



Model Detailed Project Report

OATS MAKING UNIT

Prepared by

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1. INTRODUCTION

OATS



Oats are a whole-grain food, known scientifically as *Avena sativa*. Oat groats, the most intact and whole form of oats, take a long time to cook. For this reason, most people prefer rolled, crushed or steel-cut oats. Instant (quick) oats are the most highly processed variety. While they take the shortest time to cook, the texture may be mushy. Oats are commonly eaten for breakfast as oatmeal, which is made by boiling oats in water or milk. Oatmeal is often referred to as porridge.

2. MARKET POTENTIAL:

The high nutritive content of oats is the major driver of the market. Additionally, an increase in preference for healthy meals and demand for convenience food is also driving the global oats market. Also, its added functional properties enhance its usage by the consumers, it is witnessed to be consumed majorly as a breakfast food. Moreover, the fast-paced lifestyle led by the working population has catalyzed the demand for ready-to-eat oats

products. Also, the rising cultivation of oats has led to increased availability of the product globally.

The organized breakfast cereal market in India is estimated at Rs 1,400 crore, with oats being the fastest-growing category, with around 30% value share. It has grown at a rate in excess of 10% over the last five years. Mirroring the trend, companies were quick to introduce oats variants, with new launches growing by almost 74% over a five-year period

3. PRODUCT DESCRIPTION

3.1 Raw Material sources

Oat grain is the only ingredient in oatmeal. The seeds of the Avena grasses are harvested in the fall. The thinner-skinned grains are preferable as they have a high protein content without being overly starchy.

Average raw material (cost per KG): Rs. 70-80

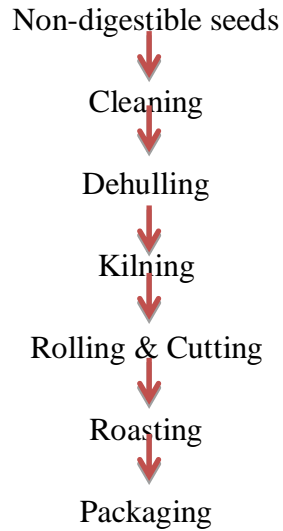
3.2 MANUFACTURING PROCESS

Oats are a staple of the American diet found in oatmeal, bread, cereal, granola, and many other foods, but there is complex process behind getting the oats from the soil to the table. There are a variety of steps to transform oats to oatmeal.

- **Cleaning:** Cleaning eliminates all unwanted materials from the oats. pass under magnetic separators and through a rotating screen which removes scraps, sticks, stones, corn, etc. Finally, oats go through aspiration and a de-stoner extracting hulls, lighter, low grade, pebbles, and other grains.

- Hulling- After cleaning, oats must be de-hulled, as the hulls of oats are indigestible. To remove the hull, rotating discs fling oats into rings that cause the hull to fall off without damaging the rest of the oat. This remaining oat is known as a groat.
- Kilning- The next stage of the process is drying or kilning. Due to the fat content in , must be dried to achieve browning and desired tastes. The oats are sent to long vertical cylinders where air and steam is injected to increase temperature and moisture. While the moisture helps increase the enzyme content, it's bad for shelf stability and can ruin the product. Radiant heating is used to remove this excess moisture. This step is important for developing the oat's nutty flavor, and it also kills any inactive yeast or bacteria.
- Rolling or cutting- Standard oats are those that have been steel-cut. The oats are run through a machine with razor-sharp knife blades. Quick-cooking oats are rolled between cylinders to produce a flatter, lighter flake. These processes are usually repeated several times to produce the type of oat flake that is desired. In both processes, the hull is separated from the grain. The hulls are sifted out and used for other purposes.
- Roasting- The hulled oats are then placed into a roaster where they are toasted at a preset temperature for a pre-determined amount of time.
- Packaging- Pre-printed containers are filled with pre-measured amounts of oatmeal. A lid is vacuum-packed onto the top of the container. The containers are then loaded into cartons for shipment.

Flow chart of Oats Processing



4. PROJECT COMPONENTS


4.1 Land

Land required 3500-4000 square feet approx.



- Processing Plant Area = 1000 to 1500 Sq.ft [2 level construction]
- Warehouse (Raw Material + Finish Product) = [1500-2000 Sq.ft]

Approximate rent for the same is Rs.50000-60000 per month.

4.2 Plant & Machinery

S.N.	Item Description	Image
1	Destoner	

2	Dehulling	
3	Vibro separator	
4	Rolling/Cutting Machine	
Other Machines		
1	Roasting Machine	

2	Packaging Machine:	
3	Bucket elevator	

Note: cost of the main machinery is approx. Rs. 15,00,000 and other machinery is approx. 5,00,000 excluding GST and other transportation cost.

4.3 Misc. Assets

S.N.	Item Description	Rate
1	Electricity connection	50,000
2	Furniture and equipment's	50,000
3	Storage tank etc.	20,000

4.4 Power Requirement

The borrower shall require power load of 50 HP which shall be applied with Power Corporation. However, for standby power arrangement the borrower shall also purchase DG Set.

4.5 Manpower Requirement

10-12 Manpower are required for the Oats Manufacturing unit.

Includes:

2-3 Skilled Labour

2-3 Unskilled Labour

3-4 Helper

1 Accountant

2 Administrative staff

5. FINANCIALS

5.1 Cost of Project

COST OF PROJECT	
(in Lacs)	
PARTICULARS	Amount
Land & Building	Owned/rented
Plant & Machinery	20.00
miscellaneous Assets	1.20
Working capital	11.11
Total	32.31

5.2 Means of Finance

MEANS OF FINANCE	
PARTICULARS	AMOUNT
Own Contribution (min 10%)	3.23
Subsidy @35%(Max. Rs 10 Lac)	7.42
Term Loan @ 55%	11.66
Working Capital (bank Finance)	10.00
Total	32.31

5.3 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		11.12	13.46	16.44	19.61
Add:- Own Capital	3.23				
Add:- Retained Profit	1.47	4.84	8.98	13.17	17.61
Less:- Drawings	1.00	2.50	6.00	10.00	14.00
Subsidy/grant	7.42				
Closing Balance	11.12	13.46	16.44	19.61	23.22
Term Loan	10.36	7.77	5.18	2.59	-
Working Capital Limit	10.00	10.00	10.00	10.00	10.00
Sundry Creditors	4.50	5.33	6.23	7.18	8.19
Provisions & Other Liab	0.30	0.38	0.45	0.54	0.65
TOTAL :	36.28	36.94	38.30	39.92	42.06
<u>Assets</u>					
Fixed Assets (Gross)	21.20	21.20	21.20	21.20	21.20
Gross Dep.	3.12	5.78	8.04	9.97	11.62
Net Fixed Assets	18.08	15.42	13.16	11.23	9.58
Current Assets					
Sundry Debtors	4.18	5.09	5.94	6.84	7.85
Stock in Hand	11.94	14.10	16.38	18.83	21.44
Cash and Bank	2.09	2.33	2.82	3.02	3.19
TOTAL :	36.28	36.94	38.30	39.92	42.06

5.4 Projected Cash Flow

PROJECTED CASH FLOW STATEMENT					
(in Lacs)					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>SOURCES OF FUND</u>					
Own Margin	3.23				
Net Profit	1.47	4.84	9.44	14.78	20.38
Depreciation & Exp. W/off	3.12	2.66	2.26	1.93	1.64
Increase in Cash Credit	10.00	-	-	-	-
Increase In Term Loan	11.66	-	-	-	-
Increase in Creditors	4.50	0.83	0.89	0.95	1.01
Increase in Provisions & Oth lib	0.30	0.08	0.08	0.09	0.11
Subsidy/grant	7.42				
TOTAL :	41.70	8.41	12.67	17.75	23.14
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	21.20				
Increase in Stock	11.94	2.16	2.29	2.44	2.61
Increase in Debtors	4.18	0.92	0.85	0.90	1.01
Repayment of Term Loan	1.30	2.59	2.59	2.59	2.59
Drawings	1.00	2.50	6.00	10.00	14.00
Taxation	-	-	0.46	1.61	2.77
TOTAL :	39.61	8.17	12.19	17.55	22.97
Opening Cash & Bank Balance	-	2.09	2.33	2.82	3.02
Add : Surplus	2.09	0.24	0.49	0.20	0.17
Closing Cash & Bank Balance	2.09	2.33	2.82	3.02	3.19

5.5 Projected Profitability

PROJECTED PROFITABILITY STATEMENT					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	40%	45%	50%	55%	60%
<u>SALES</u>					
Gross Sale					
OATS	156.60	190.99	222.76	256.62	294.38
Total	156.60	190.99	222.76	256.62	294.38
<u>COST OF SALES</u>					
Raw Material Consumed	90.00	106.65	124.50	143.55	163.80
Electricity Expenses	8.40	9.66	11.11	12.78	14.05
Depreciation	3.12	2.66	2.26	1.93	1.64
Wages & labour	10.20	11.22	12.34	13.58	14.93
Repair & maintenance	7.83	9.55	11.14	12.83	14.72
Packaging	7.05	8.59	10.02	11.55	13.25
Consumables	6.58	8.02	8.91	9.75	11.19
Cost of Production	133.17	156.35	180.29	205.96	233.58
Add: Opening Stock /WIP	-	4.44	5.21	6.01	6.87
Less: Closing Stock /WIP	4.44	5.21	6.01	6.87	7.79
Cost of Sales	128.74	155.58	179.49	205.11	232.66
GROSS PROFIT	27.86	35.41	43.27	51.51	61.72
	17.79%	18.54%	19.42%	20.07%	20.96%
Salary to Staff	9.12	10.03	11.04	12.14	13.35

Interest on Term Loan	1.15	1.01	0.72	0.44	0.15
Interest on working Capital	1.10	1.10	1.10	1.10	1.10
Rent	7.20	7.92	8.71	9.58	10.54
selling & adm exp	7.83	10.50	12.25	13.47	16.19
TOTAL	26.40	30.57	33.82	36.73	41.34
NET PROFIT	1.47	4.84	9.44	14.78	20.38
	0.94%	2.54%	4.24%	5.76%	6.92%
Taxation			0.46	1.61	2.77
PROFIT (After Tax)	1.47	4.84	8.98	13.17	17.61

5.6 Production and Yield

<u>COMPUTATION OF PRODUCTION OF OATS</u>		
Items to be Manufactured		
OATS		
Machine capacity Per hour	200	KG
Total working Hours	8	
Machine capacity Per Day	1,600	KG
Operational capacity per day (taken)	1,000	KG
working days in a month	25	Days
working days per annum	300	
machine capacity per annum	300000	KG

Production of OATS		
Production	Capacity	KG
1st year	40%	120,000
2nd year	45%	135,000
3rd year	50%	150,000
4th year	55%	165,000
5th year	60%	180,000

Raw Material Cost			
Year	Capacity Utilization	Rate (per KG)	Amount (Rs. in lacs)
1st year	40%	75.00	90.00
2nd year	45%	79.00	106.65
3rd year	50%	83.00	124.50
4th year	55%	87.00	143.55
5th year	60%	91.00	163.80

5.7 Sales Revenue

<u>COMPUTATION OF SALE</u>					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Op Stock	-	4,000	4,500	5,000	5,500
Production	120,000	135,000	150,000	165,000	180,000
Less : Closing Stock	4,000	4,500	5,000	5,500	6,000
Net Sale	116,000	134,500	149,500	164,500	179,500
sale price per KG	135.00	142.00	149.00	156.00	164.00
Sales (in Lacs)	156.60	190.99	222.76	256.62	294.38

5.8 Working Capital Assessment

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL (in Lacs)					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Finished Goods</u>					
	4.44	5.21	6.01	6.87	7.79
<u>Raw Material</u>					
	7.50	8.89	10.38	11.96	13.65
Closing Stock	11.94	14.10	16.38	18.83	21.44

<u>COMPUTATION OF WORKING CAPITAL REQUIREMENT</u>					
TRADITIONAL METHOD (in Lacs)					
Particulars	Amount	Own Margin		Bank Finance	
Finished Goods & Raw Material	11.94				
Less : Creditors	4.50				
Paid stock	7.44	10%	0.74	90%	6.70
Sundry Debtors	4.18	10%	0.42	90%	3.76
	11.62		1.16		10.45
MPBF					10.45
WORKING CAPITAL LIMIT DEMAND (from Bank)					10.00
Working Capital Margin					1.11

5.9 Power, Salary & Wages Calculation

Utility Charges (per month)		
Particulars	value	Description
Power connection required	35	KWH
consumption per day	280	units
Consumption per month	7,000	units
Rate per Unit	10	Rs.
power Bill per month	70,000	Rs.

<u>BREAK UP OF LABOUR CHARGES</u>			
Particulars	Wages	No of	Total
	Rs. per Month	Employees	Salary
Skilled (in thousand rupees)	15,000	3	45,000
Unskilled (in thousand rupees)	10,000	4	40,000
Total salary per month			85,000
Total annual labour charges	(in lacs)		10.20

<u>BREAK UP OF Staff Salary CHARGES</u>			
Particulars	Salary	No of	Total
	Rs. per Month	Employees	Salary
helper	7,000	5	35,000
Admin Staff	12,000	2	24,000
Accountant	17,000	1	17,000
Total salary per month			76,000
Total annual Staff charges	(in lacs)		9.12

5.10 Depreciation

COMPUTATION OF DEPRECIATION (in Lacs)			
Description	Plant & Machinery	Miss. Assets	TOTAL
Rate of Depreciation	15.00%	10.00%	
Opening Balance	-	-	-
Addition	20.00	1.20	21.20
Total	20.00	1.20	21.20
Less : Depreciation	3.00	0.12	3.12
WDV at end of Year	17.00	1.08	18.08
Additions During The Year	-	-	-
Total	17.00	1.08	18.08
Less : Depreciation	2.55	0.11	2.66
WDV at end of Year	14.45	0.97	15.42
Additions During The Year	-	-	-
Total	14.45	0.97	15.42
Less : Depreciation	2.17	0.10	2.26
WDV at end of Year	12.28	0.87	13.16
Additions During The Year	-	-	-
Total	12.28	0.87	13.16
Less : Depreciation	1.84	0.09	1.93
WDV at end of Year	10.44	0.79	11.23
Additions During The Year	-	-	-
Total	10.44	0.79	11.23
Less : Depreciation	1.57	0.08	1.64
WDV at end of Year	8.87	0.71	9.58

5.11 Repayment schedule

REPAYMENT SCHEDULE OF TERM LOAN							
						Interest	11.00%
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
1st	Opening Balance						
	1st month	-	11.66	11.66	-	-	11.66
	2nd month	11.66	-	11.66	0.11	-	11.66
	3rd month	11.66	-	11.66	0.11	-	11.66
	4th month	11.66	-	11.66	0.11		11.66
	5th month	11.66	-	11.66	0.11		11.66
	6th month	11.66	-	11.66	0.11		11.66
	7th month	11.66	-	11.66	0.11	0.22	11.44
	8th month	11.44	-	11.44	0.10	0.22	11.23
	9th month	11.23	-	11.23	0.10	0.22	11.01
	10th month	11.01	-	11.01	0.10	0.22	10.80
	11th month	10.80	-	10.80	0.10	0.22	10.58
	12th month	10.58	-	10.58	0.10	0.22	10.36
					1.15	1.30	
2nd	Opening Balance						
	1st month	10.36	-	10.36	0.10	0.22	10.15
	2nd month	10.15	-	10.15	0.09	0.22	9.93
	3rd month	9.93	-	9.93	0.09	0.22	9.72
	4th month	9.72	-	9.72	0.09	0.22	9.50
	5th month	9.50	-	9.50	0.09	0.22	9.28
	6th month	9.28	-	9.28	0.09	0.22	9.07
	7th month	9.07	-	9.07	0.08	0.22	8.85
	8th month	8.85	-	8.85	0.08	0.22	8.64
	9th month	8.64	-	8.64	0.08	0.22	8.42
	10th month	8.42	-	8.42	0.08	0.22	8.21
	11th month	8.21	-	8.21	0.08	0.22	7.99
	12th month	7.99	-	7.99	0.07	0.22	7.77
					1.01	2.59	
3rd	Opening Balance						
	1st month	7.77	-	7.77	0.07	0.22	7.56
	2nd month	7.56	-	7.56	0.07	0.22	7.34
	3rd month	7.34	-	7.34	0.07	0.22	7.13
	4th month	7.13	-	7.13	0.07	0.22	6.91
	5th month	6.91	-	6.91	0.06	0.22	6.69
	6th month	6.69	-	6.69	0.06	0.22	6.48
	7th month	6.48	-	6.48	0.06	0.22	6.26
	8th month	6.26	-	6.26	0.06	0.22	6.05
	9th month	6.05	-	6.05	0.06	0.22	5.83
	10th month	5.83	-	5.83	0.05	0.22	5.61

	11th month	5.61	-	5.61	0.05	0.22	5.40
	12th month	5.40	-	5.40	0.05	0.22	5.18
					0.72	2.59	
4th	Opening Balance						
	1st month	5.18	-	5.18	0.05	0.22	4.97
	2nd month	4.97	-	4.97	0.05	0.22	4.75
	3rd month	4.75	-	4.75	0.04	0.22	4.53
	4th month	4.53	-	4.53	0.04	0.22	4.32
	5th month	4.32	-	4.32	0.04	0.22	4.10
	6th month	4.10	-	4.10	0.04	0.22	3.89
	7th month	3.89	-	3.89	0.04	0.22	3.67
	8th month	3.67	-	3.67	0.03	0.22	3.45
	9th month	3.45	-	3.45	0.03	0.22	3.24
	10th month	3.24	-	3.24	0.03	0.22	3.02
	11th month	3.02	-	3.02	0.03	0.22	2.81
	12th month	2.81	-	2.81	0.03	0.22	2.59
					0.44	2.59	
5th	Opening Balance						
	1st month	2.59	-	2.59	0.02	0.22	2.38
	2nd month	2.38	-	2.38	0.02	0.22	2.16
	3rd month	2.16	-	2.16	0.02	0.22	1.94
	4th month	1.94	-	1.94	0.02	0.22	1.73
	5th month	1.73	-	1.73	0.02	0.22	1.51
	6th month	1.51	-	1.51	0.01	0.22	1.30
	7th month	1.30	-	1.30	0.01	0.22	1.08
	8th month	1.08	-	1.08	0.01	0.22	0.86
	9th month	0.86	-	0.86	0.01	0.22	0.65
	10th month	0.65	-	0.65	0.01	0.22	0.43
	11th month	0.43	-	0.43	0.00	0.22	0.22
	12th month	0.22	-	0.22	0.00	0.22	-
					0.15	2.59	
	DOOR TO DOOR	60	MONTHS				
	MORATORIUM PERIOD	6	MONTHS				
	REPAYMENT PERIOD	54	MONTHS				

5.12 DSCR

<u>CALCULATION OF D.S.C.R</u>					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	4.59	7.50	11.24	15.10	19.25
Interest on Term Loan	1.15	1.01	0.72	0.44	0.15
Total	5.73	8.51	11.97	15.53	19.41
<u>REPAYMENT</u>					
Instalment of Term Loan	1.30	2.59	2.59	2.59	2.59
Interest on Term Loan	1.15	1.01	0.72	0.44	0.15
Total	2.44	3.60	3.32	3.03	2.75
DEBT SERVICE COVERAGE RATIO	2.35	2.36	3.61	5.13	7.07
AVERAGE D.S.C.R.	4.10				

5.13 Break Even Point Analysis

BREAK EVEN POINT ANALYSIS					
Year	I	II	III	IV	V
Net Sales & Other Income	156.60	190.99	222.76	256.62	294.38
Less : Op. WIP Goods	-	4.44	5.21	6.01	6.87
Add : Cl. WIP Goods	4.44	5.21	6.01	6.87	7.79
Total Sales	161.04	191.76	223.55	257.48	295.30
Variable & Semi Variable Exp.					

Raw Material Consumed	90.00	106.65	124.50	143.55	163.80
Electricity Exp/Coal Consumption at 85%	7.14	8.21	9.44	10.86	11.94
Wages & Salary at 60%	11.59	12.75	14.03	15.43	16.97
Selling & administrative Expenses 80%	6.26	8.40	9.80	10.78	12.95
Interest on working Capital	1.10	1.10	1.10	1.10	1.10
Repair & maintenance	7.83	9.55	11.14	12.83	14.72
Packaging	7.05	8.59	10.02	11.55	13.25
Consumables	6.58	8.02	8.91	9.75	11.19
Total Variable & Semi Variable Exp	137.55	163.28	188.94	215.85	245.92
Contribution	23.49	28.48	34.61	41.63	49.38
Fixed & Semi Fixed Expenses					
Electricity Exp/Coal Consumption at 15%	1.26	1.45	1.67	1.92	2.11
Wages & Salary at 40%	7.73	8.50	9.35	10.29	11.31
Interest on Term Loan	1.15	1.01	0.72	0.44	0.15
Depreciation	3.12	2.66	2.26	1.93	1.64
Selling & administrative Expenses 20%	1.57	2.10	2.45	2.69	3.24
Rent	7.20	7.92	8.71	9.58	10.54
Total Fixed Expenses	22.02	23.64	25.17	26.85	29.00
Capacity Utilization	40%	45%	50%	55%	60%
OPERATING PROFIT	1.47	4.84	9.44	14.78	20.38
BREAK EVEN POINT	37%	37%	36%	35%	35%
BREAK EVEN SALES	150.97	159.15	162.57	166.06	173.44

6. LICENSE & APPROVALS

- Obtain the GST registration.
- Additionally, obtain the Udyog Aadhar registration Number.
- Fire/pollution license as required.
- FSSAI License
- Choice of a Brand Name of the product and secure the name with Trademark if required.

Implementation Schedule

S.N.	Activity	Time Required (in Months)
1	Acquisition Of premises	1-2
2	Procurement & installation of Plant & Machinery	1-2
3	Arrangement of Finance	1-2
4	Requirement of required Manpower	1
	Total time Required (some activities shall run concurrently)	5-6 Months

7. ASSUMPTIONS

1. Operational Capacity of Oats is 1000 Kgs 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 25 days and Finished goods Closing Stock has been taken for 10 days.
4. Credit period to Sundry Debtors has been given for 8 days.
5. Credit period by the Sundry Creditors has been provided for 158 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 35-40 KW.
10. Selling Prices & Raw material costing has been increased by 5% & 5% respectively in the subsequent years.

Limitations of the Model DPR and Guidelines for Entrepreneurs

Limitations of the Model DPR

- i. This model DPR has provided only the basic standard components and methodology to be adopted by an entrepreneur while submitting a proposal under the Formalization of Micro Food Processing Enterprises Scheme of MoFPI.
- ii. This is a model DPR made to provide general methodological structure not for specific entrepreneur/crops/location. Therefore, information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of his business, details of proposed DPR, project location, raw material base/contract sourcing, entrepreneurs own SWOT analysis, detailed market research, rationale of the project for specific location, community advantage/benefit from the project, employment generation and many more detailed aspects not included.
- iii. The present DPR is based on certain assumptions on cost, prices, interest, capacity utilization, output recovery rate and so on. However, these assumptions in reality may vary across places, markets and situations; thus the resultant calculations will also change accordingly.