



MODEL PROJECT REPORT



PROJECT REPORT ON CASHEW NUT SHELL LIQUID

SWAVALAMBI BHARAT ABHIYAN

PROJECT AT A GLANCE

- 1 Name of the Entrepreneur : xxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxx
- 3 Father / Spouse Name : xxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxx
- 5 Product and By Product : CASHEW NUT SHELL LIQUID
- 6 Name of the project / business activity proposed : CASHEW NUT SHELL LIQUID UNIT
- 7 Cost of Project : Rs.20.44 Lakhs
- 8 Means of Finance :
 - Term Loan Rs.14.4 Lakhs
 - Own Capital Rs.2.04 Lakhs
 - Working capital Rs.4 Lakhs
- 9 Debt Service Coverage Ratio : 2.37
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 49%
- 13 Employment : 8 Persons
- 14 Power Requirement : 30.00 HP
- 15 Major Raw materials : Raw cashew nut shell, Packing material
- 16 Estimated Annual Sales Turnover (Max Capacity) : 76.88 Lakhs
- 17 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lakhs)	
Particulars	Amount
Land	Own/Rented
Building /Shed 1000 Sq ft	4.00
Plant & Machinery	11.00
Furniture & Fixtures	1.00
Working Capital	4.44
Total	20.44

MEANS OF FINANCE

Particulars	Amount
Own Contribution	2.04
Working Capital(Finance)	4.00
Term Loan	14.40
Total	20.44

CASHEW NUT SHELL LIQUID

Introduction: Cashew nut shell liquid (CNSL) is a versatile by product of the cashew industry. The nut has a shell of about 1/8 inch thickness inside which is a soft honey comb structure containing a dark reddish brown viscous liquid. It is called cashew nut shell liquid, which is the pericap fluid of the cashew nut. It is often considered as the better and cheaper material for unsaturated phenols. The shell liquid, which is extracted out of the outer shell of the nut, also has industrial applications in the automotive industry, leather, and tobacco curing.



Uses & Market Potential: CNSL is a versatile industrial raw material with diverse use in friction linings, paints and varnishes, laminating and epoxy resins, foundry chemicals and as an intermediary of chemicals. CNSL is also used in the making of resins for paints and foundry core oils, insulating varnishes and the like. Of late, the shell liquid has been extensively distilled to produce Cardanol, which is used in the preparation of friction dust for brake linings and also in rubber compounding formulations.

The global Cashew Nut Shell Liquid (Cnsl) market is anticipated to rise at a considerable rate during the forecast period, between 2020 and 2025. 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.

Machinery & Equipments: Basic machines & equipments are as follows:

S No.	Machine	Unit	Price
1.	Oil expeller 4. 5 MT capacity per hrs mounted on steel fabricated channel fitted with oil tray. Thrust bearing single helical generator with 20 HP motor starter and all other accessories	1	550000
2.	2 HP Motor for filter Press	1	30000
3.	Filter Press 22 plates 22"x 22" with plunger pump	1	250000
4.	M.S.(Tank) 2500 Lt. capacity	3	150000
5.	Other machinery & equipments		120000
	Total Amount		1100000

Raw material: Major raw material that is used is raw cashew nut shell and packing material for packing final product.

Manufacturing Process: Cashew nut is processed by two methods i.e. a) Roasting process, and b) Oil extraction process.

Some manufactures use the first method while some others prefer the second method from which the oil is obtained as a by-product. Raw Cashew nut shell contains over 20 % CNSL. In the oil bath process about 10 % of oil is recovered as a by-product. By using expellers from extraction, it is possible to extract a further quantity of about 10% more from the shells. Thus from 1 ton of shells using oil bath process, up to 100 kg of good quality of CNSL could be extracted by using oil expellers.

Area:

The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and auxiliary like Generator setup. Also some of the area of building is required for office staff facilities, documentation, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 1000 to 1500Sqft. Civil work cost will be Rs. 4 Lac (Approx.)

Power Requirement –The power consumption required to run all the machinery could be approximated as 30hp

Manpower Requirement– There are requirement of skilled machine operators to run the machine set. Experience quality engineers are required for desired quality control. Some helpers are also required to transfer the material from one work station to other. Office staffs are required to maintain the documentation. The approximate manpower required is 8 including 1 Supervisor, 1 Plant operator, 1 unskilled worker, 1 Helper and 1 Security guard. 3 Skilled worker including Accountant, Manager and Sales person.

Bank Term Loan: Rate of Interest is assumed to be at 11%

Depreciation: Depreciation has been calculated as per the Provisions of Income Tax Act, 1961

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 require.
- NOC from State Pollution Control Board

Implementation Schedule:

S No.	Activity	Time required
1.	Acquisition of premises	1-2 Months
2.	Procurement & installation of Plant & Machinery	1-2 Months
3.	Arrangement of Finance	1.5-2 Months
4.	Requirement of required Manpower	1 Month
5.	Commercial Trial Runs	1 Month
	Total time Required (some activities shall run concurrently)	5-6 Months

FINANCIALS

<u>PROJECTED CASH FLOW STATEMENT</u>					
PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
Own Contribution	2.04	-			
Reserve & Surplus	2.63	4.26	7.46	9.12	11.53
Depreciation & Exp. W/off	2.15	1.85	1.60	1.38	1.19
Increase In Cash Credit	4.00				
Increase In Term Loan	14.40	-	-	-	-
Increase in Creditors	0.27	0.03	0.02	0.02	0.02
TOTAL :	25.49	6.14	9.08	10.52	12.74
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	16.00	-	-	-	-
Increase in Stock	1.14	0.19	0.17	0.17	0.19
Increase in Debtors	3.92	0.91	0.92	0.87	1.06
Repayment of Term Loan	1.60	3.20	3.20	3.20	3.20
Taxation	-	-	0.75	0.91	1.15
Drawings	1.50	1.80	3.00	4.00	6.00
TOTAL :	24.17	6.10	8.04	9.15	11.61
Opening Cash & Bank Balance	-	1.32	1.36	2.40	3.77
Add : Surplus	1.32	0.04	1.03	1.37	1.13
Closing Cash & Bank Balance	1.32	1.36	2.40	3.77	4.90

PROJECTED BALANCE SHEET					
PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
Capital Account					
Opening Balance	-	3.17	5.62	9.34	13.54
Add: Additions	2.04	-	-	-	-
Add: Net Profit	2.63	4.26	6.71	8.21	10.38
Less: Drawings	1.50	1.80	3.00	4.00	6.00
Closing Balance	3.17	5.62	9.34	13.54	17.93
CC Limit	4.00	4.00	4.00	4.00	4.00
Term Loan	12.80	9.60	6.40	3.20	-
Sundry Creditors	0.27	0.30	0.32	0.34	0.36
TOTAL :	20.24	19.53	20.06	21.09	22.29
<u>APPLICATION OF FUND</u>					
Fixed Assets (Gross)	16.00	16.00	16.00	16.00	16.00
Gross Dep.	2.15	4.00	5.60	6.98	8.17
Net Fixed Assets	13.85	12.00	10.40	9.02	7.83
Current Assets					
Sundry Debtors	3.92	4.83	5.75	6.62	7.69
Stock in Hand	1.14	1.34	1.51	1.68	1.87
Cash and Bank	1.32	1.36	2.40	3.77	4.90
TOTAL :	20.24	19.53	20.06	21.09	22.29

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PROJECTED PROFITABILITY STATEMENT					
PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	39.24	48.32	57.54	66.24	76.88
Total (A)	39.24	48.32	57.54	66.24	76.88
B) COST OF SALES					
Raw Material Consumed	11.55	12.99	13.86	14.73	15.59
Electricity Expenses	3.20	3.42	3.65	3.88	4.11
Repair & Maintenance	5.89	9.66	11.51	13.25	15.38
Labour & Wages	7.43	8.55	10.26	12.31	14.77
Depreciation	2.15	1.85	1.60	1.38	1.19
Cost of Production	30.22	36.48	40.88	45.54	51.04
Add: Opening Stock /WIP	-	0.57	0.69	0.82	0.94
Less: Closing Stock /WIP	0.57	0.69	0.82	0.94	1.09
Cost of Sales (B)	29.65	36.36	40.75	45.42	50.89
C) GROSS PROFIT (A-B)	9.58	11.96	16.79	20.81	25.99
	24.43%	24.74%	29.19%	31.43%	33.81%
D) Bank Interest (Term Loan)	1.56	1.28	0.92	0.57	0.22
ii) Interest On Working Capital	0.44	0.44	0.44	0.44	0.44
E) Salary to Staff	3.78	4.54	5.67	7.37	9.95
F) Selling & Adm Expenses Exp.	1.18	1.45	2.30	3.31	3.84
TOTAL (D+E)	6.96	7.70	9.34	11.69	14.45
H) NET PROFIT	2.63	4.26	7.46	9.12	11.53
	6.7%	8.8%	13.0%	13.8%	15.0%
I) Taxation	-	-	0.75	0.91	1.15
J) PROFIT (After Tax)	2.63	4.26	6.71	8.21	10.38

COMPUTATION OF MAKING OF CASHEW NUT SHELL LIQUID			
Item to be Manufactured	Cashewnut shell Liquid		
Manufacturing Capacity per day		500	kg
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		1,50,000	kg
Total Production per Annum		1,50,000	kg
Year		Capacity	SHELL LIQUID
		Utilisation	
I		70%	1,05,000.00
II		75%	1,12,500.00
III		80%	1,20,000.00
IV		85%	1,27,500.00
V		90%	1,35,000.00

COMPUTATION OF RAW MATERIAL					
Item Name	Quantity of Raw	Unit	Unit Rate of	Total CostPer	
Raw Cashew nut shell	1,000.00	Tonne	1,500.00	15,00,000.00	
Packing material	Lumsum			1,50,000.00	
Total				16,50,000.00	
Total Raw material in Rs lacs				16.50	

Raw Material Consumed	Capacity	Amount (Rs.)		
	Utilisation			
I	70%	11.55		
II	75%	12.99	5% Increase in Cost	
III	80%	13.86	5% Increase in Cost	
IV	85%	14.73	5% Increase in Cost	
V	90%	15.59	5% Increase in Cost	

COMPUTATION OF SALE					
Particulars	I	II	III	IV	V
Op Stock	-	1,750.00	1,875.00	2,000.00	2,125.00
Production	1,05,000.00	1,12,500.00	1,20,000.00	1,27,500.00	1,35,000.00
	1,05,000.00	1,14,250.00	1,21,875.00	1,29,500.00	1,37,125.00
Less : Closing Stock(5 Days)	1,750.00	1,875.00	2,000.00	2,125.00	2,250.00
Net Sale	1,03,250.00	1,12,375.00	1,19,875.00	1,27,375.00	1,34,875.00
Sale Price per Kg	38.00	43.00	48.00	52.00	57.00
Sale (in Lacs)	39.24	48.32	57.54	66.24	76.88

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
<u>Finished Goods</u>					
(5 Days requirement)	0.57	0.69	0.82	0.94	1.09
<u>Raw Material</u>					
(15 Days requirement)	0.58	0.65	0.69	0.74	0.78
Closing Stock	1.14	1.34	1.51	1.68	1.87

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	Amount	Margin(10%)	Net
			Amount
Stock in Hand	1.14		
Less:			
Sundry Creditors	0.27		
Paid Stock	0.87	0.09	0.79
Sundry Debtors	3.92	0.39	3.53
Working Capital Requirement			4.32
Margin			0.48
MPBF			4.32
Working Capital Demand			4.00

<u>BREAK UP OF LABOUR</u>				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		18,000.00	1	18,000.00
Plant Operator		15,000.00	1	15,000.00
Unskilled Worker		12,000.00	1	12,000.00
Helper		8,000.00	1	8,000.00
Security Guard		6,000.00	1	6,000.00
				59,000.00
Add: 5% Fringe Benefit				2,950.00
Total Labour Cost Per Month				61,950.00
Total Labour Cost for the year (In Rs. Lakhs)			5	7.43

<u>BREAK UP OF SALARY</u>				
Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		12,000.00	1	12,000.00
Accountant cum store keeper		10,000.00	1	10,000.00
Sales		8,000.00	1	8,000.00
Total Salary Per Month				30,000.00
Add: 5% Fringe Benefit				1,500.00
Total Salary for the month				31,500.00
Total Salary for the year (In Rs. Lakhs)			3	3.78

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	11.00	1.00	16.00
	-	4.00	11.00	1.00	16.00
		-	-	-	
TOTAL		4.00	11.00	1.00	16.00
Less : Depreciation	-	0.40	1.65	0.10	2.15
WDV at end of Ist year	-	3.60	9.35	0.90	13.85
Additions During The Year	-	-	-	-	-
	-	3.60	9.35	0.90	13.85
Less : Depreciation	-	0.36	1.40	0.09	1.85
WDV at end of IIInd Year	-	3.24	7.95	0.81	12.00
Additions During The Year	-	-	-	-	-
	-	3.24	7.95	0.81	12.00
Less : Depreciation	-	0.32	1.19	0.08	1.60
WDV at end of IIIrd year	-	2.92	6.76	0.73	10.40
Additions During The Year	-	-	-	-	-
	-	2.92	6.76	0.73	10.40
Less : Depreciation	-	0.29	1.01	0.07	1.38
WDV at end of IV year	-	2.62	5.74	0.66	9.02
Additions During The Year	-	-	-	-	-
	-	2.62	5.74	0.66	9.02
Less : Depreciation	-	0.26	0.86	0.07	1.19
WDV at end of Vth year	-	2.36	4.88	0.59	7.83

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
I	Opening Balance						
	Ist Quarter	-	14.40	14.40	0.40	-	14.40
	IInd Quarter	14.40	-	14.40	0.40	-	14.40
	IIIRD Quarter	14.40	-	14.40	0.40	0.80	13.60
	Ivth Quarter	13.60	-	13.60	0.37	0.80	12.80
					1.56	1.60	
II	Opening Balance						
	Ist Quarter	12.80	-	12.80	0.35	0.80	12.00
	IInd Quarter	12.00	-	12.00	0.33	0.80	11.20
	IIIRD Quarter	11.20	-	11.20	0.31	0.80	10.40
	Ivth Quarter	10.40		10.40	0.29	0.80	9.60
					1.28	3.20	
III	Opening Balance						
	Ist Quarter	9.60	-	9.60	0.26	0.80	8.80
	IInd Quarter	8.80	-	8.80	0.24	0.80	8.00
	IIIRD Quarter	8.00	-	8.00	0.22	0.80	7.20
	Ivth Quarter	7.20		7.20	0.20	0.80	6.40
					0.92	3.20	
IV	Opening Balance						
	Ist Quarter	6.40	-	6.40	0.18	0.80	5.60
	IInd Quarter	5.60	-	5.60	0.15	0.80	4.80
	IIIRD Quarter	4.80	-	4.80	0.13	0.80	4.00
	Ivth Quarter	4.00		4.00	0.11	0.80	3.20
					0.57	3.20	
V	Opening Balance						
	Ist Quarter	3.20	-	3.20	0.09	0.80	2.40
	IInd Quarter	2.40	-	2.40	0.07	0.80	1.60
	IIIRD Quarter	1.60	-	1.60	0.04	0.80	0.80
	Ivth Quarter	0.80		0.80	0.02	0.80	- 0.00
					0.22	3.20	

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
<u>CASH ACCRUALS</u>	4.78	6.11	8.31	9.59	11.57
Interest on Term Loan	1.56	1.28	0.92	0.57	0.22
Total	6.34	7.38	9.23	10.16	11.79
<u>REPAYMENT</u>					
Repayment of Term Loan	1.60	3.20	3.20	3.20	3.20
Interest on Term Loan	1.56	1.28	0.92	0.57	0.22
Total	3.16	4.48	4.12	3.77	3.42
DEBT SERVICE COVERAGE RATIO	2.00	1.65	2.24	2.69	3.45
AVERAGE D.S.C.R.			2.37		

COMPUTATION OF ELECTRICITY				
(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	30	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				4,02,840.00
Add : Minimim Charges (@ 10%)				
(B) DG set				
No. of Working Days			300	days
No of Working Hours			0.3	Hour per day
Total no of Hour			90	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			720	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			0.47	
Add : Lube Cost @15%			0.07	
Total			0.54	
Total cost of Power & Fuel at 100%				4.57
Year		Capacity		Amount
				(in Lacs)
I		70%		3.20
II		75%		3.42
III		80%		3.65
IV		85%		3.88
V		90%		4.11