



DETAILED PROJECT REPORT
FOXNUT (MAKHANA) PROCESSING UNIT
UNDER PMFME SCHEME



National Institute of Food Technology Entrepreneurship and Management
Ministry of Food Processing Industries
Plot No.97, Sector-56, HSIIDC, Industrial Estate, Kundli, Sonipat, Haryana-131028

Website: <http://www.niftem.ac.in>

Email: pmfmeCELL@niftem.ac.in

Call: 0130-2281089

TABLE OF CONTENTS

S No.	Topic	Page Number
1.	Project Summary	3
2.	About the Product	4-5
3.	Process Flow Chart	6-9
4.	Economics of the Project	10-27
	4.1. Basis & Presumptions	10
	4.2. Capacity, Utilisation, Production & Output	11-12
	4.3. Premises/Infrastructure	12
	4.4. Machinery & Equipment's	13-15
	4.5. Misc. Fixed Assets	16
	4.6. Total Cost of Project	16
	4.7. Means of Finance	16
	4.8. Term Loan	17
	4.9. Term Loan repayment & interest schedule	17-20
	4.10. Working Capital Calculations	20
	4.11. Salaries/Wages	21
	4.12. Power Requirement	22
	4.13. Depreciation Calculation	22
	4.14. Repairs & Maintenance	23
	4.15. Projections of Profitability Analysis	23
	4.16. Break Even Point Analysis	24
	4.17. Projected Balance Sheet	25
	4.18. Cash- Flow Statement	26
	4.19. Debt-Service Coverage Ratio	27

1. PROJECT SUMMARY

1. Name of the proposed project	:	Foxnut (Makhana) Processing Unit
2. Nature of proposed project	:	Proprietorship/Company/Partnership
3. Proposed project capacity	:	21600 Kg/annum (65,70,75,80&85% capacity utilization in 1 st to 5 th Year respectively)
4. Raw material	:	Harvested Foxnut seed.
5. Major product outputs	:	Foxnut (Makhana)
6. Total project cost	:	Rs. 27.23 Lakh
• Land development, building & Civil Construction	:	Nil
• Machinery and equipment's	:	Rs. 16.60 Lakh
• Miscellaneous Fixed Assets	:	Rs. 3.50 Lakh
• Working capital	:	Rs. 7.13 Lakh
8. Means of Finance		
• Subsidy (max 10lakhs)	:	Rs. 7.04 Lakh
• Promoter's contribution (min10%)	:	Rs. 2.71 Lakh
• Term loan	:	Rs.11.06 Lakh
• Working Capital Requirement	:	Rs. 6.42 Lakh
9. Profit after Depreciation, Interest & Tax		
• 1 st year	:	Rs. 2.05 Lakh
• 2 nd year	:	Rs. 3.50 Lakh
• 3 rd year	:	Rs. 4.89 Lakh
• 4 th year	:	Rs. 6.36Lakh
• 5th year	:	Rs. 8.13 Lakh
11. Average DSCR	:	Rs. 2.76
12. Term loan repayment	:	5 Years with 6 months grace period

2. ABOUT THE PRODUCT

2.1. PRODUCT INTRODUCTION:

Makhana known as Fox Nut. Euryale ferox is an important crop of the Nympeaceae family. It is often known as Makhana, Gorgon nut, or Foxnut and is cultivated in stagnant perennial bodies of water such as ponds. Foxnut (Makhana) can be used to mix with vegetables or popped like corn to make a delicious porridge. Makhana has been proven to be a high-nutrient, medicinally rich food that is good for a daily healthy diet. Vitamins, minerals, and fibers are among the nutrients present. Makhana is a high-value commodity that is only commercially grown in Bihar and parts of eastern India. It's also grown naturally in Madhya Pradesh, Rajasthan, Jammu and Kashmir, Tripura, and Manipur. It has a purple flower at the top of the prickly stalk, as well as flattened, rounded green leaves that float on the water surface and resemble lotuses. It produces edible seeds called makhana, which are widely used in Indian cuisine. Up to 80-100 makhana seeds can be produced by a single plant. Makhana cultivation is primarily practiced in West Bengal, Bihar, Manipur, Tripura, Assam, Madhya Pradesh, Rajasthan, and Uttar Pradesh in India. However, Bihar is the world's largest producer of Makhana, accounting for 90% of global production.

2.2. MARKET POTENTIAL:

Makhana seeds are used to replace unhealthy snacks such as popcorn or fried chips. The rising popularity of these products among both children and adults in countries like India, China, Japan, South Korea, Singapore, and Thailand is expected to continue to be a growth driver. This rise in consumption can be attributed to people's changing lifestyles, which has coincided with increased health awareness. In addition, fox nuts' high protein and low-fat content are expected to boost their use as a functional ingredient in the food and

beverage industry in the coming years. The sale of snack foods (ready-to-eat packaged foods such as chips, extracted foods, and so on) has increased by more than six fold. In developed countries such as Europe, the United States, Japan, and Australia, demand for nutritious and organically produced foods is rapidly increasing. As a result, there is a lot of scopes for Makhana to be marketed as a ready-to-eat snack both domestically and internationally.

Dried fruits and nuts such as raisins, prunes, dates, apricots, and figs, as well as almonds, cashews, and walnuts, were once thought to be healthy snack options. This is due to their high nutritional value and ability to serve as a convenient on-the-go snack. However, studies have shown that eating too many dried fruits has negative consequences due to their high sugar and calorie content. Consumers are now switching to better alternatives as a result of this awareness, which has created a lucrative opportunity for the lotus seed market. The market is expected to grow steadily, owing to consumers' increasing desire to live a healthy lifestyle. The ready-to-eat snacks/names market, with a compound annual growth rate of approximately 13 percent between 1998 and 2014 and 220 percent from 2014 to 2019, is estimated to worth more than Rs. 50,000 crore. Changing lifestyles, urbanization, the rise of nuclear families, and an increase in disposable income are all major growth drivers for the segment. Product innovations, strong marketing initiatives, and cost-effective pricing strategies have all helped to increase product affordability for consumers.

2.3. RAW MATERIAL DESCRIPTION:

The only raw material that is required for Makhana making unit is Harvested Foxnut seed.

3. PROCESS FLOW CHART

Pre-processing

Harvesting

Harvesting means collecting seeds from the ground of the pond or from the shallow water field. Makhana is harvested around 6 a.m. to 11 a.m. and is drudgery is included in the month of August to October by morning. To reduce the harassment of divers, an improved system has been developed. In comparison with the conventional system with significantly higher work output, the harvesting of Makhana seeds by the improved system requires less drudging. The collected Makhana seeds are locally termed as giri.

Cleaning

The seeds collected are transferred into the house and stored overnight; the seeds are washed for mud and another scrap with clear water.

Post-Harvesting

Following are the processes that are followed by the processing units after harvesting the Makhana seed.

Drying and Storage of seeds:

The cleaned seeds from Makhana are dried, where they are dispersed for 2-3 hours in a mat

or cemented yard with bright sunshine or by hot air dryer to reduce the moisture for easy transportation and temporary storage by around 31 percent. The storage of Makhana is very important and tough, even under ambient conditions; they cannot be stored for a long time. The seeds are typically stored in the process for 20-25 days. Water must be sprinkled regularly in order to keep the nuts fresh and maintain seed quality during storage.

Size grading:

With a set of sieves, the sun-dried seeds are divided into 5 to 7 grades by their dimensions. The classification of Makhana seed makes it easier to heat each nut uniformly during the roasting and increases processing efficiency.

Pre-heating:

The dried nuts are heated utilizing appropriate heat source and stirring them continuously. The surface temperature varies between 250°C and 300°C and at full pot capacity it takes almost 5 to 6 minutes. Humidity is reduced to approximately 20 percent following nut preheating.

Tempering:

The storing of pre-heated seed for 48-72 hours is known as the tempering of the seeds under ambient conditions. The seeds are deliberately tempered to lose the kernels in the hard seed coat.

Roasting and popping:

It is the most important but laborious and tough operation of Makhana processing. The pre-heated and tempered nuts are roasted with constant stirring at 290°C to 340°C surface temperatures. The cracking of sound is heard from the seed after approximately 1.5 to 2.2 minutes. The hard shell breaks and the Makhana Pop or lawa or kernel pops out in the expanded form which is called Makhana pop or lawa. Depending upon the quality of raw material, the yield of Makhana varies from 35-40% on a raw seed weight basis.

Polishing:

It involves Rubbing Makhana appropriately in-between themselves. Polishing enables the Makhana to be more white and lustered.

Grading:

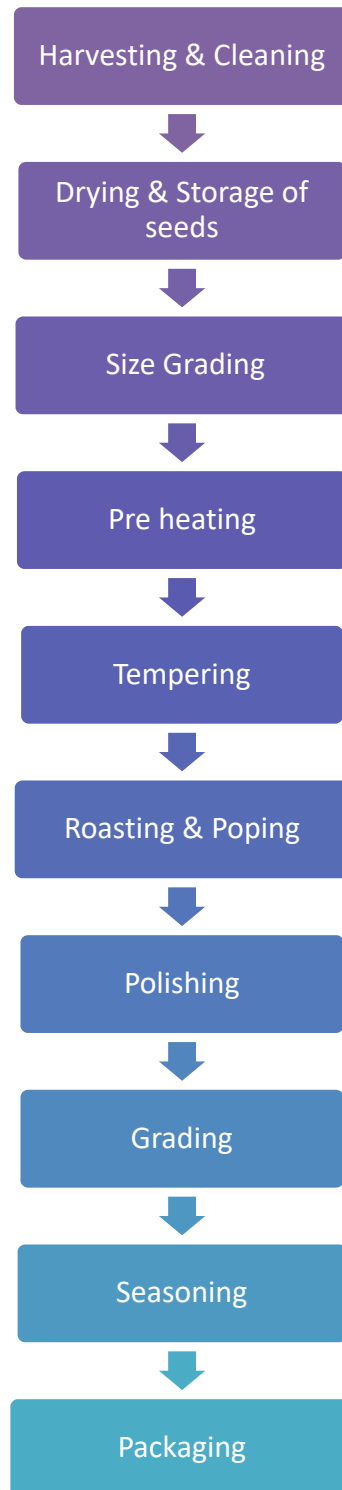
The Makhana is generally classified in two levels, namely lawa and thurri. At the producer level. Whereas thurri is half-poped, hard and reddish in colour, the lawa are swollen and white with reddish spots.

Seasoning:

The prepared makhana if needed to be seasoned if feed to seasoning machine where it's seasoned with a blend of spices & salts to obtain required flavour.

Packaging:

Common gunny bags for local markets and polythene bags are used to pack popped Makhana for distance markets.



4. ECONOMICS OF THE PROJECT

4.1. BASIS & PRESUMPTIONS

1. Production Capacity of Foxnut (Makhana) is 10 kg per hr. First year, Capacity has been taken @ 65%.
2. Working shift of 8 hours per day has been considered.
3. Raw Material stock is for 7 days and Finished goods Closing Stock has been taken for 7 days.
4. Credit period to Sundry Debtors has been given for 20 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 14 KW.
10. Increase in sales and raw material costing has been taken @ 5% on a yearly basis.

4.2. CAPACITY, UTILIZATION, PRODUCTION & OUTPUT

COMPUTATION OF PRODUCTION OF FOXNUT(MAKHANA)		
Items to be Manufactured		
Foxnut(Makhana)		
Machine capacity Per hour	10	Kg
Total working Hours	8	
Machine capacity Per Day	80	Kg
Working days in a month	25	Days
Working days per annum	300	
Wastage Considered	10%	
Raw material requirement	24000	Kg
Final Output per annum after wastage	21600	Kg
Final Product to be packed in 1 kg Packet		
Number of Packets per annum	21600	1 Kg Packet

Production of Foxnut(Makhana)		
Production	Capacity	KG
1st year	65%	14,040
2nd year	70%	15,120
3rd year	75%	16,200
4th year	80%	17,280
5th year	85%	18,360




Raw Material Cost			
Year	Capacity Utilisation	Rate (per Kg)	Amount (Rs. in lacs)
1st year	65%	320.00	49.92
2nd year	70%	336.00	56.45
3rd year	75%	353.00	63.54
4th year	80%	371.00	71.23
5th year	85%	390.00	79.56





COMPUTATION OF SALE					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Op Stock	-	328	353	378	403
Production	14,040	15,120	16,200	17,280	18,360
Less : Closing Stock	328	353	378	403	428
Net Sale	13,712	15,095	16,175	17,255	18,335
Sale price per packet	600.00	630.00	662.00	695.00	730.00
Sales (in Lacs)	82.27	95.10	107.08	119.92	133.84



4.3. PREMISES/INFRASTRUCTURE

The approximate total area required for complete factory setup is 2000-2500 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.
Seed washing machine with paddle beater	The machines are used for washing fruit and remove mud and other scraps with clear water.	
Size Grader machine	This machine is used for Grading and Separating the Makhana seed according to their size.	
Hot air dryer	A hot air dryer is a machine designed to separate water vapor or moisture from a given product. A hot air dryer works very simple machine and It is consists of blower heater. Environmental air is drawn into a heater/blowing unit and heated via a filter.	

<p>Rotary Roaster</p>	<p>The dried nuts are heated by placing them in this machine and rotate them continuously.</p>	
<p>Sieve Separator</p>	<p>This is the machine use for grade the processed Makhana into different grades depending on their sizes.</p>	
<p>Filling and packaging machine</p>	<p>This Makhana packing machine is mainly used for the packaging of Makhana into appropriate packages according to market demand</p>	
<p>Seasoning Machine</p>	<p>This machine is used to season the given product with appropriate flavouring i.e. spice & salt blends.</p>	

Conveyer machine	A conveyor is a common material handling device, which moves material between locations.	
Material handling and other Equipments	These Equipments are used for material handling. Other equipments like water pumps, weighing machine, bucket elevator etc are also used.	

Machine	Unit	Rate	Price
Inclined material feeding conveyer	1	110000	110000
Automatic rotary roaster	1	125000	125000
Automatic rotary roaster masala flavoring machine	1	130000	130000
Hot foil batch coding machine	1	20000	20000
Air compressor	1	35000	35000
Four head Packing machines	1	490000	490000
Air dryer, Seed washing machine, bucket elevator etc.	-	400000	400000
Material handling and other equipment's (Bins, trolley, conveyer, silos, weighing machine, etc.)	-	350000	350000

Note: Total Machinery cost shall be Rs 16.60 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

COST OF PROJECT	
	(in Lacs)
PARTICULARS	Amount
Land & Building	Owned/Rented
Plant & Machinery	16.60
Miscellaneous Assets	3.50
Working capital	7.13
Total	27.23

4.7. MEANS OF FINANCE

MEANS OF FINANCE	
PARTICULARS	AMOUNT
Own Contribution (min 10%)	2.71
Subsidy @35%(Max. Rs 10 Lac)	7.04
Term Loan @ 55%	11.06
Working Capital (Bank Finance)	6.42
Total	27.23

4.8. TERM LOAN: Term loan of Rs. 11.06 Lakh is required for project cost of Rs. 27.23 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
1st	Opening Balance						
	1st month	-	11.06	11.06	-	-	11.06
	2nd month	11.06	-	11.06	0.10	-	11.06
	3rd month	11.06	-	11.06	0.10	-	11.06
	4th month	11.06	-	11.06	0.10		11.06
	5th month	11.06	-	11.06	0.10		11.06
	6th month	11.06	-	11.06	0.10		11.06
	7th month	11.06	-	11.06	0.10	0.20	10.85
	8th month	10.85	-	10.85	0.10	0.20	10.65
	9th month	10.65	-	10.65	0.10	0.20	10.44
	10th month	10.44	-	10.44	0.10	0.20	10.24
	11th month	10.24	-	10.24	0.09	0.20	10.03
	12th month	10.03	-	10.03	0.09	0.20	9.83
					1.09	1.23	
2nd	Opening Balance						
	1st month	9.83	-	9.83	0.09	0.20	9.62
	2nd month	9.62	-	9.62	0.09	0.20	9.42

PM FME- Detailed Project Report of Makhana Processing Unit

3rd month	9.42	-	9.42	0.09	0.20	9.21
4th month	9.21	-	9.21	0.08	0.20	9.01
5th month	9.01	-	9.01	0.08	0.20	8.80
6th month	8.80	-	8.80	0.08	0.20	8.60
7th month	8.60	-	8.60	0.08	0.20	8.39
8th month	8.39	-	8.39	0.08	0.20	8.19
9th month	8.19	-	8.19	0.08	0.20	7.98
10th month	7.98	-	7.98	0.07	0.20	7.78
11th month	7.78	-	7.78	0.07	0.20	7.57
12th month	7.57	-	7.57	0.07	0.20	7.37
				0.96	2.46	
3rd	Opening Balance					
1st month	7.37	-	7.37	0.07	0.20	7.17
2nd month	7.17	-	7.17	0.07	0.20	6.96
3rd month	6.96	-	6.96	0.06	0.20	6.76
4th month	6.76	-	6.76	0.06	0.20	6.55
5th month	6.55	-	6.55	0.06	0.20	6.35
6th month	6.35	-	6.35	0.06	0.20	6.14
7th month	6.14	-	6.14	0.06	0.20	5.94
8th month	5.94	-	5.94	0.05	0.20	5.73
9th month	5.73	-	5.73	0.05	0.20	5.53
10th month	5.53	-	5.53	0.05	0.20	5.32
11th month	5.32	-	5.32	0.05	0.20	5.12
12th month	5.12	-	5.12	0.05	0.20	4.91

PM FME- Detailed Project Report of Makhana Processing Unit

				0.69	2.46	
4th	Opening Balance					
	1st month	4.91	-	4.91	0.05	4.71
	2nd month	4.71	-	4.71	0.04	4.50
	3rd month	4.50	-	4.50	0.04	4.30
	4th month	4.30	-	4.30	0.04	4.09
	5th month	4.09	-	4.09	0.04	3.89
	6th month	3.89	-	3.89	0.04	3.68
	7th month	3.68	-	3.68	0.03	3.48
	8th month	3.48	-	3.48	0.03	3.28
	9th month	3.28	-	3.28	0.03	3.07
	10th month	3.07	-	3.07	0.03	2.87
	11th month	2.87	-	2.87	0.03	2.66
	12th month	2.66	-	2.66	0.02	2.46
				0.42	2.46	
5th	Opening Balance					
	1st month	2.46	-	2.46	0.02	2.25
	2nd month	2.25	-	2.25	0.02	2.05
	3rd month	2.05	-	2.05	0.02	1.84
	4th month	1.84	-	1.84	0.02	1.64
	5th month	1.64	-	1.64	0.02	1.43
	6th month	1.43	-	1.43	0.01	1.23
	7th month	1.23	-	1.23	0.01	1.02
	8th month	1.02	-	1.02	0.01	0.82
	9th month	0.82	-		0.01	0.61

			0.82			
10th month	0.61	-	0.61	0.01	0.20	0.41
11th month	0.41	-	0.41	0.00	0.20	0.20
12th month	0.20	-	0.20	0.00	0.20	-
				0.15	2.46	
DOOR TO DOOR MORATORIUM PERIOD	60	MONTHS				
	6	MONTHS				
REPAYMENT PERIOD	54	MONTHS				

4.10. WORKING CAPITAL CALCULATIONS

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Finished Goods</u>					
	1.65	1.84	2.05	2.28	2.52
<u>Raw Material</u>					
	1.16	1.32	1.48	1.66	1.86
Closing Stock	2.81	3.16	3.53	3.94	4.38

COMPUTATION OF WORKING CAPITAL REQUIREMENT					
TRADITIONAL METHOD					(in Lacs)
Particulars	Amount	Own Margin		Bank Finance	
Finished Goods & Raw Material	2.81				
Less : Creditors	1.16				
Paid stock	1.65	10%	0.16	90%	1.48
Sundry Debtors	5.48	10%	0.55	90%	4.94
	7.13		0.71		6.42
MPBF					6.42
WORKING CAPITAL LIMIT DEMAND (from Bank)					6.42
Working Capital Margin					0.71

4.11. SALARY & WAGES

<u>BREAK UP OF LABOUR CHARGES</u>			
Particulars	Wages	No of	Total
	Rs. per Month	Employees	Salary
Plant Operator	15,000	2	30,000
Supervisor	18,000	1	18,000
Skilled (in thousand rupees)	12,000	2	24,000
Unskilled (in thousand rupees)	8,500	2	17,000
Total salary per month			89,000
Total annual labour charges	(in lacs)		10.68

<u>BREAK UP OF STAFF SALARY CHARGES</u>			
Particulars	Salary	No of	Total
	Rs. per Month	Employees	Salary
Administrative Staff	6,500	1	6,500
Manager	18,000	1	18,000
Accountant	15,000	1	15,000
Total salary per month			39,500
Total annual Staff charges	(in lacs)		4.74

4.12 POWER REQUIREMENT

Utility Charges (per month)		
Particulars	value	Description
Power connection required	14	KWH
consumption per day	112	units
Consumption per month	2,800	units
Rate per Unit	10	Rs.
power Bill per month	28,000	Rs.

4.13. DEPRECIATION CALCULATION

COMPUTATION OF DEPRECIATION			(in Lacs)
Description	Plant & Machinery	Miss. Assets	TOTAL
Rate of Depreciation	15.00%	10.00%	
Opening Balance	-	-	-
Addition	16.60	3.50	20.10
Total	16.60	3.50	20.10
Less : Depreciation	2.49	0.35	2.84
WDV at end of Year	14.11	3.15	17.26
Additions During The Year	-	-	-
Total	14.11	3.15	17.26
Less : Depreciation	2.12	0.32	2.43
WDV at end of Year	11.99	2.84	14.83
Additions During The Year	-	-	-
Total	11.99	2.84	14.83
Less : Depreciation	1.80	0.28	2.08
WDV at end of Year	10.19	2.55	12.75
Additions During The Year	-	-	-
Total	10.19	2.55	12.75
Less : Depreciation	1.53	0.26	1.78
WDV at end of Year	8.67	2.30	10.96
Additions During The Year	-	-	-
Total	8.67	2.30	10.96
Less : Depreciation	1.30	0.23	1.53
WDV at end of Year	7.37	2.07	9.43

4.14. REPAIR & MAINTENANCE: Repair & Maintenance is 2.5% of Gross Sale.

4.15. PROJECTIONS OF PROFITABILITY ANALYSIS

<u>PROJECTED PROFITABILITY STATEMENT</u>					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	65%	70%	75%	80%	85%
<u>SALES</u>					
Gross Sale					
Foxnut(Makhana)	82.27	95.10	107.08	119.92	133.84
Total	82.27	95.10	107.08	119.92	133.84
<u>COST OF SALES</u>					
Raw Material Consumed	49.92	56.45	63.54	71.23	79.56
Electricity Expenses	3.36	3.86	4.44	5.11	5.62
Depreciation	2.84	2.43	2.08	1.78	1.53
Wages & labour	10.68	11.75	12.92	14.22	15.35
Repair & maintenance	2.06	2.38	2.68	3.00	3.35
Packaging	1.65	1.90	2.14	2.40	2.68
Cost of Production	70.50	78.77	87.81	97.74	108.09
Add: Opening Stock /WIP	-	1.65	1.84	2.05	2.28
Less: Closing Stock /WIP	1.65	1.84	2.05	2.28	2.52
Cost of Sales	68.86	78.58	87.60	97.51	107.84
GROSS PROFIT	13.42	16.52	19.48	22.41	26.00
	16.31%	17.37%	18.19%	18.69%	19.43%
Salary to Staff	4.74	5.69	7.11	7.82	8.76
Interest on Term Loan	1.09	0.96	0.69	0.42	0.15
Interest on working Capital	0.71	0.71	0.71	0.71	0.71
Rent	3.60	3.96	4.36	4.79	5.27
selling & adm exp	1.23	1.71	1.61	1.80	2.01
TOTAL	11.37	13.02	14.46	15.53	16.89
NET PROFIT	2.05	3.50	5.02	6.88	9.11
	2.49%	3.68%	4.68%	5.74%	6.81%
Taxation	-	-	0.13	0.52	0.98
PROFIT (After Tax)	2.05	3.50	4.89	6.36	8.13

4.16. BREAK EVEN POINT ANALYSIS

BREAK EVEN POINT ANALYSIS					
Year	I	II	III	IV	V
Net Sales & Other Income	82.27	95.10	107.08	119.92	133.84
Less : Op. WIP Goods	-	1.65	1.84	2.05	2.28
Add : Cl. WIP Goods	1.65	1.84	2.05	2.28	2.52
Total Sales	83.92	95.29	107.29	120.15	134.09
Variable & Semi Variable Exp.					
Raw Material Consumed	49.92	56.45	63.54	71.23	79.56
Electricity Exp/Coal Consumption at 85%	2.86	3.28	3.78	4.34	4.78
Wages & Salary at 60%	9.25	10.46	12.02	13.22	14.47
Selling & administrative Expenses 80%	0.99	1.37	1.28	1.44	1.61
Interest on working Capital	0.705871	0.705871	0.705871	0.705871	0.705871
Repair & maintenance	2.06	2.38	2.68	3.00	3.35
Packaging	1.65	1.90	2.14	2.40	2.68
Total Variable & Semi Variable Exp	67.42	76.55	86.15	96.34	107.14
Contribution	16.50	18.74	21.14	23.81	26.95
Fixed & Semi Fixed Expenses					
Electricity Exp/Coal Consumption at 15%	0.50	0.58	0.67	0.77	0.84
Wages & Salary at 40%	6.17	6.97	8.01	8.81	9.64
Interest on Term Loan	1.09	0.96	0.69	0.42	0.15
Depreciation	2.84	2.43	2.08	1.78	1.53
Selling & administrative Expenses 20%	0.25	0.34	0.32	0.36	0.40
Rent	3.60	3.96	4.36	4.79	5.27
Total Fixed Expenses	14.45	15.24	16.13	16.93	17.84
Capacity Utilization	65%	70%	75%	80%	85%
OPERATING PROFIT	2.05	3.50	5.02	6.88	9.11
BREAK EVEN POINT	57%	57%	57%	57%	56%
BREAK EVEN SALES	73.49	77.51	81.83	85.44	88.76

4.17. PROJECTED BALANCE SHEET

PROJECTED BALANCE SHEET					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>					
Capital					
opening balance		9.80	10.80	12.18	14.05
Add:- Own Capital	2.71				
Add:- Retained Profit	2.05	3.50	4.89	6.36	8.13
Less:- Drawings	2.00	2.50	3.50	4.50	6.00
Subsidy/grant	7.04				
Closing Balance	9.80	10.80	12.18	14.05	16.18
Term Loan	9.83	7.37	4.91	2.46	-
Working Capital Limit	6.42	6.42	6.42	6.42	6.42
Sundry Creditors	1.16	1.32	1.48	1.66	1.86
Provisions & Other Liab	0.40	0.50	0.60	0.72	0.86
TOTAL :	27.61	26.40	25.60	25.30	25.31
<u>Assets</u>					
Fixed Assets (Gross)	20.10	20.10	20.10	20.10	20.10
Gross Dep.	2.84	5.27	7.35	9.14	10.67
Net Fixed Assets	17.26	14.83	12.75	10.96	9.43
Current Assets					
Sundry Debtors	5.48	6.34	7.14	7.99	8.92
Stock in Hand	2.81	3.16	3.53	3.94	4.38
Cash and Bank	2.05	2.08	2.18	2.40	2.58
TOTAL :	27.61	26.40	25.60	25.30	25.31

4.18. CASH FLOW STATEMENT

PROJECTED CASH FLOW STATEMENT					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>SOURCES OF FUND</u>					
Own Margin	2.71				
Net Profit	2.05	3.50	5.02	6.88	9.11
Depriciation & Exp. W/off	2.84	2.43	2.08	1.78	1.53
Increase in Cash Credit	6.42	-	-	-	-
Increase In Term Loan	11.06	-	-	-	-
Increase in Creditors	1.16	0.15	0.17	0.18	0.19
Increase in Provisions & Oth lib	0.40	0.10	0.10	0.12	0.14
Sunsidy/grant	7.04				
TOTAL :	33.68	6.18	7.36	8.96	10.98
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	20.10				
Increase in Stock	2.81	0.35	0.38	0.41	0.44
Increase in Debtors	5.48	0.85	0.80	0.86	0.93
Repayment of Term Loan	1.23	2.46	2.46	2.46	2.46
Drawings	2.00	2.50	3.50	4.50	6.00
Taxation	-	-	0.13	0.52	0.98
TOTAL :	31.62	6.16	7.26	8.74	10.80
Opening Cash & Bank Balance	-	2.05	2.08	2.18	2.40
Add : Surplus	2.05	0.02	0.10	0.22	0.18
Closing Cash & Bank Balance	2.05	2.08	2.18	2.40	2.58

4.19. DEBT SERVICE COVERAGE RATIO

<u>CALCULATION OF D.S.C.R</u>					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	4.89	5.93	6.97	8.15	9.66
Interest on Term Loan	1.09	0.96	0.69	0.42	0.15
Total	5.98	6.89	7.66	8.57	9.81
<u>REPAYMENT</u>					
Instalment of Term Loan	1.23	2.46	2.46	2.46	2.46
Interest on Term Loan	1.09	0.96	0.69	0.42	0.15
Total	2.31	3.41	3.14	2.87	2.60
DEBT SERVICE COVERAGE RATIO	2.58	2.02	2.44	2.98	3.77
AVERAGE D.S.C.R.	2.76				