PROJECT REPORT

Of

PLASTIC SPOONS

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Plastic Spoons**.

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 Entreprenuer		xxxxxxxxxx	
2	Constitution (legal Status)	:	xxxxxxxxxx	
3	Father / Spouse Name		xxxxxxxxxxxx	
4	Unit Address	:	xxxxxxxxxxxxxxxxxxxxxx	
			District : xxxxxxx	
			Pin: xxxxxxx	State: xxxxxxxxxx
			Mobile xxxxxxx	
5	Product and By Product	:	**PLASTIC SPOONS**	
6	Name of the project / business activity proposed :		**PLASTIC SPOONS MAKING 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	:	2.77	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	33%	
13	Employment	:	8	Persons
14	Power Requirement	:	30.00	HP
15	Major Raw materials	:	Polypropylene Pellets, Plasticizers, Packing material	
16	Estimated Annual Sales Turnover (Max Capacity)	:	96.54	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Plant & Machinery	14.40
Furniture & Fixtures	1.60
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**

PLASTIC SPOONS

Introduction: The plastic spoons are used in food and beverages industry. Plastic spoons are the part of dining cutlery in various occasions. Most of the packaged food industry concentrates on these cutleries to attract customer. Small spoons are often used for desserts, or to stir sugar into coffee or tea. There might be an expectation that food tasted from a small spoon would normally be sweeter than food tasted from a larger tablespoon. Recent advancement in plastic industry could lead the use of biodegradable plastic use in manufacturing of food grade cutlery. Although it slightly enhance the overall product cost; could help to save the environment from dangerous aspects of the single use of these products. The products are manufactured using polypropylene, polystyrene, bio-degradable plastic resins. In this report the manufacturing of plastic spoons are explained using injection moulding process with polypropylene pellets. The project cost may vary due to change in raw material and processes.

Uses & Market Potential: The global market for plastic spoons is segmented into applications and product type. Commercial and household are the main segments of the applications in the plastic spoon market. They are currently used across a number of different industries such as pharmaceuticals, food and beverages, cosmetic products, household goods,

etc. The global spoon market is driven by the increasing demand for convenience packaging in the food industry. Spoons are used in packaging that involves the inclusion of a spoon in the packaging of food products. The concept of spoon in lid packaging has gained popularity across the globe owing to the increasing out-of-home consumption of food products.
Spoons are used in packaging that involves the inclusion of a spoon in the packaging of food products. The idea of using spoon in cover packaging has gained attractiveness across the globe owing to the increasing out-of-home consumption of food products. Frozen food market, Fast Food Restaurants are extensively using plastic spoons for better customer experiences.

Raw material: Major raw materials are as follows:

1. Polypropylene Pellets
2. Plasticizers
3. Packing material

Machinery requirement: Major machinery and equipments are as follows:

Description	**Quantity**	**Rate**	**Value**
Injection Molding machine	1	1250000	1250000
Grinder	1	65000	65000
Water Chiller	1	25000	25000
Other equipments & hand tools	Ls		100000
Total Amount			**1440000**

Manufacturing Process: Plastics spoons are manufactured using injection moulding machine. The raw material for this is food grade polypropylene pellets that are procured from the local authorized vendor and stored in the inventory. The pellets are dried before starting the manufacturing process to avoid the formation of blow holes. For this pellets are heated to a temperature of 110°C and dried off.
In the next step, the profile dies of desired dimension of caps or spoons in individual machines or shift wise into the machine. The barrel heaters are

started and brought up to the desired temperature range of the melting point of PP pellets. After this, the PP pellets are poured into the hopper of the machine manually. Plasticizers are added to enhance the plastic flow properties. The machine used in injection moulding machine with horizontal axis screw.

The PP pellets are fed into the feed section of the screw where the pellets gets heated and melted down. Thermocouples are mounted on the on the barrel for the precise measuring of temperature. The PP pellets are injected into the dies at suitable back pressure. This back pressure is adjusted with PLC controlled hydraulic valves. This back pressure is maintained till the PP molten plastic is filled inside in the cavity of the die.

When the mould is filled the die is cooled using water flow inside the cavity of the die to extract the heat of the mould. This heated water is cooled down using water chillers and the water is circulated for the cooling cycle. The plastic product gets solidified. The cooling cycle is maintained by using PLC programmed control units.

In the next step, the ejector pins separate the solidified parts outside the machine. The non-uniform pieces are crushed within the grinder and reuse as pellets into the machine. The solidified caps and spoons are collected into the bins. This solidified spoons and caps are packed in required quantity and dispatched.

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 1500 to 2000Sqft.

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

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

PROJECTED BALANCE SHEET					
PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	3.17	5.35	8.17	11.35
Add: Additions	2.04	-	-	-	-
Add: Net Profit	4.13	5.68	7.82	10.18	11.46
Less: Drawings	3.00	3.50	5.00	7.00	8.00
Closing Balance	3.17	5.35	8.17	11.35	14.81
CC Limit	4.00	4.00	4.00	4.00	4.00
Term Loan	12.80	9.60	6.40	3.20	-
Sundry Creditors	0.79	0.91	0.98	1.06	1.13
TOTAL :	**20.76**	**19.86**	**19.55**	**19.61**	**19.94**
APPLICATION OF FUND					
Fixed Assets (Gross)	16.00	16.00	16.00	16.00	16.00
Gross Dep.	2.32	4.30	5.99	7.43	8.67
Net Fixed Assets	13.68	11.70	10.01	8.57	7.33
Current Assets					
Sundry Debtors	2.79	3.32	3.79	4.29	4.83
Stock in Hand	3.33	3.83	4.26	4.71	5.17
Cash and Bank	0.96	1.01	1.49	2.04	2.61
TOTAL :	**20.76**	**19.86**	**19.55**	**19.61**	**19.94**

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PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	55.83	66.42	75.86	85.90	96.54
Total (A)	**55.83**	**66.42**	**75.86**	**85.90**	**96.54**
B) COST OF SALES					
Raw Material Consumed	33.94	38.87	42.11	45.35	48.59
Elecricity Expenses	2.51	2.74	2.97	3.20	3.42
Repair & Maintenance	0.56	0.66	1.52	1.72	2.90
Labour & Wages	6.55	7.86	9.43	11.32	13.59
Depreciation	2.32	1.98	1.69	1.44	1.23
Cost of Production	45.88	52.12	57.72	63.03	69.73
Add: Opening Stock /WIP	-	1.64	1.89	2.15	2.44
Less: Closing Stock /WIP	1.64	1.89	2.15	2.44	2.74
Cost of Sales (B)	44.24	51.87	57.45	62.74	69.43
C) GROSS PROFIT (A-B)	11.58	14.55	18.40	23.15	27.11
	20.75%	**21.91%**	**24.26%**	**26.95%**	**28.08%**
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	4.16	4.99	5.99	7.19
F) Selling & Adm Expenses Exp.	1.67	1.99	2.28	2.58	2.90
TOTAL (D+E)	**7.46**	**7.87**	**8.63**	**9.58**	**10.74**
H) NET PROFIT	4.13	6.68	9.77	13.57	16.37
	7.4%	**10.1%**	**12.9%**	**15.8%**	**17.0%**
I) Taxation	-	1.00	1.95	3.39	4.91
J) PROFIT (After Tax)	4.13	5.68	7.82	10.18	11.46

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	2.04	-			
Reserve & Surplus	4.13	6.68	9.77	13.57	16.37
Depriciation & Exp. W/off	2.32	1.98	1.69	1.44	1.23
Increase In Cash Credit	4.00				
Increase In Term Loan	14.40	-	-	-	-
Increase in Creditors	0.79	0.12	0.08	0.08	0.08
TOTAL :	**27.68**	**8.78**	**11.54**	**15.09**	**17.68**
APPLICATION OF FUND					
Increase in Fixed Assets	16.00	-	-	-	-
Increase in Stock	3.33	0.50	0.43	0.45	0.46
Increase in Debtors	2.79	0.53	0.47	0.50	0.53
Repayment of Term Loan	1.60	3.20	3.20	3.20	3.20
Taxation	-	1.00	1.95	3.39	4.91
Drawings	3.00	3.50	5.00	7.00	8.00
TOTAL :	**26.72**	**8.73**	**11.06**	**14.54**	**17.11**
Opening Cash & Bank Balance	-	0.96	1.01	1.49	2.04
Add : Surplus	0.96	0.05	0.48	0.55	0.57
Closing Cash & Bank Balance	**0.96**	**1.01**	**1.49**	**2.04**	**2.61**

COMPUTATION OF MAKING OF PLASTIC SPOONS			
Item to be Manufactured Plastic Spoons			
Manufacturing Capacity per day		1,000	Packets
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		3,00,000	Pcs
Total Production per Annum		3,00,000	Packet of 100 each
Year		Capacity Utilisation	PLASTIC SPOONS
I		55%	1,65,000.00
II		60%	1,80,000.00
III		65%	1,95,000.00
IV		70%	2,10,000.00
V		75%	2,25,000.00

COMPUTATION OF RAW MATERIAL					
Item Name		Quantity of Raw Material	Unit	Unit Rate	Total CostPer Annum (100%)
Polypropylene Pellets		1,42,000.00	kg	35.00	49,70,000.00
Plasticizers		7,500.00	Kg	120.00	9,00,000.00
Packing material					3,00,000.00
					-
Total					**61,70,000.00**
Total Raw material in Rs lacs					61.70

Raw Material Consumed	Capacity Utilisation		Amount (Rs.)		
I	55%		33.94		
II	60%		38.87	5% Increase in Cost	
III	65%		42.11	5% Increase in Cost	
IV	70%		45.35	5% Increase in Cost	
V	75%		48.59	5% Increase in Cost	

COMPUTATION OF SALE					
Particulars	**I**	**II**	**III**	**IV**	**V**
Op Stock	-	5,500.00	6,000.00	6,500.00	7,000.00
Production	1,65,000.00	1,80,000.00	1,95,000.00	2,10,000.00	2,25,000.00
	1,65,000.00	1,85,500.00	2,01,000.00	2,16,500.00	2,32,000.00
Less : Closing Stock(10 Days)	5,500.00	6,000.00	6,500.00	7,000.00	7,500.00
Net Sale	1,59,500.00	1,79,500.00	1,94,500.00	2,09,500.00	2,24,500.00
Sale Price per Packet	35.00	37.00	39.00	41.00	43.00
Sale (in Lacs)	**55.83**	**66.42**	**75.86**	**85.90**	**96.54**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	1.64	1.89	2.15	2.44	2.74
Raw Material					
(15 Days requirement)	1.70	1.94	2.11	2.27	2.43
Closing Stock	**3.33**	**3.83**	**4.26**	**4.71**	**5.17**

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	**Amount**	**Margin(10%)**	**Net Amount**
Stock in Hand	3.33		
Less:			
Sundry Creditors	0.79		
Paid Stock	**2.54**	**0.25**	**2.29**
Sundry Debtors	2.79	0.28	2.51
Working Capital Requirement			**4.80**
Margin			0.53
MPBF			**4.80**
Working Capital Demand			**4.00**

BREAK UP OF LABOUR				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		16,000.00	1	16,000.00
Plant Operator		12,000.00	1	12,000.00
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
				52,000.00
Add: 5% Fringe Benefit				2,600.00
Total Labour Cost Per Month				54,600.00
Total Labour Cost for the year (In Rs. Lakhs)			5	6.55

BREAK UP OF SALARY				
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	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation		**15.00%**	**10.00%**	
Opening Balance	Leased	-	-	-
Addition	-	14.40	1.60	16.00
	-	14.40	1.60	16.00
		-	-	
TOTAL		14.40	1.60	16.00
Less : Depreciation	-	2.16	0.16	2.32
WDV at end of Ist year	-	12.24	1.44	13.68
Additions During The Year	-	-	-	-
	-	12.24	1.44	13.68
Less : Depreciation	-	1.84	0.14	1.98
WDV at end of IInd Year	-	10.40	1.30	11.70
Additions During The Year	-	-	-	-
	-	10.40	1.30	11.70
Less : Depreciation	-	1.56	0.13	1.69
WDV at end of IIIrd year	-	8.84	1.17	10.01
Additions During The Year	-	-	-	-
	-	8.84	1.17	10.01
Less : Depreciation	-	1.33	0.12	1.44
WDV at end of IV year	-	7.52	1.05	8.57
Additions During The Year	-	-	-	-
	-	7.52	1.05	8.57
Less : Depreciation	-	1.13	0.10	1.23
WDV at end of Vth year	-	6.39	0.94	7.33

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Cl 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**
CASH ACCRUALS	6.45	7.66	9.51	11.62	12.69
Interest on Term Loan	1.56	1.28	0.92	0.57	0.22
Total	8.01	8.94	10.43	12.20	12.91
REPAYMENT					
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	**2.53**	**2.00**	**2.53**	**3.23**	**3.77**
AVERAGE D.S.C.R.			**2.77**		

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		55%		2.51
II		60%		2.74
III		65%		2.97
IV		70%		3.20
V		75%		3.42

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