



Model Detailed Project Report

CURD MANUFACTURING

Prepared by

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1. INTRODUCTION

CURD



Curd, also known as Dahi, is a well-known milk product which is prepared by the process of fermentation. It is generally consumed on a daily basis, as a part of a meal or refreshment by a large part of the Indian population. It is also suitable for consumption by the lactose intolerant consumers. Curd is a rich source of nutrients such as calcium, phosphorus, vitamin B2, magnesium and beneficial fatty acids which help to strengthen bones and teeth, improve digestion and reduce the risk of heart problems.

2. MARKET POTENTIAL:

The curd market in India is currently being driven by the increasing demand from urban regions.

Curd Market in India: exhibiting a CAGR of 13% during 2010-2017. The healthy growth of the market can be attributed to numerous forces. Population growth, rising disposable incomes, increasing health

consciousness among consumers and affordable price are some of the factors that are currently broadening the growth aspects of the mark. The market is expected to reach a value of nearly INR 1,809.3 Billion by 2024.

3. PRODUCT DESCRIPTION

3.1 Raw Material

Milk is required as the major raw material for the manufacturing of curd.

Average raw material (cost per Liter): Rs. 40-45

3.2 MANUFACTURING PROCESS

Curd Manufacturing Process

Step1: Procurement

Procurement of raw milk.

Step 2: Milk Reception Area

After procurement step bring the milk to the milk reception & cool the milk, so that life span of the milk can be increased & it can be used for further processing.

Step 3: Pasteurization

After that the main processing of by product starts & put the cooled milk into the inoculation tank and boil the milk at 80°C - 90°C (depends upon the pasteurization). Then again cool it at 4°C.

Pasteurization machines are of two types:

1. Slow online pasteurization
2. Continuous online pasteurization

Step 4: Homogenization

- We used Offline cream separator with pasteurization machine this helps to remove fat from milk and used for the production of the milk.
- Online homogenizer is attached with the pasteurization machine. This breaks the fat part and mixed in the milk.
- It is used for manufacturing of curd.

Step 5: Distribution of pasteurized milk in different tanks

It consists of different tanks which are categorized according to the fat content.

After that milk is transferred into different sections like pouch milk, curd processing, paneer processing.

Curd

Milk is boiled at 92°C and then we thermize it & add culture into that.

Step 6: Packaging

Prepared curd is then transferred into the packaging section

Step 7: Cold room

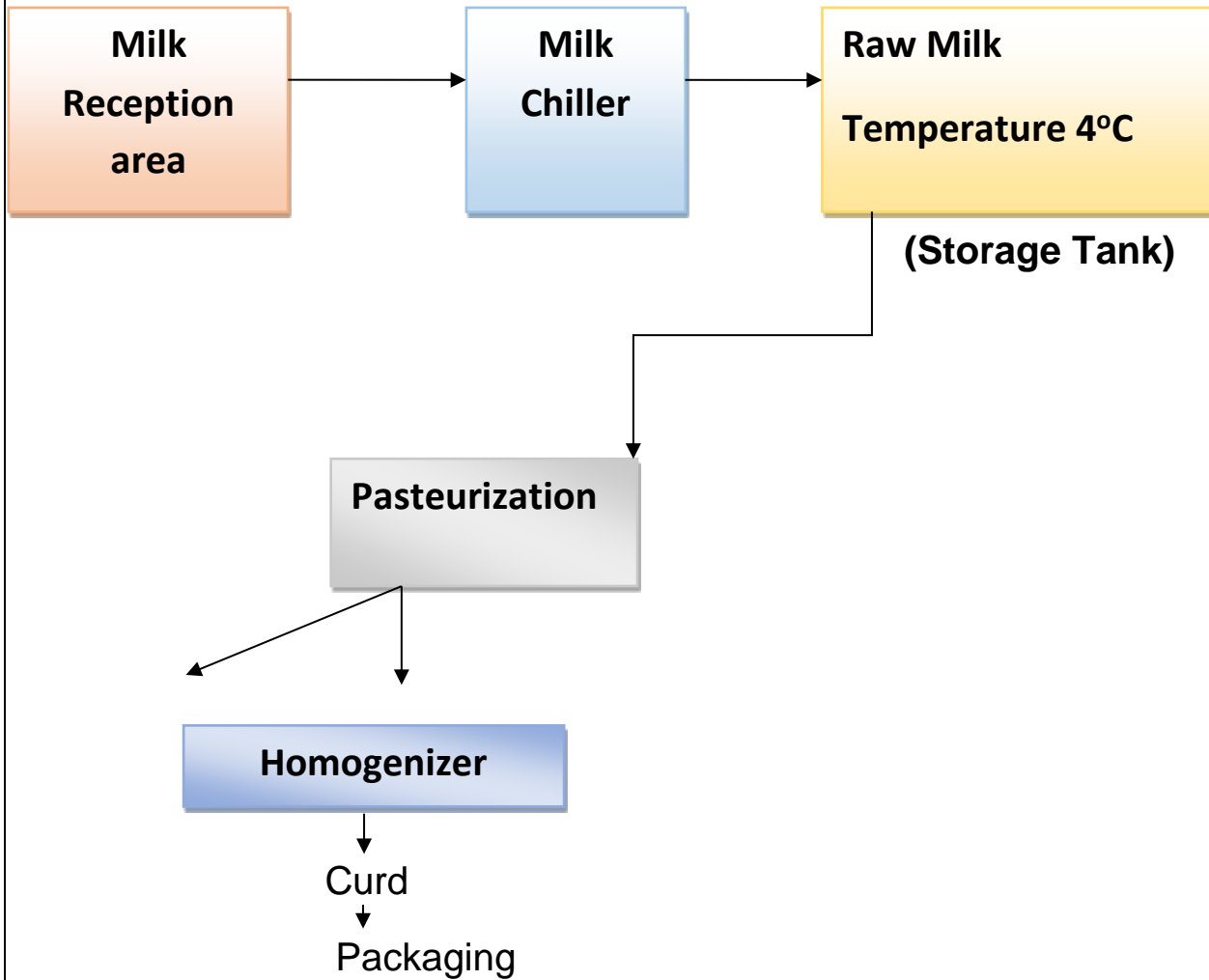
All the product are transferred into cold rooms where the temperature is below 4°C

Step 8: Distribution

All final products are transferred through transportation into different areas.

Insulation vehicle is required if the final product is transported above 40 – 50 KM.

Curd Processing Technical Flow Chart

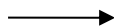


Steam Boiler



To Boil

Water Chilling Unit



To Cool

Cold Room



To Store By products





4. PROJECT COMPONENTS




4.1 Land

Land required 1200-1500 square feet approx.

Approximate rent for the same is Rs.25000-30000 per month.

4.2 Plant & Machinery

S. N.	Description	Image
1	Electrical Heating Tank (Single Jacketed)	
2	Homogenizer (double stage) Manual	
3	Plate Heat Exchanger (double stage)	
4	Culture tank with buff	

5	Curd Incubator	
6	Dump Tank	
7	S.S. Pump, filter, pipeling, fitting etc.	
8	Packaging machine	

Note: cost of the machinery is approx. Rs. 8,00,000 excluding GST and other transportation cost.

4.3 Misc. Assets

S.N.	Item Description	Rate
1	Electricity connection	50,000
2	equipment's & fixtures	50,000

4.4 Power Requirement

The borrower shall require power load of 20 HP which shall be applied with Power Corporation. However, for standby power arrangement the borrower shall also purchase DG Set.

4.5 Manpower Requirement

7-8 Manpower are required for the Curd Manufacturing unit.

Includes:

2 Skilled Labour

2 Unskilled Labour

2-3 Helper

1 Accountant

5. FINANCIALS

5.1 Cost of Project

COST OF PROJECT	
(in Lacs)	
PARTICULARS	Amount
Land & Building	Owned/rented
Plant & Machinery	8.00
miscellaneous Assets	1.00
Working capital	2.78
Total	11.78

5.2 Means of Finance

MEANS OF FINANCE	
PARTICULARS	AMOUNT
Own Contribution (min 10%)	1.18
Subsidy @35%(Max. Rs 10 Lac)	3.15
Term Loan @ 55%	4.95
Working Capital (bank Finance)	2.50
Total	11.78

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		5.35	5.52	5.78	6.02
Add:- Own Capital	1.18				
Add:- Retained Profit	1.02	2.17	3.26	4.74	6.22
Less:- Drawings	-	2.00	3.00	4.50	6.00
Subsidy/grant	3.15				
Closing Balance	5.35	5.52	5.78	6.02	6.24
Term Loan	4.40	3.30	2.20	1.10	-
Working Capital Limit	2.50	2.50	2.50	2.50	2.50
Sundry Creditors	0.72	1.47	1.66	1.86	2.07
Provisions & Other Liab	0.40	0.50	0.60	0.72	0.86
TOTAL :	13.37	13.29	12.74	12.20	11.68
<u>Assets</u>					
Fixed Assets (Gross)	9.00	9.00	9.00	9.00	9.00
Gross Dep.	1.30	2.41	3.36	4.17	4.86
Net Fixed Assets	7.70	6.59	5.64	4.83	4.14
Current Assets					
Sundry Debtors	3.21	3.68	4.16	4.65	5.18
Stock in Hand	0.83	0.94	1.05	1.17	1.30
Cash and Bank	1.63	2.08	1.89	1.54	1.06
TOTAL :	13.37	13.29	12.74	12.20	11.68

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	1.18				
Net Profit	1.02	2.17	3.26	4.74	6.37
Depreciation & Exp. W/off	1.30	1.11	0.95	0.81	0.69
Increase in Cash Credit	2.50	-	-	-	-
Increase In Term Loan	4.95	-	-	-	-
Increase in Creditors	0.72	0.75	0.19	0.20	0.21
Increase in Provisions & Oth lib	0.40	0.10	0.10	0.12	0.14
Sunsidy/grant	3.15				
TOTAL :	15.22	4.13	4.50	5.87	7.41
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	9.00				
Increase in Stock	0.83	0.11	0.12	0.12	0.12
Increase in Debtors	3.21	0.48	0.47	0.50	0.53
Repayment of Term Loan	0.55	1.10	1.10	1.10	1.10
Drawings	-	2.00	3.00	4.50	6.00
Taxation	-	-	-	-	0.14
TOTAL :	13.59	3.68	4.69	6.22	7.89
Opening Cash & Bank Balance	-	1.63	2.08	1.89	1.54
Add : Surplus	1.63	0.45	(0.19)	(0.35)	(0.48)
Closing Cash & Bank Balance	1.63	2.08	1.89	1.54	1.06

5.5 Projected Profitability

PROJECTED PROFITABILITY STATEMENT					
(in Lacs)					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	60%	65%	70%	75%	80%
<u>SALES</u>					
Gross Sale					
CURD	64.15	73.65	83.10	93.09	103.62
Total	64.15	73.65	83.10	93.09	103.62
<u>COST OF SALES</u>					
Raw Material Consumed	43.20	49.14	55.44	62.10	69.12
Electricity Expenses	2.16	2.48	2.86	3.29	3.61
Depreciation	1.30	1.11	0.95	0.81	0.69
Wages & labour	5.04	5.54	6.10	6.71	7.38
Repair & maintenance	1.12	1.29	1.45	1.16	1.04
consumables	1.28	1.47	1.66	1.86	1.87
Cost of Production	54.11	61.04	68.46	75.93	83.71
Add: Opening Stock /WIP	-	0.54	0.61	0.68	0.76
Less: Closing Stock /WIP	0.54	0.61	0.68	0.76	0.84
Cost of Sales	53.56	60.97	68.39	75.85	83.63
GROSS PROFIT	10.59	12.68	14.72	17.23	19.99
Salary to Staff	3.24	3.56	3.92	4.31	4.74
Interest on Term Loan	0.49	0.43	0.31	0.19	0.07
Interest on working Capital	0.28	0.28	0.28	0.28	0.28

Rent	3.00	3.30	3.63	3.99	4.39
selling & adm exp	2.57	2.95	3.32	3.72	4.14
TOTAL	9.57	10.51	11.46	12.49	13.62
NET PROFIT	1.02	2.17	3.26	4.74	6.37
Taxation					0.14
PROFIT (After Tax)	1.02	2.17	3.26	4.74	6.22

5.6 Production and Yield

<u>COMPUTATION OF PRODUCTION OF CURD</u>		
Items to be Manufactured		
CURD		
Machine capacity Per day	600	KG
Total working Hours	8	
working days in a month	25	Days
working days per annum	300	
machine capacity per annum	180000	KG

Production of CURD		
Production	Capacity	KG
1st year	60%	108,000
2nd year	65%	117,000
3rd year	70%	126,000
4th year	75%	135,000
5th year	80%	144,000

Raw Material Cost			
Year	Capacity Utilization	Rate (per KG)	Amount (Rs. in lacs)
1st year	60%	40.00	43.20
2nd year	65%	42.00	49.14
3rd year	70%	44.00	55.44
4th year	75%	46.00	62.10
5th year	80%	48.00	69.12

5.7 Sales Revenue

<u>COMPUTATION OF SALE</u>					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Op Stock	-	1,080	1,170	1,260	1,350
Production	108,000	117,000	126,000	135,000	144,000
Less : Closing Stock	1,080	1,170	1,260	1,350	1,440
Net Sale	106,920	116,910	125,910	134,910	143,910
sale price per KG	60.00	63.00	66.00	69.00	72.00
Sales (in Lacs)	64.15	73.65	83.10	93.09	103.62

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>					
	0.54	0.61	0.68	0.76	0.84
<u>Raw Material</u>					
	0.29	0.33	0.37	0.41	0.46
Closing Stock	0.83	0.94	1.05	1.17	1.30

<u>COMPUTATION OF WORKING CAPITAL REQUIREMENT</u>					
TRADITIONAL METHOD (in Lacs)					
Particulars	Amount	Own Margin		Bank Finance	
Finished Goods & Raw Material	0.83				
Less : Creditors	0.72				
Paid stock	0.11	10%	0.01	90%	0.10
Sundry Debtors	3.21	10%	0.32	90%	2.89
	3.32		0.33		2.98
MPBF					2.98
WORKING CAPITAL LIMIT DEMAND (from Bank)					2.50
Working Capital Margin					0.28

5.9 Power, Salary & Wages Calculation

Utility Charges (per month)		
Particulars	value	Description
Power connection required	15	KWH
consumption per day	120	units
Consumption per month	3,000	units
Rate per Unit	10	Rs.
power Bill per month	30,000	Rs.

<u>BREAK UP OF LABOUR CHARGES</u>			
Particulars	Wages	No of	Total
	Rs. per Month	Employees	Salary
Skilled (in thousand rupees)	13,000	2	26,000
Unskilled (in thousand rupees)	8,000	2	16,000
Total salary per month			42,000
Total annual labour charges	(in lacs)		5.04

<u>BREAK UP OF Staff Salary CHARGES</u>			
Particulars	Salary	No of	Total
	Rs. per Month	Employees	Salary
helper	6,000	2	12,000
Accountant	15,000	1	15,000
Total salary per month			27,000
Total annual Staff charges	(in lacs)		3.24

5.10 Depreciation

COMPUTATION OF DEPRECIATION (in Lacs)			
Description	Plant & Machinery	Miss. Assets	TOTAL
Rate of Depreciation	15.00%	10.00%	
Opening Balance	-	-	-
Addition	8.00	1.00	9.00
Total	8.00	1.00	9.00
Less : Depreciation	1.20	0.10	1.30
WDV at end of Year	6.80	0.90	7.70
Additions During The Year	-	-	-
Total	6.80	0.90	7.70
Less : Depreciation	1.02	0.09	1.11
WDV at end of Year	5.78	0.81	6.59
Additions During The Year	-	-	-
Total	5.78	0.81	6.59
Less : Depreciation	0.87	0.08	0.95
WDV at end of Year	4.91	0.73	5.64
Additions During The Year	-	-	-
Total	4.91	0.73	5.64
Less : Depreciation	0.74	0.07	0.81
WDV at end of Year	4.18	0.66	4.83
Additions During The Year	-	-	-
Total	4.18	0.66	4.83
Less : Depreciation	0.63	0.07	0.69
WDV at end of Year	3.55	0.59	4.14

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	-	4.95	4.95	-	-	4.95
	2nd month	4.95	-	4.95	0.05	-	4.95
	3rd month	4.95	-	4.95	0.05	-	4.95
	4th month	4.95	-	4.95	0.05		4.95
	5th month	4.95	-	4.95	0.05		4.95
	6th month	4.95	-	4.95	0.05		4.95
	7th month	4.95	-	4.95	0.05	0.09	4.86
	8th month	4.86	-	4.86	0.04	0.09	4.77
	9th month	4.77	-	4.77	0.04	0.09	4.68
	10th month	4.68	-	4.68	0.04	0.09	4.58
	11th month	4.58	-	4.58	0.04	0.09	4.49
	12th month	4.49	-	4.49	0.04	0.09	4.40
					0.49	0.55	
2nd	Opening Balance						
	1st month	4.40	-	4.40	0.04	0.09	4.31
	2nd month	4.31	-	4.31	0.04	0.09	4.22
	3rd month	4.22	-	4.22	0.04	0.09	4.13
	4th month	4.13	-	4.13	0.04	0.09	4.03
	5th month	4.03	-	4.03	0.04	0.09	3.94
	6th month	3.94	-	3.94	0.04	0.09	3.85
	7th month	3.85	-	3.85	0.04	0.09	3.76
	8th month	3.76	-	3.76	0.03	0.09	3.67
	9th month	3.67	-	3.67	0.03	0.09	3.58
	10th month	3.58	-	3.58	0.03	0.09	3.48
	11th month	3.48	-	3.48	0.03	0.09	3.39
	12th month	3.39	-	3.39	0.03	0.09	3.30
					0.43	1.10	
3rd	Opening Balance						
	1st month	3.30	-	3.30	0.03	0.09	3.21
	2nd month	3.21	-	3.21	0.03	0.09	3.12
	3rd month	3.12	-	3.12	0.03	0.09	3.03
	4th month	3.03	-	3.03	0.03	0.09	2.93
	5th month	2.93	-	2.93	0.03	0.09	2.84
	6th month	2.84	-	2.84	0.03	0.09	2.75
	7th month	2.75	-	2.75	0.03	0.09	2.66

	8th month	2.66	-	2.66	0.02	0.09	2.57
	9th month	2.57	-	2.57	0.02	0.09	2.48
	10th month	2.48	-	2.48	0.02	0.09	2.38
	11th month	2.38	-	2.38	0.02	0.09	2.29
	12th month	2.29	-	2.29	0.02	0.09	2.20
					0.31	1.10	
4th	Opening Balance						
	1st month	2.20	-	2.20	0.02	0.09	2.11
	2nd month	2.11	-	2.11	0.02	0.09	2.02
	3rd month	2.02	-	2.02	0.02	0.09	1.93
	4th month	1.93	-	1.93	0.02	0.09	1.83
	5th month	1.83	-	1.83	0.02	0.09	1.74
	6th month	1.74	-	1.74	0.02	0.09	1.65
	7th month	1.65	-	1.65	0.02	0.09	1.56
	8th month	1.56	-	1.56	0.01	0.09	1.47
	9th month	1.47	-	1.47	0.01	0.09	1.38
	10th month	1.38	-	1.38	0.01	0.09	1.28
	11th month	1.28	-	1.28	0.01	0.09	1.19
	12th month	1.19	-	1.19	0.01	0.09	1.10
					0.19	1.10	
5th	Opening Balance						
	1st month	1.10	-	1.10	0.01	0.09	1.01
	2nd month	1.01	-	1.01	0.01	0.09	0.92
	3rd month	0.92	-	0.92	0.01	0.09	0.82
	4th month	0.82	-	0.82	0.01	0.09	0.73
	5th month	0.73	-	0.73	0.01	0.09	0.64
	6th month	0.64	-	0.64	0.01	0.09	0.55
	7th month	0.55	-	0.55	0.01	0.09	0.46
	8th month	0.46	-	0.46	0.00	0.09	0.37
	9th month	0.37	-	0.37	0.00	0.09	0.27
	10th month	0.27	-	0.27	0.00	0.09	0.18
	11th month	0.18	-	0.18	0.00	0.09	0.09
	12th month	0.09	-	0.09	0.00	0.09	-
					0.07	1.10	
	DOOR TO DOOR	60	MONTHS				
	MORATORIUM PERIOD	6	MONTHS				
	REPAYMENT PERIOD	54	MONTHS				

5.12 Financial Indicators

FINANCIAL INDICATORS					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
TURNOVER	64.15	73.65	83.10	93.09	103.62
GROSS PROFIT	10.59	12.68	14.72	17.23	19.99
G.P. RATIO	16.50%	17.22%	17.71%	18.51%	19.29%
NET PROFIT	1.02	2.17	3.26	4.74	6.37
N.P. RATIO	1.59%	2.94%	3.92%	5.10%	6.14%
CURRENT ASSETS	5.67	6.70	7.10	7.37	7.54
CURRENT LIABILITIES	3.62	4.47	4.76	5.08	5.44
CURRENT RATIO	1.57	1.50	1.49	1.45	1.39
TERM LOAN	4.40	3.30	2.20	1.10	-
TOTAL NET WORTH	5.35	5.52	5.78	6.02	6.24
DEBT/EQUITY	0.82	0.60	0.38	0.18	-
TOTAL NET WORTH	5.35	5.52	5.78	6.02	6.24
TOTAL OUTSIDE LIABILITIES	8.02	7.77	6.96	6.18	5.44
TOL/TNW	1.50	1.41	1.21	1.03	0.87
PBDIT	3.08	3.98	4.79	6.01	7.40
INTEREST	0.76	0.70	0.58	0.46	0.34
INTEREST COVERAGE RATIO	4.05	5.66	8.22	13.03	21.73
WDV	7.70	6.59	5.64	4.83	4.14
TERM LOAN	4.40	3.30	2.20	1.10	-
FACR	1.75	2.00	2.56	4.39	-

5.13 DSCR

<u>CALCULATION OF D.S.C.R</u>					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	2.32	3.28	4.21	5.55	6.92
Interest on Term Loan	0.49	0.43	0.31	0.19	0.07
Total	2.81	3.71	4.51	5.74	6.98
<u>REPAYMENT</u>					
Instalment of Term Loan	0.55	1.10	1.10	1.10	1.10
Interest on Term Loan	0.49	0.43	0.31	0.19	0.07
Total	1.04	1.53	1.41	1.29	1.17
DEBT SERVICE COVERAGE RATIO	2.71	2.43	3.21	4.46	5.99
AVERAGE D.S.C.R.	3.76				

5.14 Break Even Point Analysis

BREAK EVEN POINT ANALYSIS					
Year	I	II	III	IV	V
Net Sales & Other Income	64.15	73.65	83.10	93.09	103.62
Less : Op. WIP Goods	-	0.54	0.61	0.68	0.76
Add : Cl. WIP Goods	0.54	0.61	0.68	0.76	0.84

Total Sales	64.69	73.72	83.17	93.16	103.69
Variable & Semi Variable Exp.					
Raw Material Consumed	43.20	49.14	55.44	62.10	69.12
Electricity Exp/Coal Consumption at 85%	1.84	2.11	2.43	2.79	3.07
Wages & Salary at 60%	4.97	5.46	6.01	6.61	7.27
Selling & administrative Expenses 80%	2.05	2.36	2.66	2.98	3.32
Interest on working Capital	0.275	0.275	0.275	0.275	0.275
Repair & maintenance	1.12	1.29	1.45	1.16	1.04
Packaging	1.28	1.47	1.66	1.86	1.87
Total Variable & Semi Variable Exp	54.74	62.11	69.93	77.78	85.96
Contribution	9.96	11.61	13.24	15.38	17.74
Fixed & Semi Fixed Expenses					
Electricity Exp/Coal Consumption at 15%	0.32	0.37	0.43	0.49	0.54
Wages & Salary at 40%	3.31	3.64	4.01	4.41	4.85
Interest on Term Loan	0.49	0.43	0.31	0.19	0.07
Depreciation	1.30	1.11	0.95	0.81	0.69
Selling & administrative Expenses 20%	0.51	0.59	0.66	0.74	0.83
Rent	3.00	3.30	3.63	3.99	4.39
Total Fixed Expenses	8.94	9.44	9.99	10.64	11.37
Capacity Utilization	60%	65%	70%	75%	80%
OPERATING PROFIT	1.02	2.17	3.26	4.74	6.37
BREAK EVEN POINT	54%	53%	53%	52%	51%
BREAK EVEN SALES	58.07	59.95	62.71	64.43	66.47

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. Production Capacity of Curd is 600 Kgs per day. First year, Capacity has been taken @ 60%.
2. Working shift of 8 hours per day has been considered.
3. Raw Material stock is for 2-3 days and Finished goods Closing Stock has been taken for 3 days.
4. Credit period to Sundry Debtors has been given for 15 days.
5. Credit period by the Sundry Creditors has been provided for 5 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 15 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.