

PROJECT REPORT

Of

MILK POWDER

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Milk powder**.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



Lucknow Office: Sidhivinayak Building ,
27/1/B, Gokhley Marg, Lucknow-226001

Delhi Office : Multi Disciplinary Training
Centre, Gandhi Darshan Rajghat,
New Delhi 110002

Email : info@udyami.org.in
Contact : +91 7526000333, 444, 555

PROJECT AT A GLANCE

- 1 Name of the Entrepreneur : xxxxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxxxx
- 3 Father / Spouse Name : xxxxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxx
- District : xxxxxxxx
Pin: xxxxxxxx State: xxxxxxxxxx
Mobile xxxxxxxx
- 5 Product and By Product : **MILK POWDER**
- 6 Name of the project / business activity proposed : **MILK POWDER MANUFACTURING UNIT**
- 7 Cost of Project : Rs.21.28 Lakhs
- 8 Means of Finance
Term Loan Rs.13.65 Lakhs
KVIC MARGIN MONEY As per Project Eligibility
Own Capital Rs.2.13 Lakhs
Working Capital Rs.5.5 Lakhs
- 9 Debt Service Coverage Ratio : 2.05
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 60%
- 13 Employment : 14 Persons
- 14 Power Requirement : 20 KW
- 15 Major Raw materials : Milk, Chemicals etc
- 16 Estimated Annual Sales Turnover (Max Utilized Capacity) : 120.98 Lakhs
- 17 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Building /Shed 2000 sq ft	4.00
Plant & Machinery	10.17
Furniture & Fixtures	1.00
Working Capital Requirement	6.11
Total	21.28

MEANS OF FINANCE

Particulars	Amount
Own Contribution@10%	2.13
Term Loan	13.65
Working Capital	5.50
Total	21.28

	General	Special
Beneficiary Margin Money (% of Project Cost)	10%	5%

MILK POWDER



PRODUCT INTRODUCTION:

The product is rich in calcium as well as other important nutrients, in human diet and are highly perishable. Milk basically provides nutrients like phosphorous, protein, potassium, vitamin A, etc. It is a manufactured dairy product made by dehydrating liquid milk and it passes through various processes until it becomes a powder. Milk powder is the milk that has been dried or desiccated. It can be prepared from whole milk. The composition of dry milk varies according to the composition of the milk of from which it is made.

USES & MARKET POTENTIAL: Powdered milk is used in daily life and have several uses which are defined below:

- Recombination of milk
- Producing milk chocolate in the chocolate industry
- Production of ice-cream
- Animal feed

The product has a wide market all over world. The product is consumed by all age groups and specially by children. The Indian skimmed milk powder (SMP) market has increased at a CAGR of nearly 10% during 2011-2018. It is hereby seen that the demand of the product will increase in near future.

INFRASTRUCTURE REQUIREMENT:

- 1) Land & Building requirement around 1500-2000 sq. Ft.
- 2) Office Furniture and fixtures.

MACHINERY REQUIREMENT: Machinery Requirement are as follows:

- Storage Tanks
- Feed Pump
- Pre-condenser
- Spray drier with atomizer
- Condenser
- Baby Boiler
- Chilling Plant
- Packing unit
- Laboratory testing equipment
- Other miscellaneous Equipment's.

Note: Plant Capacity is 500 Kg Per day.

RAW MATERIAL: Basic Raw material requirement are as follows:

- ✓ Milk
- ✓ Citric Acid
- ✓ Magnesium Oxide
- ✓ Miscellaneous chemicals NaCl, CaCO₃ etc.
- ✓ Tin Containers

MANUFACTURING PROCESS: There is a step by step process for manufacturing of Milk powder:

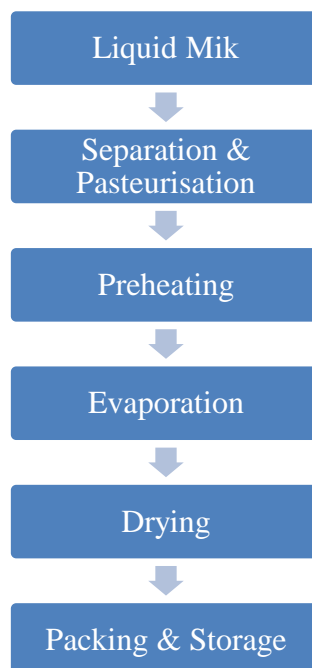
- Separation/Standardization
- Preheating
- Evaporation
- Spray Drying
- Packaging & Storage

The above process is explained below.

- **Separation/Standardization:** The process starts from procuring the raw material and delivering at the dairy factory then pasteurizing and separating it into skim milk and cream which is done by a centrifugal cream separator. In this little bit of cream is added back to the skim milk so that fat content is also maintained in the milk.
- **Preheating:** After this preheating is performed in which the above milk is heated at temperatures ranging from 75 to 120°C. The milk is constantly heated for a particular time period ranging from a few seconds up to several minutes. Preheating can be done directly or indirectly i.e. through steam injection into the product or via heat exchangers respectively or a mixture of two.

- **Evaporation:** In this process, the above milk is concentrated in stages. In this the milk is boiled under a vacuum at temperature below 72°C in a falling film on the inside of vertical tubes, and by this the water is removed as vapor. This vapor, is then used to heat the milk.
- **Spray Drying:** In this method the milk is atomized and concentrated from the evaporator into fine droplets. This is performed in a huge drying chamber with appropriate flow of hot air utilizing either a spinning disk atomizer or a series of high-pressure nozzles. After this the droplets of milk are cooled by evaporation by which they never reach the temperature of the air.
- **Packaging & Storage:** The product is immensely more stable than fresh milk but protection from moisture, oxygen, light and heat is needed in order to maintain their quality and shelf life. They are packed into either plastic-lined multi wall bags (25Kg) or bulk bins(600Kg).

FLOW DIAGRAM



APPROVALS & REGISTRATION REQUIREMENT:

Basic registration required in this project:

- GST Registration
- Udyog Aadhar Registration (Optional)
- Choice of a Brand Name of the product and secure the name with Trademark if required
- FSSAI Registration

IMPLEMENTATION SCHEDULE:

S.No.	Activity	Time required in months
1.	Acquisition Of premises	1
2.	Procurement & installation of Plant & Machinery	1
3.	Arrangement of Finance	1
4.	Requirement of required Manpower	1
	Total time Required (some activities shall run concurrently)	2-3 Months

FINANCIAL ASPECTS:

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
<u>Capital Account</u>					
Opening Balance	-	3.23	5.07	7.57	10.17
Add: Additions	2.13	-	-	-	-
Add: Net Profit	1.60	3.34	5.01	6.60	8.23
Less: Drawings	0.50	1.50	2.50	4.00	5.00
Closing Balance	3.23	5.07	7.57	10.17	13.40
CC Limit	5.50	5.50	5.50	5.50	5.50
Term Loan	12.14	9.10	6.07	3.03	-
Sundry Creditors	1.23	1.37	1.53	1.70	1.89
TOTAL :	22.09	21.04	20.67	20.41	20.79
<u>APPLICATION OF FUND</u>					
Fixed Assets (Gross)	15.17	15.17	15.17	15.17	15.17
Gross Dep.	2.03	3.77	5.28	6.58	7.71
Net Fixed Assets	13.14	11.40	9.89	8.59	7.46
<u>Current Assets</u>					
Sundry Debtors	5.64	6.47	7.21	8.01	8.87
Stock in Hand	1.76	1.92	2.12	2.34	2.59
Cash and Bank	1.54	1.26	1.45	1.46	1.86
TOTAL :	22.09	21.04	20.67	20.41	20.79
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	76.91	88.19	98.29	109.21	120.98
Total (A)	76.91	88.19	98.29	109.21	120.98
B) COST OF SALES					
Raw Mateiral Consumed	52.52	58.83	65.63	72.96	80.87
Electricity Expenses	2.25	2.47	2.70	2.92	3.15
Repair & Maintenance	0.38	0.44	0.49	0.55	0.60
Labour & Wages	10.76	11.83	13.02	14.32	15.75
Depreciation	2.03	1.75	1.51	1.30	1.12
Cost of Production	67.94	75.32	83.34	92.05	101.49
Add: Opening Stock /WIP	-	1.59	1.72	1.90	2.10
Less: Closing Stock /WIP	1.59	1.72	1.90	2.10	2.32
Cost of Sales (B)	66.35	75.19	83.16	91.85	101.28
C) GROSS PROFIT (A-B)	10.56 13.73%	13.01 14.75%	15.14 15.40%	17.36 15.89%	19.70 16.28%
D) Bank Interest (Term Loan)	1.48	1.21	0.88	0.54	0.21
ii) Interest On Working Capital	0.60	0.60	0.60	0.60	0.60
E) Salary to Staff	6.34	6.97	7.67	8.43	9.28
F) Selling & Adm Expenses Exp.	0.54	0.88	0.98	1.09	1.21
TOTAL (D+E)	8.96	9.67	10.13	10.67	11.30
G) NET PROFIT	1.60 2.1%	3.34 3.8%	5.01 5.1%	6.68 6.1%	8.40 6.9%
H) Taxation	-	-	-	0.08	0.17
I) PROFIT (After Tax)	1.60	3.34	5.01	6.60	8.23

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
Own Contribution@10%	2.13	-			
Net Profit	1.60	3.34	5.01	6.68	8.40
Depreciation & Exp. W/off	2.03	1.75	1.51	1.30	1.12
Increase In Cash Credit	5.50				
Increase In Term Loan	13.65	-	-	-	-
Increase in Creditors	1.23	0.15	0.16	0.17	0.18
TOTAL :	26.13	5.23	6.67	8.16	9.71
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	15.17	-	-	-	-
Increase in Stock	1.76	0.16	0.21	0.22	0.24
Increase in Debtors	5.64	0.83	0.74	0.80	0.86
Repayment of Term Loan	1.52	3.03	3.03	3.03	3.03
Taxation	-	-	-	0.08	0.17
Drawings	0.50	1.50	2.50	4.00	5.00
TOTAL :	24.59	5.52	6.48	8.14	9.31
Opening Cash & Bank Balance	-	1.54	1.26	1.45	1.46
Add : Surplus	1.54	- 0.28	0.19	0.01	0.40
Closing Cash & Bank Balance	1.54	1.26	1.45	1.46	1.86

COMPUTATION OF PRODUCTION OF MILK POWDER**Item to be Manufactured MILK POWDER**

Manufacturing Capacity per Day		100	kg
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		30,000	kg
Year		Capacity	MILK POWDER
		Utilisation	
I		75%	22,500
II		80%	24,000
III		85%	25,500
IV		90%	27,000
V		95%	28,500

COMPUTATION OF RAW MATERIAL

Item Name		Quantity of Raw Material	Unit	Unit Rate of	Total CostPer Annum (100%)
Milk	7.5 Ltr Milk produces 1 Kg Milk Powder	225,000.00	Ltr	30.00	6,750,000.00
Tin Container		300.00	Box	10.00	3,000.00
Chemicals and Other Material		Lumsum		-	250,000.00
Total		225,000.00			7,003,000.00

Total Raw material in Rs lacs at 100% Capacity 70.03
 Cost per box of one Kg (In Rs) 233.43

Raw Material Consumed	Capacity Utilisation	Rate	Amount (Rs.)	
I	50%	233.43	52.52	
II	55%	245.11	58.83	5% Increase in Cost
III	60%	257.36	65.63	5% Increase in Cost
IV	65%	270.23	72.96	5% Increase in Cost
V	70%	283.74	80.87	5% Increase in Cost

COMPUTATION OF SALE

Particulars	I	II	III	IV	V
Op Stock	-	525.00	560.00	595.00	630.00
Production	22,500.00	24,000.00	25,500.00	27,000.00	28,500.00
	22,500.00	24,525.00	26,060.00	27,595.00	29,130.00
Less : Closing Stock(7 Days)	525.00	560.00	595.00	630.00	665.00
Net Sale	21,975.00	23,965.00	25,465.00	26,965.00	28,465.00
Sale Price per box of One Kg	350.00	368.00	386.00	405.00	425.00
Sale (in Lacs)	76.91	88.19	98.29	109.21	120.98

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(7 Days requirement)	1.59	1.72	1.90	2.10	2.32
Raw Material					
(1 Days requirement)	0.18	0.20	0.22	0.24	0.27
Closing Stock	1.76	1.92	2.12	2.34	2.59

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	1.76		
Less:			
Sundry Creditors	1.23		
Paid Stock	0.53	0.05	0.48
Sundry Debtors	5.64	0.56	5.08
Working Capital Requirement			5.56
Margin			0.62
MPBF			5.56
Working Capital Demand			5.50

BREAK UP OF LABOUR

Particulars	Wages	No of	Total
	Per Month	Employees	Salary
Spray Dring Operator	10,000.00	2.00	20,000.00
Chilling Plant Operator	10,000.00	2.00	20,000.00
Unskilled Worker	7,500.00	4.00	30,000.00
Helper	4,000.00	1.00	4,000.00
Security Guard	7,500.00	1.00	7,500.00
			81,500.00
Add: 10% Fringe Benefit			8,150.00
Total Labour Cost Per Month			89,650.00
Total Labour Cost for the year (In Rs. Lakhs)		10	10.76

BREAK UP OF SALARY

Particulars	Salary	No of	Total
	Per Month	Employees	Salary
Administrative Staff	12,000.00	4	48,000.00
Total Salary Per Month			48,000.00
Add: 10% Fringe Benefit			4,800.00
Total Salary for the month			52,800.00
Total Salary for the year (In Rs. Lakhs)		4	6.34

COMPUTATION OF DEPRECIATION

Description	Land	Building/shed	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation		10.00%	15.00%	10.00%	
Opening Balance	Leased		-	-	-
Addition	-	4.00	10.17	1.00	15.17
	-	4.00	10.17	1.00	15.17
TOTAL		4.00	10.17	1.00	15.17
Less : Depreciation	-	0.40	1.53	0.10	2.03
WDV at end of Ist year	-	3.60	8.64	0.90	13.14
Additions During The Year	-	-	-	-	-
	-	3.60	8.64	0.90	13.14
Less : Depreciation	-	0.36	1.30	0.09	1.75
WDV at end of IInd Year	-	3.24	7.35	0.81	11.40
Additions During The Year	-	-	-	-	-
	-	3.24	7.35	0.81	11.40
Less : Depreciation	-	0.32	1.10	0.08	1.51
WDV at end of IIIrd year	-	2.92	6.25	0.73	9.89
Additions During The Year	-	-	-	-	-
	-	2.92	6.25	0.73	9.89
Less : Depreciation	-	0.29	0.94	0.07	1.30
WDV at end of IV year	-	2.62	5.31	0.66	8.59
Additions During The Year	-	-	-	-	-
	-	2.62	5.31	0.66	8.59
Less : Depreciation	-	0.26	0.80	0.07	1.12
WDV at end of Vth year	-	2.36	4.51	0.59	7.46

REPAYMENT SCHEDULE OF TERM LOAN

11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
I	Opening Balance						
	Ist Quarter	13.65	-	13.65	0.38	-	13.65
	IInd Quarter	13.65	-	13.65	0.38	-	13.65
	IIIRD Quarter	13.65	-	13.65	0.38	0.76	12.89
	Ivth Quarter	12.89	-	12.89	0.35	0.76	12.14
					1.48	1.52	
II	Opening Balance						
	Ist Quarter	12.14	-	12.14	0.33	0.76	11.38
	IInd Quarter	11.38	-	11.38	0.31	0.76	10.62
	IIIRD Quarter	10.62	-	10.62	0.29	0.76	9.86
	Ivth Quarter	9.86	-	9.86	0.27	0.76	9.10
					1.21	3.03	
III	Opening Balance						
	Ist Quarter	9.10	-	9.10	0.25	0.76	8.34
	IInd Quarter	8.34	-	8.34	0.23	0.76	7.59
	IIIRD Quarter	7.59	-	7.59	0.21	0.76	6.83
	Ivth Quarter	6.83	-	6.83	0.19	0.76	6.07
					0.88	3.03	
IV	Opening Balance						
	Ist Quarter	6.07	-	6.07	0.17	0.76	5.31
	IInd Quarter	5.31	-	5.31	0.15	0.76	4.55
	IIIRD Quarter	4.55	-	4.55	0.13	0.76	3.79
	Ivth Quarter	3.79	-	3.79	0.10	0.76	3.03
					0.54	3.03	
V	Opening Balance						
	Ist Quarter	3.03	-	3.03	0.08	0.76	2.28
	IInd Quarter	2.28	-	2.28	0.06	0.76	1.52
	IIIRD Quarter	1.52	-	1.52	0.04	0.76	0.76
	Ivth Quarter	0.76	-	0.76	0.02	0.76	0.00
					0.21	3.03	

Door to Door Period 60 Months
Moratorium Period 6 Months
Repayment Period 54 Months

CALCULATION OF D.S.C.R

PARTICULARS	I	II	III	IV	V
CASH ACCRUALS	3.62	5.09	6.51	7.90	9.35
Interest on Term Loan	1.48	1.21	0.88	0.54	0.21
Total	5.10	6.30	7.39	8.44	9.56
REPAYMENT					
Repayment of Term Loan	1.52	3.03	3.03	3.03	3.03
Interest on Term Loan	1.48	1.21	0.88	0.54	0.21
Total	3.00	4.24	3.91	3.58	3.24
DEBT SERVICE COVERAGE RATIO	1.70	1.48	1.89	2.36	2.95
AVERAGE D.S.C.R.			2.05		

COMPUTATION OF ELECTRICITY**(A) POWER CONNECTION**

Total Working Hour per day	Hours	8	
Electric Load Required	KW	20	
Electricity Charges	per unit	7.50	
Total Working Days		300	
Electricity Charges			3.60
Add : Minimim Charges (@ 10%)			
(B) DG set			
No. of Working Days		300	days
No of Working Hours		0.5	Hour per day
Total no of Hour		150	
Diesel Consumption per Hour		8	
Total Consumption of Diesel		1,200	
Cost of Diesel		65.00	Rs. /Ltr
Total cost of Diesel		0.78	
Add : Lube Cost @15%		0.12	
Total		0.90	
Total cost of Power & Fuel at 100%			4.50
Year	Capacity		Amount (in Lacs)
I	50%		2.25
II	55%		2.47
III	60%		2.70
IV	65%		2.92
V	70%		3.15

BREAK EVEN POINT ANALYSIS					
Year	I	II	III	IV	V
Net Sales & Other Income	76.91	88.19	98.29	109.21	120.98
Less : Op. WIP Goods	-	1.59	1.72	1.90	2.10
Add : Cl. WIP Goods	1.59	1.72	1.90	2.10	2.32
Total Sales	78.50	88.33	98.48	109.41	121.19
Variable & Semi Variable Exp.					
Raw Material & Tax	52.52	58.83	65.63	72.96	80.87
Electricity Exp/Coal Consumption at 85%	1.91	2.10	2.29	2.48	2.68
Wages & Salary at 60%	10.26	11.28	12.41	13.65	15.02
Selling & administrative Expenses 80%	0.43	0.71	0.79	0.87	0.97
ii) Interest On Working Capital	0.60	0.60	0.60	0.60	0.60
Repair & Maintenance	0.38	0.44	0.49	0.55	0.60
Total Variable & Semi Variable Exp	66.11	73.96	82.21	91.12	100.74
Contribution	12.39	14.36	16.26	18.28	20.46
Fixed & Semi Fixed Expenses					
Electricity Exp/Coal Consumption at 15%	0.34	0.37	0.40	0.44	0.47
Wages & Salary at 40%	6.84	7.52	8.27	9.10	10.01
Interest on Term Loan	1.48	1.21	0.88	0.54	0.21
Depreciation	2.03	1.75	1.51	1.30	1.12
Selling & administrative Expenses 20%	0.11	0.18	0.20	0.22	0.24
Total Fixed Expenses	10.79	11.03	11.26	11.60	12.06
Capacity Utilization	75%	80%	85%	90%	95%
OPERATING PROFIT	1.60	3.34	5.01	6.68	8.40
BREAK EVEN POINT	65%	61%	59%	57%	56%
BREAK EVEN SALES	68.37	67.79	68.16	69.42	71.44

FINANCIAL INDICATORS					
PARTICULARS	I	II	III	IV	V
TURNOVER	76.91	88.19	98.29	109.21	120.98
GROSS PROFIT	10.56	13.01	15.14	17.36	19.70
G.P. RATIO	13.73%	14.75%	15.40%	15.89%	16.28%
NET PROFIT	1.60	3.34	5.01	6.68	8.40
PAT/SALES RATIO	2.08%	3.79%	5.09%	6.12%	6.94%
CURRENT ASSETS	8.94	9.64	10.78	11.82	13.32
CURRENT LIABILITIES	6.72	6.87	7.03	7.20	7.39
CURRENT RATIO	1.33	1.40	1.53	1.64	1.80
TERM LOAN	12.14	9.10	6.07	3.03	-
TOTAL NET WORTH	3.23	5.07	7.57	10.17	13.40
DEBT/EQUITY	3.76	1.80	0.80	0.30	-
TOTAL NET WORTH	3.23	5.07	7.57	10.17	13.40
TOTAL OUTSIDE LIABILITIES	18.86	15.97	13.10	10.24	7.39
TOL/TNW	5.85	3.15	1.73	1.01	0.55
PBDIT	5.71	6.90	7.99	9.13	10.34
INTEREST	2.09	1.81	1.48	1.15	0.81
INTEREST COVERAGE RATIO	2.74	3.80	5.40	7.96	12.71
WDV	13.14	11.40	9.89	8.59	7.46
TERM LOAN	12.14	9.10	6.07	3.03	-
FACR	1.08	1.25	1.63	2.83	-

PLANT & MACHINERY

PARTICULARS	QTY.	RATE	AMOUNT IN RS.
Storage Tank	2	120000	240,000.00
Feed Pump	2	13500	27,000.00
Pre Condensor	2	25000	50,000.00
Spray Drier	2	100000	200,000.00
Baby Boiler	2	100000	200,000.00
Chilling Plant	2	150000	300,000.00
Total Cost			1,017,000.00

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