PROJECT REPORT

Of

MINI NEEM OIL PLANT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding MINI NEEM OIL PLANT.

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.]



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MINI NEEM OIL PLANT



Introduction

Neem oil is a Non-edible oil pressed from the fruits and seeds of the neem (Azadirachta indica), an evergreen tree which is endemic to the Indian subcontinent and has been introduced to many other areas in the tropics. It is the most important of the commercially available products of neem for organic farming and medicines.

Qualities of Neem Oil

- Neem Oil works as a natural substitute for anti-aging products and as a protective agent against skin damage caused by UV rays.
- It deeply penetrates skin to restore moisture, enhance elasticity, smooth wrinkles, stimulate collagen production, and heal cracks caused by dryness.
- It reduces skin redness and brings out a healthy glow.
- Its ability to unclog pores and follicles while soothing irritated skin without leaving a greasy residue makes Neem Carrier Oil an effective agent for acne-prone skin.
- It prevents future breakouts by eliminating acne-causing bacteria, purging impurities, tightening the pores, and evening out skin tone. By softening the skin to make it supple, it facilitates the healing of scars and reduces their look and feel.

• Used medicinally, Neem Carrier Oil contains components that prevent and eliminate fungal infections.

Benefits of Neem oil

Neem oil contains many ingredients that are extremely beneficial to the skin as well. Some of those ingredients include:

- fatty acids (EFA)
- Limonoids
- Vitamin E
- Triglycerides
- Antioxidants
- Calcium

Chemical constituents

The main chemical constituents of Neem Carrier Oil are: Oleic Acid, Palmitic Acid, Stearic Acid, Linoleic Acid, Vitamin C, and Carotenoids.

Average composition of neem oil Fatty Acids		
Acid Name Composition range		
Linoleic acid	6-16%	
Oleic acid	25-54%	
Palmitic acid	16-33%	
Stearic acid	9-24%	

Raw Material

Neem seeds are used as basic raw material for neem oil extraction plant.

Neem is a natural herb that comes from the neem tree, other names for which include Azadirachta indica and Indian lilac. The extract comes from

the seeds of the tree and has many different traditional uses. Neem is known for its pesticidal and insecticidal properties, but people also use it in hair and dental products.

Neem Oil Market Analysis

The global neem extracts market demand was 503.5 USD million in 2013 and is projected to grow at a CAGR of 14.8% from 2014 to 2020. In 2020, the market was growing at a steady rate and with the rising adoption of strategies by key players, the market is expected to rise over the projected horizon.

Neem oil market is expected to witness growth on account of rising demand from various end-use industries including personal care, pharmaceutical, animal feed and agriculture. Furthermore, increasing consumer awareness about health benefits of neem, particularly in developed regions, is anticipated to boost the market growth over the forecast period.

There is immense scope in the market for neem oils, and the entire host of market players is expected to employ integral strategies in order to attain a greater market share.

Usage of chemical pesticides and fertilizers in farming results in decreasing the quality of the produce and has harmful effects on the ecology. This makes neem-based fertilizer (buy product received from neem oil extraction) and pesticide ideal for farming.

Description of Machinery & Equipment

Following machineries are required for manufacturing of Neem Oil:

- Expeller
- Cooking kettle
- Filter press
- Boiler

Other equipment's:

- Electric motor
- Oil Decorticator
- Cage set, filter cloth etc.
- V belts, pipelines etc.

Processing

Neem oil can be obtained through pressing (crushing) of the seed kernel through cold pressing or through a process incorporating temperature controls between 40°C and 50°C. Hence, it is also called as cold pressed neem oil.

Neem seed oil can also be obtained by solvent extraction of the neem seed, fruit, oil, cake or kernel. This solvent-extracted neem oil is of a lower quality as compared to the standard cold pressed neem oil. Neem cake is a by-product obtained in the solvent extraction process for neem oil.

Normally neem oil is extracted at 20%-25% of raw material but it gives a buy product known as Neem cake, which also have market value (because of its use in agricultural farming).

Land &Building required:

Land required 1000 square feet

Approximate rent for the same is Rs. 20,000 per month.

Machinery & Equipment's required:

Name	Cost (Rs.)
Heavy duty Oil Expeller chamber size 24"x 4" crushing capacity Up to 130~150* kg./hr with with oil collection tank	120000
Heavy duty Oil Expeller chamber size 24"x 4" crushing capacity Up to 130~150* kg./hr with with oil collection tank	30000

GST @ 18% Total Machine cost	77,220 5,06,220
Sub total	4,29,000
Acce. Pulley, v belts, pipelines, pipe fittings etc.	25000
Essential spare parts worm set,cage set,filter cloth	19000
Oil decorticator with 2HP electric motor	55000
Baby Boiler with chimney & spark box,complete with all accessories water feed pump with 1 HP motor	75000
Electric motor 3 phase 10HP with L&T starter	35000
Filter press 16"x16" - 16 taps with Filter cloth,SS oil collection tray, galvanized tray below oil filter, complete with all accessories	70000

• Cost of the machine is other than transportation & Packaging cost.

Raw Material Requirement

Neem seeds is required as the major raw material for the Neem Oil manufacturing process.

Average cost of neem seeds per kg is approx. Rs.30-35

Labour & Staff Requirement:

4 Manpower are required for the Neem Oil manufacturing unit.

Includes:

- 2 Skilled Labour
- 2 Unskilled Labour

Neem Oil License & registration

For Proprietor:

- Obtain the GST registration.
- Additionally, obtain the Udyog Aadhar registration Number.
- FSSAI license as required.
- 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
3	Arrangement of Finance	1-2
4	Requirement of required Manpower	1-2
	Total time Required (some activities shall run concurrently)	5-6 Months

FINANCIAL ASSISTANCE REQUIRED

Term Loan of Rs. 5.40 lakh and Working Capital limit of Rs. 3 Lacs

(in Lacs)

COST	Δ		ILCI
COST	OF.	PKU	JECI

PARTICULARS	AMOUNT	Own Contribution	Bank Finance	
TATTICOLATO	AMOUNT		90.00%	
		10.00%	90.00%	
Land & Building	Owned /rented			
Plant & Machinery Furniture & Fixtures and Other	5.06	0.51	4.56	
Assets	0.94	0.09	0.85	
Working capital	3.33	0.33	3.00	
Total	9.34	0.93	8.40	

MEANS OF FINANCE

PARTICULARS	AMOUN	NT
Own Contribution	0.93	
Bank Loan	5.40	
Working capital Limit	3.00	
Total	9.34	

COMPUTATION OF PRODUCTION OF NEEM OIL		
Items to be Manufactured		
Neem Oil		
Machine capacity per hour	100	KG
Number of working days in a month	25	Days
Working days per annum	300	Days
production capacity per Annum	240,000	KG
Raw material requirement		
Raw material per day	800	KG
raw material required per annum	240,000	KG
wastage	5%	of input
output of main product (20% of input)	48,000	KG
output of by product (rest part)	180,000	KG

Production of Neem Oil		
Production	Capacity	Liter
1st year	45%	21,600
2nd year	50%	24,000
3rd year	55%	26,400
4th year	60%	28,800
5th year	65%	31,200

Production of By product (Neem Cake	e)	
Production	Capacity	KG
1st year	45%	81,000
2nd year	50%	90,000
3rd year	55%	99,000
4th year	60%	108,000
5th year	65%	117,000

Raw Material Cost			
Year	Capacity	Rate	Amount
	Utilisation	(per KG)	(Rs. in lacs)
1st year	45%	30	32.40
2nd year	50%	31	37.20
3rd year	55%	32	42.24
4th year	60%	33	47.52
5th year	65%	34	53.04

Packaging cost			
Year	Unit	Packaging cost	Amount
		(per bottle)	(Rs. in lacs)
1st year	21,600	20	4.32
2nd year	24,000	21	4.92
3rd year	26,400	21	5.54
4th year	28,800	22	6.34
5th year	31,200	22	6.86

COMPUTATION OF SAL	E (NEEM OIL)				
Particulars	1st year	2nd year	3rd year	4th year	5th year
Op Stock	-	720	800	880	960
Production	21,600	24,000	26,400	28,800	31,200
Less : Closing Stock	720	800	880	960	1,040
Net Sale	20,880	23,920	26,320	28,720	31,120
sale price per Liter	200.0	204.0	208.0	212.0	216.0
Sales (in Lacs)	41.76	48.80	54.75	60.89	67.22

COMPUTATION OF SA	ALE (NEEM CAKE	1			
Particulars	1st year	2nd year	3rd year	4th year	5th year
Production	81,000	90,000	99,000	108,000	117,000
Net Sale sale price per KG	81,000 12.0	90,000 13.0	99,000 14.0	108,000 15.0	117,000 16.0
Sales (in Lacs)	9.72	11.70	13.86	16.20	18.72

BREAK UP OF LABOUR CHARGES			
Particulars	Wages	No of	Total
	Rs. per Month	Employees	Salary
Skilled (in thousand rupees)	10,000	2	20,000
Unskilled (in thousand rupees)	8,000	2	16,000
Total salary per month			36,000
Total annual labour charges	(in lacs)		4.32

Utility Charges (per month)		
Particulars	value	Description
Power connection required	7	KWH
consumption per day	56	units
Consumption per month	1,400	units
Rate per Unit	8	Rs.
power Bill per month	11,200	Rs.

PROJECTED PROFITABILITY STATEM	<u>1ENT</u>				(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	45%	50%	55%	60%	65%
SALES					
Gross Sale					
Neem Oil	41.76	48.80	54.75	60.89	67.22
Neem cake (By Product)	9.72	11.70	13.86	16.20	18.72
Total	51.48	60.50	68.61	77.09	85.94
COST OF SALES					
Raw Material Consumed	32.40	37.20	42.24	47.52	53.04
Electricity Expenses	1.34	1.48	1.63	1.79	1.97
Depreciation	0.85	0.73	0.62	0.53	0.46
Labour	4.32	4.75	5.23	5.75	6.32
Repair & maintenance	1.29	1.51	1.72	1.93	2.15
Consumables	0.77	0.91	1.03	1.16	1.29
Packaging cost	4.32	4.92	5.54	6.34	6.86
Cost of Production	45.30	51.50	58.01	65.01	72.09
Add: Opening Stock /WIP	-	1.51	1.72	1.93	2.17
Less: Closing Stock /WIP	1.51	1.72	1.93	2.17	2.40
Cost of Sales	43.79	51.29	57.79	64.78	71.86
GROSS PROFIT	7.69	9.20	10.82	12.31	14.08
Interest on Term Loan	0.53	0.43	0.31	0.19	0.07
Interest on working Capital	0.30	0.30	0.30	0.30	0.30

Rent	2.40	2.64	2.90	3.19	3.51
selling & adm exp	0.98	1.15	1.23	1.73	2.15
TOTAL	4.21	4.51	4.74	5.41	6.03
NET PROFIT	3.49	4.69	6.07	6.89	8.06
Taxation			0.11	0.20	0.34
PROFIT (After Tax)	3.49	4.69	5.96	6.70	7.72

PROJECTED BALANCE SHEET					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>					
Capital					
opening balance		1.42	2.11	3.07	4.27
Add:- Own Capital	0.93				
Add:- Retained Profit	3.49	4.69	5.96	6.70	7.72
Less:- Drawings	3.00	4.00	5.00	5.50	6.00
Closing Balance	1.42	2.11	3.07	4.27	5.99
Term Loan	4.80	3.60	2.40	1.20	-
Working Capital Limit	3.00	3.00	3.00	3.00	3.00
Sundry Creditors	0.86	0.99	1.13	1.27	1.41
Provisions & Other Liab	0.15	0.18	0.22	0.26	0.31
TOTAL:	10.24	9.88	9.81	9.99	10.71
<u>Assets</u>					
Fixed Assets (Gross)	6.00	6.00	6.00	6.00	6.00
Gross Dep.	0.85	1.58	2.21	2.74	3.20
Net Fixed Assets	5.15	4.42	3.79	3.26	2.80
Current Assets					
Sundry Debtors	1.72	2.02	2.29	2.31	3.44
Stock in Hand	2.59	2.96	3.34	3.75	4.17
Cash and Bank	0.78	0.49	0.39	0.67	0.30
TOTAL :	10.24	9.88	9.81	9.99	10.71

PROJECTED CASH FLOW STATEMENT					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
PARTICULARS	1st year	Ziiu yeai	Siù yeai	4tii yeai	Juli year
SOURCES OF FUND					
Own Margin	0.93				
Net Profit	3.49	4.69	6.07	6.89	8.06
Depreciation & Exp. W/off	0.85	0.73	0.62	0.53	0.46
Increase in Cash Credit	3.00	-	-	-	-
Increase In Term Loan	5.40	-	-	-	-
Increase in Creditors	0.86	0.13	0.13	0.14	0.15
Increase in Provisions & Oth lib	0.15	0.03	0.04	0.04	0.05
	44.60				0.74
TOTAL:	14.69	5.58	6.87	7.61	8.71
APPLICATION OF FUND					
Increase in Fixed Assets	6.00				
Increase in Stock	2.59	0.37	0.38	0.41	0.42
Increase in Debtors	1.72	0.30	0.27	0.03	1.12
Repayment of Term Loan	0.60	1.20	1.20	1.20	1.20
Drawings	3.00	4.00	5.00	5.50	6.00
Taxation			0.11	0.20	0.34
	-	-			
TOTAL:	13.91	5.87	6.97	7.33	9.08
Opening Cash & Bank Balance	-	0.78	0.49	0.39	0.67
Add : Surplus	0.78	(0.29)	(0.10)	0.28	(0.37)
Closing Cash & Bank Balance	0.78	0.49	0.39	0.67	0.30

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Finished Goods					
	1.51	1.72	1.93	2.17	2.40
Raw Material	•				
-	1.08	1.24	1.41	1.58	1.77
Closing Stock	2.59	2.96	3.34	3.75	4.17

TRADITIONAL METHOD			(in Lacs)
Particulars	Amount	Own Margin	Bank Finance
Finished Goods & Raw Material	2.59		
Less : Creditors	0.86		
Paid stock	1.73	10% 0.17	90% 1.55
Sundry Debtors	1.72	10% 0.17	90% 1.54
	3.44	0.34	3.10

2nd Method				
PARTICULARS	1st year	2nd year		
Total Current Assets	5.09	5.46		
Other Current Liabilities	1.01	1.17		
Norking Capital Gap	4.07	4.29		
Min Working Capital				
25% of WCG	1.02	1.07		
Actual NWC	1.07	1.29		
tem III – IV	3.06	3.22		
tem III – V	3.00	3.00		
MPBF (Lower of VI & VII)	3.00	3.00		

COMPUTATION OF DEPRECIATION

(in Lacs)

Description	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation	15.00%	10.00%	
Opening Balance	-	-	-
Addition	5.06	0.94	6.00
Total	5.06	0.94	6.00
Less : Depreciation	0.76	0.09	0.85
WDV at end of Year	4.30	0.85	5.15
Additions During The Year	-	-	-
Total	4.30	0.85	5.15
Less : Depreciation	0.65	0.08	0.73
WDV at end of Year	3.66	0.76	4.42
Additions During The Year	-	-	-
Total	3.66	0.76	4.42
Less : Depreciation	0.55	0.08	0.62
WDV at end of Year	3.11	0.69	3.79
Additions During The Year	-	-	-
Total	3.11	0.69	3.79
Less : Depreciation	0.47	0.07	0.53
WDV at end of Year	2.64	0.62	3.26
Additions During The Year	-	-	-
Total	2.64	0.62	3.26
Less : Depreciation	0.40	0.06	0.46
WDV at end of Year	2.25	0.56	2.80

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PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	4.34	5.42	6.70	7.43	8.51
Interest on Term Loan	0.53	0.43	0.31	0.19	0.07
Total	4.87	5.84	7.00	7.61	8.58
REPAYMENT					
Instalment of Term Loan	0.60	1.20	1.20	1.20	1.20
Interest on Term Loan	0.53	0.43	0.31	0.19	0.07
Total	1.13	1.63	1.51	1.39	1.27
DEBT SERVICE COVERAGE RATIO	4.32	3.59	4.65	5.49	6.78
AVERAGE D.S.C.R.	4.97				

		REPAYM	ENT SCHEDU	LE OF TE	RM LOAN		
						Interest	10.00%
							Closing
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Balance
ist	Opening B	alance					
	4		F 40	F 40	0.05		5.40
	1st month	-	5.40	5.40	0.05	-	5.40
	2nd month	5.40	-	5.40	0.05	-	5.40
	3rd month	5.40	-	5.40	0.05	-	5.40
	4th month	5.40	-	5.40	0.05		5.40
	5th month	5.40	-	5.40	0.05		5.40
	6th month	5.40	-	5.40	0.05		5.40
	7th month	5.40	-	5.40	0.05	0.10	5.30
	8th month	5.30	-	5.30	0.04	0.10	5.20
	9th month	5.20	-	5.20	0.04	0.10	5.10
	10th month	5.10	-	5.10	0.04	0.10	5.00
	11th month	5.00	-	5.00	0.04	0.10	4.90
	12th month	4.90	-	4.90	0.04	0.10	4.80
					0.50	2.52	
					0.53	0.60	
2nd	Opening B	alance					
	1st month	4.80	-	4.80	0.04	0.10	4.70
	2nd month	4.70	-	4.70	0.04	0.10	4.60
	3rd month	4.60	-	4.60	0.04	0.10	4.50
	4th month	4.50	-	4.50	0.04	0.10	4.40
	5th month	4.40	-	4.40	0.04	0.10	4.30
	6th month	4.30	-	4.30	0.04	0.10	4.20
	7th month	4.20	-	4.20	0.04	0.10	4.10
	8th month	4.10	-	4.10	0.03	0.10	4.00
	9th month	4.00	-	4.00	0.03	0.10	3.90
	10th month	3.90	-	3.90	0.03	0.10	3.80
	11th month	3.80	-	3.80	0.03	0.10	3.70
	12th month	3.70	-	3.70	0.03	0.10	3.60
					0.43	1.20	
3rd	Opening B	alance					_
	1st month	3.60	-	3.60	0.03	0.10	3.50
	2nd month	3.50	-	3.50	0.03	0.10	3.40
	3rd month	3.40	-	3.40	0.03	0.10	3.30
	4th month	3.30	-	3.30	0.03	0.10	3.20
	5th month	3.20	-	3.20	0.03	0.10	3.10
	6th month	3.10	-	3.10	0.03	0.10	3.00
	7th month	3.00	-	3.00	0.03	0.10	2.90
•							•

	8th month	2.90	_	2.90	0.02	0.10	2.80
	9th month	2.80	_	2.80	0.02	0.10	2.70
	10th month	2.70	-	2.70	0.02	0.10	2.60
	11th month	2.60	-	2.60	0.02	0.10	2.50
			-				
	12th month	2.50		2.50	0.02 0.31	0.10 1.20	2.40
	0 : 01				0.51	1.20	
4th	Opening Bala	ince					
	1st month	2.40	_	2.40	0.02	0.10	2.30
	2nd month	2.30	_	2.30	0.02	0.10	2.20
	3rd month	2.20	_	2.20	0.02	0.10	2.10
	4th month	2.10	_	2.10	0.02	0.10	2.00
	5th month	2.00	_	2.00	0.02	0.10	1.90
	6th month	1.90	_	1.90	0.02	0.10	1.80
	7th month	1.80	_	1.80	0.02	0.10	1.70
	8th month	1.70	_	1.70	0.01	0.10	1.60
	9th month	1.60	_	1.60	0.01	0.10	1.50
	10th month	1.50	-	1.50	0.01	0.10	1.40
	11th month	1.40	_	1.40	0.01	0.10	1.30
	12th month	1.30	_	1.30	0.01	0.10	1.20
					0.19	1.20	
5th	Opening Bala	nce					
	1st month	1.20	-	1.20	0.01	0.10	1.10
	2nd month	1.10	-	1.10	0.01	0.10	1.00
	3rd month	1.00	-	1.00	0.01	0.10	0.90
	4th month	0.90	-	0.90	0.01	0.10	0.80
	5th month	0.80	-	0.80	0.01	0.10	0.70
	6th month	0.70	-	0.70	0.01	0.10	0.60
	7th month	0.60	-	0.60	0.01	0.10	0.50
	8th month	0.50	-	0.50	0.00	0.10	0.40
	9th month	0.40	-	0.40	0.00	0.10	0.30
	10th month	0.30	-	0.30	0.00	0.10	0.20
	11th month	0.20	-	0.20	0.00	0.10	0.10
	12th month	0.10	-	0.10	0.00	0.10	-
					0.07	1 20	
					0.07	1.20	
	OOR TO DOOR	60	MONTHS				
	ATORIUM PERIOD	6	MONTHS				
REP/	AYMENT PERIOD	54	MONTHS				



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