



DETAILED PROJECT REPORT
BARLEY FLOUR MILL UNIT
UNDER PMFME SCHEME



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Ministry of Food Processing Industries

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1. PROJECT SUMMARY

1. Name of the proposed project	:	Barley Flour Mill Unit
2. Nature of proposed project	:	Proprietorship/Company/Partnership
3. Proposed project capacity	:	288000 Kg/annum(50,55,60,65,&70% capacity utilization in 1 st to 5 th Year respectively)
4. Raw materials	:	Malt Barley, Packing material
5. Major product outputs	:	Barley Flour
6. Total project cost	:	Rs. 35.04 Lakh
• Land development, building & Civil Construction	:	Nil
• Machinery and equipment's	:	Rs. 24.40 Lakh
• Miscellaneous Fixed Assets	:	Rs. 1.2 Lakh
• Working capital	:	Rs. 9.44 Lakh
8. Means of Finance		
• Subsidy (max 10lakhs)	:	Rs. 8.96 Lakh
• Promoter's contribution (min10%)	:	Rs. 3.5 Lakh
• Term loan	:	Rs. 14.08 Lakh
• Working Capital Requirement	:	Rs. 8.50 Lakh
9. Profit after Depreciation, Interest & Tax		
• 1 st year	:	Rs. 1.28 Lakh
• 2 nd year	:	Rs. 4.75 Lakh
• 3 rd year	:	Rs. 7.22 Lakh
• 4 th year	:	Rs. 9.54 Lakh
• 5 th year	:	Rs. 11.58 Lakh
11. Average DSCR	:	Rs. 2.91
12. Term loan repayment	:	5 Years with 6 months grace period

2. ABOUT THE PRODUCT

2.1. PRODUCT INTRODUCTION:

Barley flour, blocked barley or un-pearled hull less barley is milled from pearl barley. For pearl barley, 13 percent moisture content for 48 hours, 14 percent moisture content for 48 hours for un-pearled hull less barley, are optimums tempering conditions. Solar mills with blunted and smooth rolls and plansifters are used for the milling method. If blocked barley or whole barley is used for the milling of barley flour, due allowance must be charged for the considerably higher quantity of goods that the system would otherwise expect. Barley flour is also a by-product of the processes of cutting, pearling and polishing.

In the manufacture of flat bread, for baby foods and for food specialties, barley flour is used. It is also a part of composite flours that are used to make bread raised from yeast. A decent binder and thickener offer pre-gelatinized barley flour, which has high absorbent properties. The mixture of pre-gelatinized barley flour with barley crunch creates barley breading.

Malted barley flour is derived from the malt of barley. For bread flours that are poor in natural diastatic activity, malt flour is used as a high diastatic supplement, as a flavor supplement in malt loaves and for various other food items. Barley is one of the oldest domesticated crops in the world and is vying with wheat for the distinction of becoming the first type of wild plant under cultivation. After wheat, rice and maize, barley (*Hordeumvulgare*) is the fourth most important cereal in the world. One excellent source of B-complex vitamins and minerals is barley.

2.2. MARKET POTENTIAL:

Barley or Jau, referred to scientifically as *Hordeum vulgare* L. After rice, wheat and maize, it is one of the most significant cereal crops in the world. The barley plant is a Rabi cereal plant from the Poaceae family of grasses. In cooler and semi-arid parts of the world, barley crops are mostly found. Barley is believed to have originated in the Middle East. It was primarily cultivated for human consumption during the ancient period, but today the cultivation of barley is also used for animal feed, malt products and human food. The barley crop is cultivated on approximately 70 million hectares of land worldwide. Global production stands at around 160 million tons. Europe is the world's leading continent for barley growth, followed by Asia. The Russian Federation, China, Canada, the USA, Spain, France, Australia, the UK and India are other barley growing countries. In India, the major producers of barley crops are Uttar Pradesh, Rajasthan, Madhya Pradesh, Haryana, Punjab and Himachal Pradesh. The global area under cultivation of barley has been steadily growing. Production increased to 132 million tones in 1971-72 and to 162 million tones in 1980, from 83 million tones in 1961-62. The USSR, the USA and Canada are the world's leading barley producing nations.

In India, barley is grown mostly in the country's northern region. In 1951-52, the area under cultivation was 0.72 million hectares, which rose to 1.75 million hectares in 1980 and yielded 1.6 million tons. The yield is in the order of 7.5 to 9.0 quintals per hectare, compared with a 19.5 world average. Output is mainly limited to Absolute Pradesh, Punjab and Haryana in India, but it can be grown anywhere the wheat can be. The barley crops in Haryana cover 58,000 hectares of land and the total yield is 160,000 tons.

2.3. RAW MATERIAL DESCRIPTION:

After malting and removal of sugar and starch via hot water extraction, Barley Flour is produced from barley. By indirect steam, the harvested barley is dried, milled and sifted to obtain flour that passes 100 percent of a US 40 mesh screen and 90 percent is retained by a US 120 mesh screens. Carbohydrates make up about 80 percent of the barley grain by weight. Starch is the single most abundant factor, accounting for up to 65 percent, but cell wall origin polysaccharides are also quantitatively essential and can account for more than 10 percent of the grain weight. Barley malt is generated through a regulated schedule of steeping and germination. During malting, the gross chemical changes detected are the net product of reserve material degradation. Breads such as barley bread are prepared using barley flour.

Often it is added to wheat flour, making hybrid flour that is used to prepare different breads. A darker-colour baked end-product is produced by its addition to wheat flour, and the product's taste often varies. Barley flour is also used in some specialty foods as an ingredient. Barley breading is another barley flour-prepared food product that can be prepared using pre-gelatinized barley flour and an additional barley crunch product, similar to Grape-Nuts cereal.

3. PROCESS FLOW CHART

- **Grain delivery:** The grain is supplied by covered trucks and hopper railcars to factories. The distance travelled by the grain varies tremendously. In several times, the 110-car unit train has covered hundreds of miles. In other situations, it is shipped in the same county from a nearby plant. After arriving at the mill, grain stocks will often have gone through a variety of accumulation processes (farmer, country elevator, terminal elevator, etc.).The number of conveyances carrying grain can vary based on the time of harvesting and delivery.

- **Grain standard:** Before barley grains are unloaded in a factory, the assessment is required with samples. The grain is tested for moisture, test weight, unsound seeds, and foreign material. The grains are categorized according to Indian Grain Standards and are also subject to the ISO trade standards. Product management chemists start experiments to identify grain and assess end-user values during unloading.

- **Cleaning:** After inspection, the grain is unloaded directly from the truck into the unloading container and transferred into large bins or silos through conveyors and bucket lifts. Grain storing is a science. It is necessary to maintain the correct moisture, heat, and air or mildew, sprout, or ferment Barley. The grain can also be fumigated to eradicate insect pests during transportation. During the process In terms of nutrient level and consistency, barely is stored.

- **Cleaning the barley grains:** It can take as many as six steps. The machines that clean the grain are collectively called the cleaning house.
 - ✓ **Magnetic separator** – The grain first passes by a magnet that removes ferrous metal particles. It will pass through other metal detectors after milling to ensure that no metal pieces are in the finished product. Magnets are also positioned throughout the milling process and at the last step prior to load-out.

 - ✓ **Separator** – Vibrating or rotating drum separators remove bits of wood, straw, and almost anything else too big or too small to be the desired grain.

 - ✓ **Aspirator** – Air currents act as a vacuum to remove dust and lighter impurities.

 - ✓ **De-stoner** – Using gravity, the machine separates the heavy material from the light to remove stones that may be the same size as the desired grain.

 - ✓ **Disc separator** – The grain passes through a separator that identifies the size of the kernels even more closely. It rejects anything longer, shorter, more round, more angular or in any way a different shape.

- ✓ **Scourer**– The scourer eliminates the outer husks, the soil in the kernel crease, and other minor impurities with vigorous scouring action. Currents of air are dragging up all the loose stuff.

- ✓ **Impact Entoleter**– The centrifugal force cuts down some unsound kernels or insect eggs and the aspiration rejects them from the flow of the mill. From the meet, the sound of the Barley flows into the grinding bins, large hoppers that regulate the feeding of the Barley to the actual milling process.

- ✓ **Colour Separator** – Newer mills may also utilize electronic color separators to simplify the cleaning process.

- **Grinding:** The grains of barley are now ready to be milled into flour. The modern milling process is a gradual reduction of the barley grains through the grinding and sifting process. This science of analysis, blending, grinding, sifting, and blending results in consistent end product. Barley kernels are weighed or fed from bins to roller mills, corrugated cylinders made of chilled steel. The rolls are paired and rotated inward to each other at varying speeds. Passing through the corrugated "first break" rolls, the separation of the bran, endosperm, and germ begins.

There are about five roller mills or breaks in the system. Again, the aim is to remove the endosperm from the bran and the germ. To get as much pure endosperm as possible, each break roll must be set. The "break" rolls, each has successively finer corrugations, through the break rolls. The grist is sent back upstairs to drop through sifters after each trip. The system reworks the coarse stocks from the sifters and reduces the Barley particles to granular “middling” that are as free from bran as possible.

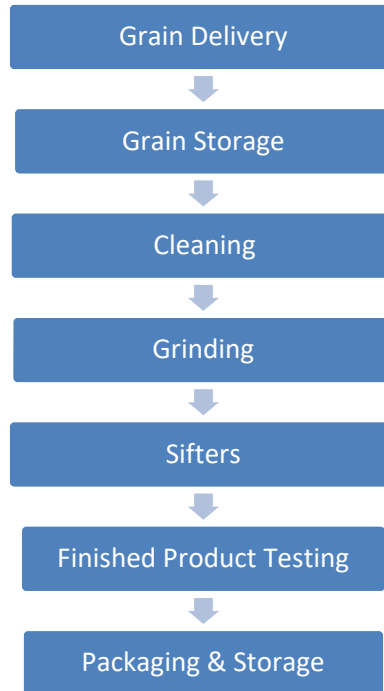
- **Sifters-** Through pneumatic tubes, the broken particles of Barley are elevated and then dropped into huge, vibrating, box-like sifters where they are shaken to separate the larger from the smaller particles by either a series of bolting cloths or screens.

There may be as many as 27 frames inside the sifter, each covered with either a screen or nylon or stainless steel, with square holes that get narrower and smaller and the farther down they go. It is probable that up to six different particle sizes come from a single sifter.

- **Blending:** From the fibre, the flour is separated and the process is repeated again.

- **Testing of the final product:** Lab checks are carried out after milling to ensure that the flour follows the specification and standards. Millers also conduct routine monitoring of indicator natural organisms. While dry flour does not provide an atmosphere that is conducive to microbial development, it is important to note that flour is not a ready-to-eat food and is a minimally processed agricultural ingredient. Flour is not meant for raw use. Baking, baking, boiling, and cooking heat processes are sufficient to kill any pathogens that may be found in flour and lower the possible risk of food borne disease.

- **Packaging of Product:** The packaging is carried out in a much simple process then milling, the Barley flour is fed to holding tank of the packaging machine, which simply seals one end of continuous packaging first, then it simply fills the packet as per required weight & seals the other end, generating the required packet.



4. ECONOMICS OF THE PROJECT

4.1. BASIS & PRESUMPTIONS

1. Production Capacity of Barley flour is 120 kg per hr. First year, Capacity has been taken @ 50%.
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 15 days.
4. Credit period to Sundry Debtors has been given for 15 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 10KW.
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 BARLEY FLOUR		
Items to be Manufactured		
Barley Flour		
Machine capacity Per hour	120	Kg
Total working Hours	8	
Machine capacity Per Day	960	Kg
Working days in amonth	25	Days
Working days per annum	300	
Machine capacity per annum	288000	Kg
Final Product to be packed in 1 kg Packet		
Number of Packets per annum	288000	Kg

Production of Barley Flour		
Production	Capacity	KG
1st year	50%	1,44,000
2nd year	55%	1,58,400
3rd year	60%	1,72,800
4th year	65%	1,87,200
5th year	70%	2,01,600


Raw Material Cost			
Year	Capacity	Rate (per Kg)	Amount (Rs. in lacs)
1st year	50%	38.00	54.72
2nd year	55%	40.00	63.36
3rd year	60%	42.00	72.58
4th year	65%	44.00	82.37
5th year	70%	46.00	92.74

COMPUTATION OF SALE					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Op Stock	-	7,200	7,920	8,640	9,360
Production	1,44,000	1,58,400	1,72,800	1,87,200	2,01,600
Less : Closing Stock	7,200	7,920	8,640	9,360	10,080
Net Sale	1,36,800	1,57,680	1,72,080	1,86,480	2,00,880
sale price per packet	70.00	74.00	78.00	82.00	86.00
Sales (in Lacs)	95.76	116.68	134.22	152.91	172.76

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.
Unloading Bins	These are large bins designed for unloading of grains & similar product; they are equipped with large rod mess to prevent big impurities from entering system.	

<p>Silos</p>	<p>These Equipments are class of storage Equipments which are specifically designed for dry grain raw material of small granule composition. Usually used to store grains but can also be used to store cement & aggregate.</p>	
<p>Vibrating Pre-Cleaner</p>	<p>It's composed of a vibrating sieve, powered by an exciter which is in turn is powered by an appropriate motor; which is used to remove most of the dirt & large impurities from given grain.</p>	
<p>Heavy duty Pulveriser Mill</p>	<p>It basically a grinder class machine, which may employ any possible grinding arrangement to achieve, required grinding as per product to be grinded.</p>	
<p>Flour Sifter Machine</p>	<p>It's basically an industrial version of the sieve used to sieve out, large fibers, particles etc, to achieve required particle size in flour.</p>	
<p>Flour testing kit</p>	<p>This is the type of kit that measure moisture of flour before packaging of final product.</p>	
<p>Packet Filling & Packaging Machine</p>	<p>It's a simple packaging machine, designed to fill the given food grade plastic material's continuous pouch</p>	

PM FME- Detailed Project Report of Barley Flour Mill Unit

	with required product after sealing one end & after filling sealing the other end also to generate packet of product.	
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Machine	Unit	Rate	Price
Silos (Capacity- 2.5 Tonne)	2	100000	200000
Vibrating Pre-Cleaner (Capacity- 400 Kg/hr)	1	150000	150000
Heavy duty Pulveriser Mill (Capacity-450 Kg/hr)	1	550000	550000
Flour Sifter Machine (Capacity- 300Kg/hr)	2	190000	380000
Flour testing kit	-	-	200000
Packet Filling & Packaging Machine	1	220000	220000
Bins and other material handling equipments. (Unloading Bins, escalator, elevator, conveyor, storage bins, etc.)	-	-	740000

Note: Approx. Total Machinery cost shall be Rs 24.40 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	24.40
Miscellaneous Assets	1.20
Working capital	9.44
Total	35.04

4.7. MEANS OF FINANCE

MEANS OF FINANCE	
PARTICULARS	AMOUNT
Own Contribution (min 10%)	3.50
Subsidy @35%(Max. Rs 10 Lac)	8.96
Term Loan @ 55%	14.08
Working Capital (Bank Finance)	8.50
Total	35.04

4.8. TERM LOAN: Term loan of Rs. 14.08 Lakh is required for project cost of Rs. 35.04 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	-	14.08	14.08	-	-	14.08
	2nd month	14.08	-	14.08	0.13	-	14.08
	3rd month	14.08	-	14.08	0.13	-	14.08
	4th month	14.08	-	14.08	0.13	-	14.08
	5th month	14.08	-	14.08	0.13	-	14.08
	6th month	14.08	-	14.08	0.13	-	14.08
	7th month	14.08	-	14.08	0.13	0.26	13.82
	8th month	13.82	-	13.82	0.13	0.26	13.56
	9th month	13.56	-	13.56	0.12	0.26	13.30
	10th month	13.30	-	13.30	0.12	0.26	13.04
	11th month	13.04	-	13.04	0.12	0.26	12.78
	12th month	12.78	-	12.78	0.12	0.26	12.52
					1.38	1.56	
2nd	Opening Balance						
	1st month	12.52	-	12.52	0.11	0.26	12.25
	2nd month	12.25	-	12.25	0.11	0.26	11.99

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	3rd month	11.99	-	11.99	0.11	0.26	11.73
	4th month	11.73	-	11.73	0.11	0.26	11.47
	5th month	11.47	-	11.47	0.11	0.26	11.21
	6th month	11.21	-	11.21	0.10	0.26	10.95
	7th month	10.95	-	10.95	0.10	0.26	10.69
	8th month	10.69	-	10.69	0.10	0.26	10.43
	9th month	10.43	-	10.43	0.10	0.26	10.17
	10th month	10.17	-	10.17	0.09	0.26	9.91
	11th month	9.91	-	9.91	0.09	0.26	9.65
	12th month	9.65	-	9.65	0.09	0.26	9.39
					1.22	3.13	
3rd	Opening Balance						
	1st month	9.39	-	9.39	0.09	0.26	9.13
	2nd month	9.13	-	9.13	0.08	0.26	8.87
	3rd month	8.87	-	8.87	0.08	0.26	8.60
	4th month	8.60	-	8.60	0.08	0.26	8.34
	5th month	8.34	-	8.34	0.08	0.26	8.08
	6th month	8.08	-	8.08	0.07	0.26	7.82
	7th month	7.82	-	7.82	0.07	0.26	7.56
	8th month	7.56	-	7.56	0.07	0.26	7.30
	9th month	7.30	-	7.30	0.07	0.26	7.04
	10th month	7.04	-	7.04	0.06	0.26	6.78
	11th month	6.78	-	6.78	0.06	0.26	6.52
	12th month	6.52	-	6.52	0.06	0.26	6.26

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				0.87	3.13	
4th	Opening Balance					
	1st month	6.26	-	6.26	0.06	6.00
	2nd month	6.00	-	6.00	0.05	5.74
	3rd month	5.74	-	5.74	0.05	5.48
	4th month	5.48	-	5.48	0.05	5.21
	5th month	5.21	-	5.21	0.05	4.95
	6th month	4.95	-	4.95	0.05	4.69
	7th month	4.69	-	4.69	0.04	4.43
	8th month	4.43	-	4.43	0.04	4.17
	9th month	4.17	-	4.17	0.04	3.91
	10th month	3.91	-	3.91	0.04	3.65
	11th month	3.65	-	3.65	0.03	3.39
	12th month	3.39	-	3.39	0.03	3.13
				0.53	3.13	
5th	Opening Balance					
	1st month	3.13	-	3.13	0.03	2.87
	2nd month	2.87	-	2.87	0.03	2.61
	3rd month	2.61	-	2.61	0.02	2.35
	4th month	2.35	-	2.35	0.02	2.09
	5th month	2.09	-	2.09	0.02	1.83
	6th month	1.83	-	1.83	0.02	1.56
	7th month	1.56	-	1.56	0.01	1.30
	8th month	1.30	-	1.30	0.01	1.04
	9th month	1.04	-		0.01	0.78

			1.04			
10th month	0.78	-	0.78	0.01	0.26	0.52
11th month	0.52	-	0.52	0.00	0.26	0.26
12th month	0.26	-	0.26	0.00	0.26	-
				0.19	3.13	
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	
Finished Goods						
	4.23	4.82	5.45	6.12	6.83	
Raw Material						
	1.82	2.11	2.42	2.75	3.09	
Closing Stock	6.05	6.93	7.86	8.86	9.92	

COMPUTATION OF WORKING CAPITAL REQUIREMENT					
TRADITIONAL METHOD					(in Lacs)
Particulars	Amount	Own Margin		Bank Finance	
Finished Goods & Raw Material	6.05				
Less : Creditors	1.28				
Paid stock	4.77	10%	0.48	90%	4.30
Sundry Debtors	4.79	10%	0.48	90%	4.31
	9.56		0.96		8.60
MPBF					8.60
WORKING CAPITAL LIMIT DEMAND (from Bank)					8.50
Working Capital Margin					0.94

4.11. SALARY & WAGES

<u>BREAK UP OF LABOUR CHARGES</u>			
Particulars	Wages Rs. per Month	No of Employees	Total Salary
Plant Operator	15,000	1	15,000
Supervisor	20,000	1	20,000
Skilled (in thousand rupees)	12,000	4	48,000
Unskilled (in thousand rupees)	8,500	4	34,000
Total salary per month			1,17,000
Total annual labour charges	(in lacs)		14.04

<u>BREAK UP OF STAFF SALARY CHARGES</u>			
Particulars	Salary Rs. per Month	No of Employees	Total Salary
Administrative Staff	6,000	3	18,000
Manager	20,000	1	20,000
Accountant	15,000	1	15,000
Total salary per month			53,000
Total annual Staff charges	(in lacs)		6.36

4.12 POWER REQUIREMENT

Utility Charges (per month)		
Particulars	value	Description
Power connection required	10 KWH	
consumption per day	80 units	
Consumption per month	2,000 units	
Rate per Unit	10 Rs.	
power Bill per month	20,000 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	24.40	1.20	25.60
Total	24.40	1.20	25.60
Less : Depreciation	3.66	0.12	3.78
WDV at end of Year	20.74	1.08	21.82
Additions During The Year	-	-	-
Total	20.74	1.08	21.82
Less : Depreciation	3.11	0.11	3.22
WDV at end of Year	17.63	0.97	18.60
Additions During The Year	-	-	-
Total	17.63	0.97	18.60
Less : Depreciation	2.64	0.10	2.74
WDV at end of Year	14.98	0.87	15.86
Additions During The Year	-	-	-
Total	14.98	0.87	15.86
Less : Depreciation	2.25	0.09	2.34
WDV at end of Year	12.74	0.79	13.52
Additions During The Year	-	-	-
Total	12.74	0.79	13.52
Less : Depreciation	1.91	0.08	1.99
WDV at end of Year	10.83	0.71	11.53

4.14. REPAIR & MAINTENANCE: Repair & Maintenance is 2.5% of Gross Sale.**4.15. PROJECTIONS OF PROFITABILITY ANALYSIS**

PROJECTED PROFITABILITY STATEMENT						(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year	
Capacity Utilisation %	50%	55%	60%	65%	70%	
<u>SALES</u>						
Gross Sale						
Barley Flour	95.76	116.68	134.22	152.91	172.76	
Total	95.76	116.68	134.22	152.91	172.76	
<u>COST OF SALES</u>						
Raw Material Consumed	54.72	63.36	72.58	82.37	92.74	
Electricity Expenses	2.40	2.76	3.17	3.65	4.02	
Depreciation	3.78	3.22	2.74	2.34	1.99	
Wages & labour	14.04	15.44	16.99	18.69	20.56	
Repair & maintenance	2.39	2.92	3.36	3.82	4.32	
Packaging	7.18	8.75	10.07	11.47	12.96	
Cost of Production	84.52	96.45	108.90	122.33	136.57	
Add: Opening Stock /WIP	-	4.23	4.82	5.45	6.12	
Less: Closing Stock /WIP	4.23	4.82	5.45	6.12	6.83	
Cost of Sales	80.29	95.85	108.28	121.66	135.86	
GROSS PROFIT	15.47	20.83	25.94	31.25	36.90	
	16.15%	17.85%	19.33%	20.44%	21.36%	
Salary to Staff	6.36	7.63	9.16	10.99	13.19	
Interest on Term Loan	1.38	1.22	0.87	0.53	0.19	
Interest on working Capital	0.94	0.94	0.94	0.94	0.94	
Rent	3.60	3.96	4.36	4.79	5.27	
selling & adm exp	1.92	2.33	2.68	3.06	3.46	
TOTAL	14.19	16.08	18.01	20.31	23.04	
NET PROFIT	1.28	4.75	7.93	10.95	13.86	
	1.33%	4.07%	5.91%	7.16%	8.02%	
Taxation	-	-	0.71	1.41	2.28	
PROFIT (After Tax)	1.28	4.75	7.22	9.54	11.58	

4.16. BREAK EVEN POINT ANALYSIS

BREAK EVEN POINT ANALYSIS					
Year	I	II	III	IV	V
Net Sales & Other Income	95.76	116.68	134.22	152.91	172.76
Less : Op. WIP Goods	-	4.23	4.82	5.45	6.12
Add : Cl. WIP Goods	4.23	4.82	5.45	6.12	6.83
Total Sales	99.99	117.28	134.84	153.59	173.47
Variable & Semi Variable Exp.					
Raw Material Consumed	54.72	63.36	72.58	82.37	92.74
Electricity Exp/Coal Consumption at 85%	2.04	2.35	2.70	3.10	3.41
Wages & Salary at 60%	12.24	13.85	15.69	17.81	20.25
Selling & administrative Expenses 80%	1.53	1.87	2.15	2.45	2.76
Interest on working Capital	0.935	0.935	0.935	0.935	0.935
Repair & maintenance	2.39	2.92	3.36	3.82	4.32
Packaging	7.18	8.75	10.07	11.47	12.96
Total Variable & Semi Variable Exp	81.04	94.02	107.47	121.95	137.37
Contribution	18.94	23.26	27.38	31.64	36.10
Fixed & Semi Fixed Expenses					
Electricity Exp/Coal Consumption at 15%	0.36	0.41	0.48	0.55	0.60
Wages & Salary at 40%	8.16	9.23	10.46	11.87	13.50
Interest on Term Loan	1.38	1.22	0.87	0.53	0.19
Depreciation	3.78	3.22	2.74	2.34	1.99
Selling & administrative Expenses 20%	0.38	0.47	0.54	0.61	0.69
Rent	3.60	3.96	4.36	4.79	5.27
Total Fixed Expenses	17.67	18.51	19.44	20.69	22.24
Capacity Utilization	50%	55%	60%	65%	70%
OPERATING PROFIT	1.28	4.75	7.93	10.95	13.86
BREAK EVEN POINT	47%	44%	43%	43%	43%
BREAK EVEN SALES	93.25	93.33	95.77	100.44	106.86

4.17. PROJECTED BALANCE SHEET

<u>PROJECTED BALANCE SHEET</u>						(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year	
<u>Liabilities</u>						
Capital						
opening balance		11.74	13.49	15.71	19.25	
Add:- Own Capital	3.50					
Add:- Retained Profit	1.28	4.75	7.22	9.54	11.58	
Less:- Drawings	2.00	3.00	5.00	6.00	8.00	
Subsidy/grant	8.96					
Closing Balance	11.74	13.49	15.71	19.25	22.83	
Term Loan	12.52	9.39	6.26	3.13	-	
Working Capital Limit	8.50	8.50	8.50	8.50	8.50	
Sundry Creditors	1.28	1.48	1.69	1.92	2.16	
Provisions & Other Liab	0.40	0.50	0.60	0.72	0.86	
TOTAL :	34.43	33.35	32.76	33.52	34.36	
<u>Assets</u>						
Fixed Assets (Gross)	25.60	25.60	25.60	25.60	25.60	
Gross Dep.	3.78	7.00	9.74	12.08	14.07	
Net Fixed Assets	21.82	18.60	15.86	13.52	11.53	
Current Assets						
Sundry Debtors	4.79	5.83	6.71	7.65	8.64	
Stock in Hand	6.05	6.93	7.86	8.86	9.92	
Cash and Bank	1.77	1.98	2.33	3.49	4.26	
TOTAL :	34.43	33.35	32.76	33.52	34.36	

4.18. CASH FLOW STATEMENT

<u>PROJECTED CASH FLOW STATEMENT</u>						(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year	
<u>SOURCES OF FUND</u>						
Own Margin	3.50					
Net Profit	1.28	4.75	7.93	10.95	13.86	
Depriciation & Exp. W/off	3.78	3.22	2.74	2.34	1.99	
Increase in Cash Credit	8.50	-	-	-	-	
Increase In Term Loan	14.08	-	-	-	-	
Increase in Creditors	1.28	0.20	0.22	0.23	0.24	
Increase in Provisions & Oth lib	0.40	0.10	0.10	0.12	0.14	
Sunsidy/grant	8.96					
TOTAL :	41.78	8.27	10.99	13.63	16.24	
<u>APPLICATION OF FUND</u>						
Increase in Fixed Assets	25.60					
Increase in Stock	6.05	0.88	0.93	1.00	1.06	
Increase in Debtors	4.79	1.05	0.88	0.93	0.99	
Repayment of Term Loan	1.56	3.13	3.13	3.13	3.13	
Drawings	2.00	3.00	5.00	6.00	8.00	
Taxation	-	-	0.71	1.41	2.28	
TOTAL :	40.00	8.06	10.65	12.47	15.46	
Opening Cash & Bank Balance	-	1.77	1.98	2.33	3.49	
Add : Surplus	1.77	0.21	0.34	1.16	0.77	
Closing Cash & Bank Balance	1.77	1.98	2.33	3.49	4.26	

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	5.06	7.97	9.96	11.87	13.57
Interest on Term Loan	1.38	1.22	0.87	0.53	0.19
Total	6.44	9.19	10.84	12.40	13.75
<u>REPAYMENT</u>					
Instalment of Term Loan	1.56	3.13	3.13	3.13	3.13
Interest on Term Loan	1.38	1.22	0.87	0.53	0.19
Total	2.95	4.35	4.00	3.66	3.32
DEBT SERVICE COVERAGE RATIO	2.18	2.11	2.71	3.39	4.15
AVERAGE D.S.C.R.	2.91				