a device that detects the presence of metal in the food item before packaging.	
Filling and Packaging Machine	This machine is used to pack the finished grinded Fenugreek powder for market sale.	

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<p>Material handling and other Equipment's</p>	<p>These Equipment's are used for material handling. Other equipment's like unloading bins, bucket elevators, motors, etc. are also used.</p>	
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Machine	Unit	Rate	Price
Hot Air Dryer	1	125000	125000
Nut Cracking Machine	1	180000	180000
Vibro Separator	1	150000	150000
Grader Machine	1	165000	165000
Metal Detector	1	150000	150000
Filling & Packaging Machine	1	380000	380000
Material handling and other equipment's (Unloading Bins, bucket elevator, etc.)	-	350000	350000

**Note:** Total Machinery cost shall be Rs 15.00 lakh including equipment's but excluding GST and Transportation Cost.

#### 4.5. MISCELLANEOUS FIXED ASSETS

- Water Supply Arrangements
- Furniture & Fixtures
- Computers & Printers

#### 4.6. TOTAL COST OF PROJECT

<b>COST OF PROJECT</b>	
	(in Lacs)
<b>PARTICULARS</b>	<b>Amount</b>
Land & Building	Owned/Rented
Plant & Machinery	15.00
Miscellaneous Assets	3.00
Working capital	12.41
<b>Total</b>	<b>30.41</b>

#### 4.7. MEANS OF FINANCE

<b>MEANS OF FINANCE</b>	
<b>PARTICULARS</b>	<b>AMOUNT</b>
Own Contribution (min 10%)	3.03
Subsidy @35%(Max. Rs 10 Lac)	6.30
Term Loan @ 55%	9.90
Working Capital (Bank Finance)	11.17
<b>Total</b>	<b>30.41</b>

**4.8. TERM LOAN:** Term loan of Rs. 9.90 Lakh is required for project cost of Rs. 30.41 Lakh

**4.9. TERM LOAN REPAYMENT& INTEREST SCHEDULE**

REPAYMENT SCHEDULE OF TERM LOAN							
						Interest	11.00%
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
<b>1st</b>	Opening Balance						
	1st month	-	9.90	9.90	-	-	9.90
	2nd month	9.90	-	9.90	0.09	-	9.90
	3rd month	9.90	-	9.90	0.09	-	9.90
	4th month	9.90	-	9.90	0.09	-	9.90
	5th month	9.90	-	9.90	0.09	-	9.90
	6th month	9.90	-	9.90	0.09	-	9.90
	7th month	9.90	-	9.90	0.09	0.18	9.72
	8th month	9.72	-	9.72	0.09	0.18	9.53
	9th month	9.53	-	9.53	0.09	0.18	9.35
	10th month	9.35	-	9.35	0.09	0.18	9.17
	11th month	9.17	-	9.17	0.08	0.18	8.98
	12th month	8.98	-	8.98	0.08	0.18	8.80
					0.97	1.10	
<b>2nd</b>	Opening Balance						
	1st month	8.80	-	8.80	0.08	0.18	8.62
	2nd month	8.62	-	8.62	0.08	0.18	8.43
	3rd month	8.43	-	8.43	0.08	0.18	8.25

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4th month	8.25	-	8.25	0.08	0.18	8.07
5th month	8.07	-	8.07	0.07	0.18	7.88
6th month	7.88	-	7.88	0.07	0.18	7.70
7th month	7.70	-	7.70	0.07	0.18	7.52
8th month	7.52	-	7.52	0.07	0.18	7.33
9th month	7.33	-	7.33	0.07	0.18	7.15
10th month	7.15	-	7.15	0.07	0.18	6.97
11th month	6.97	-	6.97	0.06	0.18	6.78
12th month	6.78	-	6.78	0.06	0.18	6.60
				<b>0.86</b>	<b>2.20</b>	
<b>3rd</b>	<b>Opening Balance</b>					
1st month	6.60	-	6.60	0.06	0.18	6.42
2nd month	6.42	-	6.42	0.06	0.18	6.23
3rd month	6.23	-	6.23	0.06	0.18	6.05
4th month	6.05	-	6.05	0.06	0.18	5.87
5th month	5.87	-	5.87	0.05	0.18	5.68
6th month	5.68	-	5.68	0.05	0.18	5.50
7th month	5.50	-	5.50	0.05	0.18	5.32
8th month	5.32	-	5.32	0.05	0.18	5.13
9th month	5.13	-	5.13	0.05	0.18	4.95
10th month	4.95	-	4.95	0.05	0.18	4.77
11th month	4.77	-	4.77	0.04	0.18	4.58
12th month	4.58	-	4.58	0.04	0.18	4.40
				<b>0.62</b>	<b>2.20</b>	



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<b>4th</b>	Opening Balance						
	1st month	4.40	-	4.40	0.04	0.18	4.22
	2nd month	4.22	-	4.22	0.04	0.18	4.03
	3rd month	4.03	-	4.03	0.04	0.18	3.85
	4th month	3.85	-	3.85	0.04	0.18	3.67
	5th month	3.67	-	3.67	0.03	0.18	3.48
	6th month	3.48	-	3.48	0.03	0.18	3.30
	7th month	3.30	-	3.30	0.03	0.18	3.12
	8th month	3.12	-	3.12	0.03	0.18	2.93
	9th month	2.93	-	2.93	0.03	0.18	2.75
	10th month	2.75	-	2.75	0.03	0.18	2.57
	11th month	2.57	-	2.57	0.02	0.18	2.38
	12th month	2.38	-	2.38	0.02	0.18	2.20
					<b>0.37</b>	<b>2.20</b>	
<b>5th</b>	Opening Balance						
	1st month	2.20	-	2.20	0.02	0.18	2.02
	2nd month	2.02	-	2.02	0.02	0.18	1.83
	3rd month	1.83	-	1.83	0.02	0.18	1.65
	4th month	1.65	-	1.65	0.02	0.18	1.47
	5th month	1.47	-	1.47	0.01	0.18	1.28
	6th month	1.28	-	1.28	0.01	0.18	1.10
	7th month	1.10	-	1.10	0.01	0.18	0.92
	8th month	0.92	-	0.92	0.01	0.18	0.73
	9th month	0.73	-	0.73	0.01	0.18	0.55
	10th month	0.55	-		0.01	0.18	0.37

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			0.55			
11th month	0.37	-	0.37	0.00	0.18	0.18
12th month	0.18	-	0.18	0.00	0.18	-
			<b>0.13</b>	<b>2.20</b>		
DOOR TO DOOR MORATORIUM PERIOD	60	MONTHS				
REPAYMENT PERIOD	6	MONTHS				
	54	MONTHS				

#### 4.10. WORKING CAPITAL CALCULATIONS

<b>COMPUTATION OF CLOSING STOCK &amp; WORKING CAPITAL</b>					(in Lacs)
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
<b><u>Finished Goods</u></b>					
	6.19	7.27	8.42	9.68	10.98
<b><u>Raw Material</u></b>					
	4.80	5.67	6.62	7.66	8.76
<b>Closing Stock</b>	<b>10.99</b>	<b>12.94</b>	<b>15.04</b>	<b>17.34</b>	<b>19.74</b>

<b>COMPUTATION OF WORKING CAPITAL REQUIREMENT</b>					
<b>TRADITIONAL METHOD</b>					(in Lacs)
<b>Particulars</b>	<b>Amount</b>	<b>Own Margin</b>		<b>Bank Finance</b>	
Finished Goods & Raw Material	10.99				
Less : Creditors	3.36				
<b>Paid stock</b>	<b>7.63</b>	<b>10%</b>	<b>0.76</b>	<b>90%</b>	<b>6.87</b>
<b>Sundry Debtors</b>	<b>4.77</b>	<b>10%</b>	<b>0.48</b>	<b>90%</b>	<b>4.30</b>
	<b>12.41</b>		<b>1.24</b>		<b>11.17</b>
<b>MPBF</b>					<b>11.17</b>
<b>WORKING CAPITAL LIMIT DEMAND ( from Bank)</b>					<b>11.17</b>
<b>Working Capital Margin</b>					<b>1.24</b>

**4.11. SALARY & WAGES**

<b><u>BREAK UP OF LABOUR CHARGES</u></b>			
<b>Particulars</b>	<b>Wages</b>	<b>No of</b>	<b>Total</b>
	<b>Rs. per Month</b>	<b>Employees</b>	<b>Salary</b>
Plant Operator	16,000	4	64,000
Supervisor	20,000	1	20,000
Skilled (in thousand rupees)	15,000	3	45,000
Unskilled (in thousand rupees)	7,500	5	37,500
<b>Total salary per month</b>			<b>1,66,500</b>
<b>Total annual labour charges</b>	<b>(in lacs)</b>		<b>19.98</b>

<b><u>BREAK UP OF STAFF SALARY CHARGES</u></b>			
<b>Particulars</b>	<b>Salary</b>	<b>No of</b>	<b>Total</b>
	<b>Rs. per Month</b>	<b>Employees</b>	<b>Salary</b>
Administrative Staff	8,500	4	34,000
Manager	25,000	1	25,000
Accountant	20,000	2	40,000
<b>Total salary per month</b>			<b>99,000</b>
<b>Total annual Staff charges</b>	<b>(in lacs)</b>		<b>11.88</b>

## 4.12 POWER REQUIREMENT

<b>Utility Charges (per month)</b>		
<b>Particulars</b>	<b>value</b>	<b>Description</b>
Power connection required	19	KWH
consumption per day	152	units
Consumption per month	3,800	units
Rate per Unit	10	Rs.
power Bill per month	38,000	Rs.

## 4.13. DEPRECIATION CALCULATION

<b>COMPUTATION OF DEPRECIATION</b>			(in Lacs)
<b>Description</b>	<b>Plant &amp; Machinery</b>	<b>Miss. Assets</b>	<b>TOTAL</b>
Rate of Depreciation	<b>15.00%</b>	<b>10.00%</b>	
<b>Opening Balance</b>	-	-	-
Addition	15.00	3.00	18.00
Total	15.00	3.00	18.00
Less : Depreciation	2.25	0.30	2.55
<b>WDV at end of Year</b>	<b>12.75</b>	<b>2.70</b>	<b>15.45</b>
Additions During The Year	-	-	-
Total	12.75	2.70	15.45
Less : Depreciation	1.91	0.27	2.18
<b>WDV at end of Year</b>	<b>10.84</b>	<b>2.43</b>	<b>13.27</b>
Additions During The Year	-	-	-
Total	10.84	2.43	13.27
Less : Depreciation	1.63	0.24	1.87
<b>WDV at end of Year</b>	<b>9.21</b>	<b>2.19</b>	<b>11.40</b>
Additions During The Year	-	-	-
Total	9.21	2.19	11.40
Less : Depreciation	1.38	0.22	1.60
<b>WDV at end of Year</b>	<b>7.83</b>	<b>1.97</b>	<b>9.80</b>
Additions During The Year	-	-	-
Total	7.83	1.97	9.80
Less : Depreciation	1.17	0.20	1.37
<b>WDV at end of Year</b>	<b>6.66</b>	<b>1.77</b>	<b>8.43</b>

**4.14. REPAIR & MAINTENANCE:** Repair & Maintenance is 3.0% of Gross Sale.

**4.15. PROJECTIONS OF PROFITABILITY ANALYSIS:**

<b>PROJECTED PROFITABILITY STATEMENT</b>					<b>(in Lacs)</b>
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
Capacity Utilisation %	<b>40%</b>	<b>45%</b>	<b>50%</b>	<b>55%</b>	<b>60%</b>
<b><u>SALES</u></b>					
<b>Gross Sale</b>					
Nutmeg	204.62	249.36	291.17	336.37	385.14
<b>Total</b>	<b>204.62</b>	<b>249.36</b>	<b>291.17</b>	<b>336.37</b>	<b>385.14</b>
<b>COST OF SALES</b>					
Raw Material Consumed	144.00	170.10	198.60	229.68	262.80
Electricity Expenses	4.56	5.02	5.52	6.07	6.68
Depreciation	2.55	2.18	1.87	1.60	1.37
Wages & labour	19.98	22.98	25.73	28.82	31.70
Repair & maintenance	6.14	7.48	8.73	10.09	11.55
Packaging	8.59	10.47	12.23	14.13	15.41
<b>Cost of Production</b>	<b>185.82</b>	<b>218.23</b>	<b>252.68</b>	<b>290.39</b>	<b>329.51</b>
<b>Add: Opening Stock /WIP</b>	<b>-</b>	<b>6.19</b>	<b>7.27</b>	<b>8.42</b>	<b>9.68</b>
<b>Less: Closing Stock /WIP</b>	<b>6.19</b>	<b>7.27</b>	<b>8.42</b>	<b>9.68</b>	<b>10.98</b>
Cost of Sales	179.63	217.15	251.54	289.13	328.21
<b>GROSS PROFIT</b>	<b>25.00</b>	<b>32.21</b>	<b>39.63</b>	<b>47.24</b>	<b>56.93</b>
	<b>12.22%</b>	<b>12.92%</b>	<b>13.61%</b>	<b>14.04%</b>	<b>14.78%</b>
Salary to Staff	11.88	13.66	15.71	18.07	20.78
Interest on Term Loan	0.97	0.86	0.62	0.37	0.13
Interest on working Capital	1.23	1.23	1.23	1.23	1.23
Rent	4.80	5.76	6.91	8.29	9.95
selling & adm exp	3.68	6.23	7.86	9.42	10.78
<b>TOTAL</b>	<b>22.56</b>	<b>27.74</b>	<b>32.33</b>	<b>37.38</b>	<b>42.87</b>
<b>NET PROFIT</b>	<b>2.43</b>	<b>4.47</b>	<b>7.30</b>	<b>9.85</b>	<b>14.05</b>
	<b>1.19%</b>	<b>1.79%</b>	<b>2.51%</b>	<b>2.93%</b>	<b>3.65%</b>
Taxation	-	-	0.61	1.14	2.43
<b>PROFIT (After Tax)</b>	<b>2.43</b>	<b>4.47</b>	<b>6.69</b>	<b>8.71</b>	<b>11.62</b>

#### 4.16. BREAK EVEN POINT ANALYSIS

<b>BREAK EVEN POINT ANALYSIS</b>					
<b>Year</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b>Net Sales &amp; Other Income</b>	204.62	249.36	291.17	336.37	385.14
Less : Op. WIP Goods	-	6.19	7.27	8.42	9.68
Add : Cl. WIP Goods	6.19	7.27	8.42	9.68	10.98
<b>Total Sales</b>	<b>210.82</b>	<b>250.44</b>	<b>292.31</b>	<b>337.63</b>	<b>386.44</b>
<b>Variable &amp; Semi Variable Exp.</b>					
Raw Material Consumed	144.00	170.10	198.60	229.68	262.80
Electricity Exp/Coal Consumption at 85%	3.88	4.26	4.69	5.16	5.67
Wages & Salary at 60%	19.12	21.98	24.87	28.13	31.49
Selling & administrative Expenses 80%	2.95	4.99	6.29	7.53	8.63
Interest on working Capital	1.228457	1.228457	1.228457	1.228457	1.228457
Repair & maintenance	6.14	7.48	8.73	10.09	11.55
Packaging	8.59	10.47	12.23	14.13	15.41
<b>Total Variable &amp; Semi Variable Exp</b>	<b>185.90</b>	<b>220.52</b>	<b>256.64</b>	<b>295.95</b>	<b>336.78</b>
<b>Contribution</b>	<b>24.92</b>	<b>29.93</b>	<b>35.68</b>	<b>41.67</b>	<b>49.66</b>
<b>Fixed &amp; Semi Fixed Expenses</b>					
Electricity Exp/Coal Consumption at 15%	0.68	0.75	0.83	0.91	1.00
Wages & Salary at 40%	12.74	14.66	16.58	18.76	20.99
Interest on Term Loan	0.97	0.86	0.62	0.37	0.13
Depreciation	2.55	2.18	1.87	1.60	1.37
Selling & administrative Expenses 20%	0.74	1.25	1.57	1.88	2.16
Rent	4.80	5.76	6.91	8.29	9.95
<b>Total Fixed Expenses</b>	<b>22.49</b>	<b>25.45</b>	<b>28.37</b>	<b>31.82</b>	<b>35.61</b>
<b>Capacity Utilization</b>	<b>40%</b>	<b>45%</b>	<b>50%</b>	<b>55%</b>	<b>60%</b>
<b>OPERATING PROFIT</b>	<b>2.43</b>	<b>4.47</b>	<b>7.30</b>	<b>9.85</b>	<b>14.05</b>
<b>BREAK EVEN POINT</b>	<b>36%</b>	<b>38%</b>	<b>40%</b>	<b>42%</b>	<b>43%</b>
<b>BREAK EVEN SALES</b>	<b>190.26</b>	<b>213.02</b>	<b>232.49</b>	<b>257.79</b>	<b>277.08</b>

**4.17. PROJECTED BALANCE SHEET**

<b>PROJECTED BALANCE SHEET</b>					<b>(in Lacs)</b>
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
<b><u>Liabilities</u></b>					
Capital					
opening balance		9.26	10.23	12.93	16.64
<i>Add:- Own Capital</i>	3.03				
Add:- Retained Profit	2.43	4.47	6.69	8.71	11.62
Less:- Drawings	2.50	3.50	4.00	5.00	8.00
Subsidy/grant	6.30				
Closing Balance	9.26	10.23	12.93	16.64	20.26
Term Loan	8.80	6.60	4.40	2.20	-
Working Capital Limit	11.17	11.17	11.17	11.17	11.17
Sundry Creditors	3.36	3.97	4.63	5.36	6.13
Provisions & Other Liab	0.40	0.50	0.60	0.72	0.86
<b>TOTAL :</b>	<b>32.99</b>	<b>32.47</b>	<b>33.73</b>	<b>36.09</b>	<b>38.42</b>
<b><u>Assets</u></b>					
<b>Fixed Assets ( Gross)</b>	18.00	18.00	18.00	18.00	18.00
Gross Dep.	2.55	4.73	6.60	8.20	9.57
<b>Net Fixed Assets</b>	<b>15.45</b>	<b>13.27</b>	<b>11.40</b>	<b>9.80</b>	<b>8.43</b>
<b>Current Assets</b>					
Sundry Debtors	4.77	5.82	6.79	7.85	8.99
Stock in Hand	10.99	12.94	15.04	17.34	19.74
Cash and Bank	1.77	0.44	0.49	1.10	1.27
<b>TOTAL :</b>	<b>32.99</b>	<b>32.47</b>	<b>33.73</b>	<b>36.09</b>	<b>38.42</b>

**4.18. CASH FLOW STATEMENT**

<b><u>PROJECTED CASH FLOW STATEMENT</u></b>					<b>(in Lacs)</b>
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
<b><u>SOURCES OF FUND</u></b>					
Own Margin	3.03				
Net Profit	2.43	4.47	7.30	9.85	14.05
Depriciation & Exp. W/off	2.55	2.18	1.87	1.60	1.37
Increase in Cash Credit	11.17	-	-	-	-
Increase In Term Loan	9.90	-	-	-	-
Increase in Creditors	3.36	0.61	0.67	0.73	0.77
Increase in Provisions & Oth lib	0.40	0.10	0.10	0.12	0.14
Sunsidy/grant	6.30				
<b>TOTAL :</b>	<b>39.14</b>	<b>7.36</b>	<b>9.94</b>	<b>12.30</b>	<b>16.34</b>
<b><u>APPLICATION OF FUND</u></b>					
Increase in Fixed Assets	18.00				
Increase in Stock	10.99	1.95	2.10	2.29	2.41
Increase in Debtors	4.77	1.04	0.98	1.05	1.14
Repayment of Term Loan	1.10	2.20	2.20	2.20	2.20
Drawings	2.50	3.50	4.00	5.00	8.00
Taxation	-	-	0.61	1.14	2.43
<b>TOTAL :</b>	<b>37.37</b>	<b>8.69</b>	<b>9.88</b>	<b>11.69</b>	<b>16.18</b>
Opening Cash & Bank Balance	-	1.77	0.44	0.49	1.10
Add : Surplus	1.77	-1.33	0.05	0.61	0.16
Closing Cash & Bank Balance	<b>1.77</b>	<b>0.44</b>	<b>0.49</b>	<b>1.10</b>	<b>1.27</b>



**4.19. DEBT SERVICE COVERAGE RATIO**

<b><u>CALCULATION OF D.S.C.R</u></b>					
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
CASH ACCRUALS	4.98	6.65	8.56	10.31	12.99
Interest on Term Loan	0.97	0.86	0.62	0.37	0.13
<b>Total</b>	<b>5.95</b>	<b>7.51</b>	<b>9.18</b>	<b>10.69</b>	<b>13.12</b>
<b><u>REPAYMENT</u></b>					
Instalment of Term Loan	1.10	2.20	2.20	2.20	2.20
Interest on Term Loan	0.97	0.86	0.62	0.37	0.13
<b>Total</b>	<b>2.07</b>	<b>3.06</b>	<b>2.82</b>	<b>2.57</b>	<b>2.33</b>
<b>DEBT SERVICE COVERAGE RATIO</b>	<b>2.87</b>	<b>2.46</b>	<b>3.26</b>	<b>4.15</b>	<b>5.63</b>
<b>AVERAGE D.S.C.R.</b>	<b>3.61</b>				