

# PROJECT REPORT

Of

# CASTOR OIL

## PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Castor Oil**.

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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**PROJECT AT A GLANCE**

- 1 Name of the Entrepreneur : xxxxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxxxx
- 3 Father / Spouse Name : xxxxxxxxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxxx
- District : xxxxxxxx  
Pin: xxxxxxxx State: xxxxxxxx  
Mobile xxxxxxxx
- 5 Product and By Product : **CASTOR OIL**
- 6 Name of the project / business activity proposed : **CASTOR OIL UNIT**
- 7 Cost of Project : Rs.13.89 Lakhs
- 8 Means of Finance  
Term Loan Rs.9 Lakhs  
Own Capital Rs.1.39 Lakhs  
Working Capital Rs.3.5 Lakhs
- 9 Debt Service Coverage Ratio : 2.70
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 38%
- 13 Employment : 9 Persons
- 14 Power Requirement : 30.00 HP
- 15 Major Raw materials : Castor beans or seeds
- 16 Estimated Annual Sales Turnover (Max Capacity) : 79.98 Lakhs
- 17 Detailed Cost of Project & Means of Finance

**COST OF PROJECT**

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Building & Civil work(1000 sqft.)	4.00
Plant & Machinery	5.00
Furniture & Fixtures	1.00
Working Capital	3.89
<b>Total</b>	<b>13.89</b>

**MEANS OF FINANCE**

Particulars	Amount
Own Contribution	1.39
Working Capital(Finance)	3.50
Term Loan	9.00
<b>Total</b>	<b>13.89</b>

# CASTOR OIL

**Introduction:** Castor oil is a multi-purpose vegetable oil that people have used for thousands of years. Castor oil is colourless to very pale yellow liquid with a distinct taste and odour. Castor oil is a vegetable oil pressed from castor beans. *Ricinus communis*, the castor bean or castor oil plant, is a species of perennial flowering plant in the spurge family. These seeds, which are known as castor beans, contain a toxic enzyme called ricin. However, the heating process that castor oil undergoes deactivates it, allowing the oil to be used safely. Today, castor oil remains a popular natural treatment for common conditions like constipation and skin ailments and is commonly used in natural beauty products.



## **Benefits & uses of Castor Oil:**

- One of the best-known medicinal uses for castor oil is as a natural laxative.
- Castor oil is often used in cosmetics to promote hydration and often added to products like lotions, makeup and cleansers.

- Castor oil stimulates tissue growth so that a barrier can be formed between the wound and the environment, decreasing the risk of infection.
- Ricinoleic acid, the main fatty acid found in castor oil, has impressive anti-inflammatory properties.
- Castor oil has antimicrobial properties that may help fight bacterial overgrowth when applied to the skin.
- Applying fats like castor oil to the hair on a regular basis helps lubricate the hair shaft, increasing flexibility and decreasing the chance of breakage

**Market Potential:** India is one of the best producers of castor seed. India accounts for 85 per cent of the global castor seed output. The global castor oil market reached a volume of 790.5 Kilotons in 2019 & expected to touch \$1,470 million by the end of 2025, growing at a CAGR of 2.8 per cent between 2019 and 2025, according to international reports. Castor oil acts as a major raw material which is used in the production of various end products such as biodiesel, polyurethane adhesives, machining oils, refrigeration lubricants, etc. This versatile nature of castor oil has been contributing towards the propelling growth of the market.

**Raw material:** Castor beans or seeds are used as basic raw material for Castor Oil extraction plant. Castor seed is the source of castor oil, which has a wide variety of uses. The seeds contain between 40% and 60% oil that is rich in triglycerides, mainly ricinolein. The seed also contains ricin, a water-soluble toxin, which is also present in lower concentrations throughout the plant.

**Machinery Requirements:** Basic machines & equipments are as follows:

<b>S No.</b>	<b>Machine</b>	<b>Unit</b>	<b>Price</b>
1.	Heavy duty Oil Expeller chamber size 24"× 4" crushing capacity Up to 130~150* kg./hr with with oil collection tank	2	240000
2.	Filter press 16"×16" - 16 taps with Filter cloth,SS oil collection tray , galvanized tray below oil filter , complete with all accessories.	1	70000
3.	Electric motor 3 phase 10HP with L&T starter	1	35000
4.	Baby Boiler with chimney & spark box,complete with all accessories water feed pump with 1 HP motor	1	75000
5.	Oil decorticator with 2HP electric motor	1	50000
6.	Other machinery and spare parts		30000
	<b>Total Amount</b>		<b>500000</b>

**Manufacturing Process:** Production of castor oil by extraction process is economic one. Process of extraction may be batch type or continuous. Oil Extraction process carried over the following stages to get pure castor oil; they are Extraction process, Distillation process, Separation of excess wax available in the oil.

Castor Oil Extraction: The ripe seeds are allowed to dry, when they split open and discharge the seeds. These seeds are cleaned, cooked and dried prior to extraction. Oil is then extracted by pre-pressing, using a high pressure continuous screw press – called the expeller. Extracted oil is filtered. Material finally discharged from the press, called cake.

**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 9 including 1 Supervisor, 2 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
- FSSAI License

### **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**

<b>PROJECTED CASH FLOW STATEMENT</b>					
<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b><u>SOURCES OF FUND</u></b>					
Own Contribution	1.39	-			
Reserve & Surplus	2.24	3.69	5.33	7.22	9.24
Depriciation & Exp. W/off	1.25	1.09	0.95	0.83	0.72
Increase In Cash Credit	3.50				
Increase In Term Loan	9.00	-	-	-	-
Increase in Creditors	1.20	0.15	0.16	0.17	0.17
<b>TOTAL :</b>	<b>18.58</b>	<b>4.93</b>	<b>6.43</b>	<b>8.21</b>	<b>10.13</b>
<b><u>APPLICATION OF FUND</u></b>					
Increase in Fixed Assets	10.00	-	-	-	-
Increase in Stock	2.02	0.26	0.27	0.28	0.29
Increase in Debtors	3.22	0.55	0.49	0.52	0.54
Repayment of Term Loan	1.00	2.00	2.00	2.00	2.00
Taxation	-	0.37	0.53	1.08	1.39
Drawings	1.00	1.50	2.50	3.50	5.00
<b>TOTAL :</b>	<b>17.25</b>	<b>4.69</b>	<b>5.80</b>	<b>7.38</b>	<b>9.22</b>
Opening Cash & Bank Balance	-	1.33	1.58	2.22	3.05
Add : Surplus	1.33	0.25	0.64	0.83	0.90
Closing Cash & Bank Balance	<b>1.33</b>	<b>1.58</b>	<b>2.22</b>	<b>3.05</b>	<b>3.95</b>



<b>PROJECTED BALANCE SHEET</b>					
<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b>SOURCES OF FUND</b>					
<b>Capital Account</b>					
Opening Balance	-	2.63	4.46	6.75	9.39
Add: Additions	1.39	-	-	-	-
Add: Net Profit	2.24	3.32	4.80	6.14	7.85
Less: Drawings	1.00	1.50	2.50	3.50	5.00
<b>Closing Balance</b>	<b>2.63</b>	<b>4.46</b>	<b>6.75</b>	<b>9.39</b>	<b>12.24</b>
CC Limit	3.50	3.50	3.50	3.50	3.50
Term Loan	8.00	6.00	4.00	2.00	-
Sundry Creditors	1.20	1.35	1.51	1.68	1.85
<b>TOTAL :</b>	<b>15.33</b>	<b>15.31</b>	<b>15.76</b>	<b>16.57</b>	<b>17.59</b>
<b>APPLICATION OF FUND</b>					
<b>Fixed Assets ( Gross)</b>	10.00	10.00	10.00	10.00	10.00
Gross Dep.	1.25	2.34	3.28	4.11	4.83
Net Fixed Assets	8.75	7.66	6.72	5.89	5.17
<b>Current Assets</b>					
Sundry Debtors	3.22	3.78	4.27	4.79	5.33
Stock in Hand	2.02	2.29	2.56	2.84	3.14
Cash and Bank	1.33	1.58	2.22	3.05	3.95
<b>TOTAL :</b>	<b>15.33</b>	<b>15.31</b>	<b>15.76</b>	<b>16.57</b>	<b>17.59</b>

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<b>PROJECTED PROFITABILITY STATEMENT</b>					
<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b><u>A) SALES</u></b>					
Gross Sale	41.76	48.69	54.57	60.68	67.04
Sale of By-Product(Cake)	6.60	7.99	9.50	11.15	12.94
<b>Total (A)</b>	<b>48.36</b>	<b>56.68</b>	<b>64.07</b>	<b>71.84</b>	<b>79.98</b>
<b><u>B) COST OF SALES</u></b>					
Raw Material Consumed	24.00	27.06	30.24	33.54	36.96
Electricity Expenses	2.28	2.51	2.74	2.97	3.20
Repair & Maintenance	4.18	4.87	5.46	6.07	6.70
Labour & Wages	7.94	8.89	9.78	10.56	11.41
Depreciation	1.25	1.09	0.95	0.83	0.72
<b>Cost of Production</b>	<b>39.65</b>	<b>44.42</b>	<b>49.16</b>	<b>53.96</b>	<b>58.99</b>
<b>Add: Opening Stock /WIP</b>	<b>-</b>	<b>1.22</b>	<b>1.38</b>	<b>1.55</b>	<b>1.72</b>
<b>Less: Closing Stock /WIP</b>	<b>1.22</b>	<b>1.38</b>	<b>1.55</b>	<b>1.72</b>	<b>1.90</b>
<b>Cost of Sales (B)</b>	<b>38.42</b>	<b>44.26</b>	<b>49.00</b>	<b>53.79</b>	<b>58.81</b>
<b>C) GROSS PROFIT (A-B)</b>	<b>9.94</b>	<b>12.42</b>	<b>15.08</b>	<b>18.05</b>	<b>21.17</b>
	<b>20.55%</b>	<b>21.91%</b>	<b>23.53%</b>	<b>25.12%</b>	<b>26.47%</b>
D) Bank Interest (Term Loan )	0.98	0.80	0.58	0.36	0.14
ii) Interest On Working Capital	0.39	0.39	0.39	0.39	0.39
E) Salary to Staff	4.66	5.59	6.60	7.66	8.73
F) Selling & Adm Expenses Exp.	1.67	1.95	2.18	2.43	2.68
<b>TOTAL (D+E)</b>	<b>7.69</b>	<b>8.72</b>	<b>9.75</b>	<b>10.83</b>	<b>11.93</b>
<b>H) NET PROFIT</b>	<b>2.24</b>	<b>3.69</b>	<b>5.33</b>	<b>7.22</b>	<b>9.24</b>
	<b>4.6%</b>	<b>6.5%</b>	<b>8.3%</b>	<b>10.1%</b>	<b>11.5%</b>
I) Taxation	-	0.37	0.53	1.08	1.39
<b>J) PROFIT (After Tax)</b>	<b>2.24</b>	<b>3.32</b>	<b>4.80</b>	<b>6.14</b>	<b>7.85</b>

<b>COMPUTATION OF MAKING OF CASTOR OIL</b>			
<b>Item to be Manufactured</b>	<b>CASTOR OIL</b>		
Manufacturing Capacity per day		400	Kg
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		1,20,000.00	kg
<b>Final Product &amp; By Product</b>			
Castor Oil(40%)		48,000.00	Ltr.
Cake(By Product)		66,000.00	Kg
Year		Capacity Utilisation	CASTOR OIL
I		50%	24,000.00
II		55%	26,400.00
III		60%	28,800.00
IV		65%	31,200.00
V		70%	33,600.00

Raw Material Consumed	Capacity Utilisation	Rate per Kg	Amount (Rs.)
I	50%	40.00	24.00
II	55%	41.00	27.06
III	60%	42.00	30.24
IV	65%	43.00	33.54
V	70%	44.00	36.96

<b>COMPUTATION OF SALE</b>					
<b>CASTOR OIL</b>					
Particulars	I	II	III	IV	V
Op Stock	-	800.00	880.00	960.00	1,040.00
Production	24,000.00	26,400.00	28,800.00	31,200.00	33,600.00
Less : Closing Stock(10 Days)	800.00	880.00	960.00	1,040.00	1,120.00
Net Sale	23,200.00	26,320.00	28,720.00	31,120.00	33,520.00
Sale Price per Ltr	180.00	185.00	190.00	195.00	200.00
<b>Sale (in Lacs)</b>	<b>41.76</b>	<b>48.69</b>	<b>54.57</b>	<b>60.68</b>	<b>67.04</b>

<b>Computation of Sale of by product(Cake)</b>				
Production	Capacity	Unit	Rate	Total
I	50%	33,000.00	20.00	6.60
II	55%	36,300.00	22.00	7.99
III	60%	39,600.00	24.00	9.50
IV	65%	42,900.00	26.00	11.15
V	70%	46,200.00	28.00	12.94

<b>COMPUTATION OF CLOSING STOCK &amp; WORKING CAPITAL</b>					
<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b>Finished Goods</b> (15 Days requirement)	1.22	1.38	1.55	1.72	1.90
<b>Raw Material</b> (10 Days requirement)	0.80	0.90	1.01	1.12	1.23
<b>Closing Stock</b>	<b>2.02</b>	<b>2.29</b>	<b>2.56</b>	<b>2.84</b>	<b>3.14</b>

<b>COMPUTATION OF WORKING CAPITAL REQUIREMENT</b>			
<b>Particulars</b>	<b>Amount</b>	<b>Margin(10%)</b>	<b>Net Amount</b>
Stock in Hand	2.02		
Less:			
Sundry Creditors	1.20		
<b>Paid Stock</b>	<b>0.82</b>	<b>0.08</b>	<b>0.74</b>
Sundry Debtors	3.22	0.32	2.90
<b>Working Capital Requirement</b>			<b>3.64</b>
<b>Margin</b>			0.40
<b>MPBF</b>			<b>3.64</b>
<b>Working Capital Demand</b>			<b>3.50</b>

<b><u>BREAK UP OF LABOUR</u></b>				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		15,000.00	1	15,000.00
Plant Operator		12,000.00	2	24,000.00
Unskilled Worker		10,000.00	1	10,000.00
Helper		8,000.00	1	8,000.00
Security Guard		6,000.00	1	6,000.00
				63,000.00
Add: 5% Fringe Benefit				3,150.00
Total Labour Cost Per Month				66,150.00
Total Labour Cost for the year ( In Rs. Lakhs)			6	7.94

<b><u>BREAK UP OF SALARY</u></b>				
Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		15,000.00	1	15,000.00
Accountant cum store keeper		12,000.00	1	12,000.00
Sales		10,000.00	1	10,000.00
Total Salary Per Month				37,000.00
Add: 5% Fringe Benefit				1,850.00
Total Salary for the month				38,850.00
Total Salary for the year ( In Rs. Lakhs)			3	4.66

<b>COMPUTATION OF DEPRECIATION</b>					
Description	Land	Building	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation		10.00%	15.00%	10.00%	
Opening Balance	Leased	-	-	-	-
Addition	-	4.00	5.00	1.00	10.00
	-	4.00	5.00	1.00	10.00
		-	-	-	
TOTAL		4.00	5.00	1.00	10.00
Less : Depreciation	-	0.40	0.75	0.10	1.25
WDV at end of Ist year	-	3.60	4.25	0.90	8.75
Additions During The Year	-	-	-	-	-
	-	3.60	4.25	0.90	8.75
Less : Depreciation	-	0.36	0.64	0.09	1.09
WDV at end of IIInd Year	-	3.24	3.61	0.81	7.66
Additions During The Year	-	-	-	-	-
	-	3.24	3.61	0.81	7.66
Less : Depreciation	-	0.32	0.54	0.08	0.95
WDV at end of IIIrd year	-	2.92	3.07	0.73	6.72
Additions During The Year	-	-	-	-	-
	-	2.92	3.07	0.73	6.72
Less : Depreciation	-	0.29	0.46	0.07	0.83
WDV at end of IV year	-	2.62	2.61	0.66	5.89
Additions During The Year	-	-	-	-	-
	-	2.62	2.61	0.66	5.89
Less : Depreciation	-	0.26	0.39	0.07	0.72
WDV at end of Vth year	-	2.36	2.22	0.59	5.17

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
<b>I</b>	Opening Balance						
	Ist Quarter		9.00	9.00	0.25	-	9.00
	IInd Quarter	9.00	-	9.00	0.25	-	9.00
	IIIrd Quarter	9.00	-	9.00	0.25	0.50	8.50
	Ivth Quarter	8.50	-	8.50	0.23	0.50	8.00
					0.98	1.00	
<b>II</b>	Opening Balance						
	Ist Quarter	8.00	-	8.00	0.22	0.50	7.50
	IInd Quarter	7.50	-	7.50	0.21	0.50	7.00
	IIIrd Quarter	7.00	-	7.00	0.19	0.50	6.50
	Ivth Quarter	6.50	-	6.50	0.18	0.50	6.00
					0.80	2.00	
<b>III</b>	Opening Balance						
	Ist Quarter	6.00	-	6.00	0.17	0.50	5.50
	IInd Quarter	5.50	-	5.50	0.15	0.50	5.00
	IIIrd Quarter	5.00	-	5.00	0.14	0.50	4.50
	Ivth Quarter	4.50	-	4.50	0.12	0.50	4.00
					0.58	2.00	
<b>IV</b>	Opening Balance						
	Ist Quarter	4.00	-	4.00	0.11	0.50	3.50
	IInd Quarter	3.50	-	3.50	0.10	0.50	3.00
	IIIrd Quarter	3.00	-	3.00	0.08	0.50	2.50
	Ivth Quarter	2.50	-	2.50	0.07	0.50	2.00
					0.36	2.00	
<b>V</b>	Opening Balance						
	Ist Quarter	2.00	-	2.00	0.06	0.50	1.50
	IInd Quarter	1.50	-	1.50	0.04	0.50	1.00
	IIIrd Quarter	1.00	-	1.00	0.03	0.50	0.50
	Ivth Quarter	0.50	-	0.50	0.01	0.50	-
					0.14	2.00	

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



<u>CALCULATION OF D.S.C.R</u>					
PARTICULARS	I	II	III	IV	V
<u>CASH ACCRUALS</u>	3.49	4.41	5.74	6.96	8.57
Interest on Term Loan	0.98	0.80	0.58	0.36	0.14
Total	4.47	5.21	6.32	7.32	8.71
<u>REPAYMENT</u>					
Repayment of Term Loan	1.00	2.00	2.00	2.00	2.00
Interest on Term Loan	0.98	0.80	0.58	0.36	0.14
Total	1.98	2.80	2.58	2.36	2.14
<b>DEBT SERVICE COVERAGE RATIO</b>	<b>2.26</b>	<b>1.86</b>	<b>2.45</b>	<b>3.10</b>	<b>4.07</b>
<b>AVERAGE D.S.C.R.</b>			<b>2.70</b>		

<b><u>COMPUTATION OF ELECTRICITY</u></b>				
<b><u>(A) POWER CONNECTION</u></b>				
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	
<b>Electricity Charges</b>				4,02,840.00
Add : Minimim Charges (@ 10%)				
<b><u>(B) DG set</u></b>				
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			<b>0.54</b>	
Total cost of Power & Fuel at 100%				4.57
	<b>Year</b>	<b>Capacity</b>		<b>Amount (in Lacs)</b>
	I	50%		2.28
	II	55%		2.51
	III	60%		2.74
	IV	65%		2.97
	V	70%		3.20

## **DISCLAIMER**

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