PROJECT REPORT

Of

BIODEGRADABLE STARCH BAGS

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Biodegradable Starch bags**.

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	:	xxxxxxxxxxxxxxxxxxxxxxx	
			District : xxxxxxx	
			Pin: xxxxxxx	State: xxxxxxxxxx
			Mobile xxxxxxx	
5	Product and By Product	:	**Biodegradable Bags**	
6	Name of the project / business activity proposed :		**Biodegradable Bags Manufacturing Unit**	
7	Cost of Project	:	Rs.43.72 Lakhs	
8	Means of Finance			
	Term Loan		Rs.30.6 Lakhs	
	Own Capital		Rs.4.37 Lakhs	
	Working Capital		Rs.8.75 Lakhs	
9	Debt Service Coverage Ratio	:	1.91	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	32%	
13	Employment	:	6	Persons
14	Power Requirement	:	20	HP
15	Major Raw materials	:	Corn , Starch etc.	
16	Estimated Annual Sales Turnover (Max Utilized Capacity)	:	252.10	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

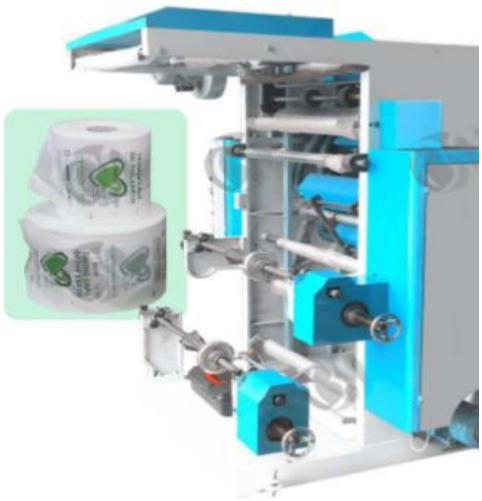
(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Building /Shed 2000 Sq ft	Own/Rented
Plant & Machinery	33.00
Furniture & Fixtures	1.00
Working Capital	9.72
Total	**43.72**

MEANS OF FINANCE

Particulars	Amount
Own Contribution	4.37
Term Loan	30.60
Working Capital	8.75
Total	**43.72**

BIODEGRADABLE STARCH BAG



Introduction

Biodegradable bags are bags that are capable of being decomposed by bacteria or other living organisms.

In typical parlance, the word biodegradable is distinct in meaning from compostable. While biodegradable simply means an object is capable of being decomposed by bacteria or other living organisms, "compostable" in the plastic industry is defined as able to decompose in aerobic environments that are maintained under specific controlled temperature and humidity conditions. Compostable means capable of undergoing biological decomposition in a compost site such that the material is not visually distinguishable and breaks down into carbon dioxide, water, inorganic compounds and biomass at a rate consistent with known compostable materials.

In-plant scrap can often be recycled but post-consumer sorting and recycling is difficult. Bio-based polymers will contaminate the recycling of other more common polymers. While oxo-biodegradable plastic manufacturers claim that their bags are recyclable, many plastic film recyclers will not accept them, as there have been no long-term studies on the viability of recycled-content products with these additives. Further, the Biodegradable Plastics Institute (BPI) says that the formulation of additives in oxo films varies greatly, which introduces even more variability in the recycling process.

Functions & Advantages of Biodegradable Starch Bag

The diversity and ubiquity of plastic products substantially testify to the versatility of the special class of engineering materials known as polymers. However, the non-biodegradability of these petrochemical-based materials has been a source of environmental concerns and hence, the driving force in the search for 'green' alternatives for which starch remains the front liner. Starch is a natural biopolymer consisting predominantly of two polymer types of glucose namely amylose and amylopectin. The advantages of starch for plastic production include its renewability, good oxygen barrier in the dry state, abundance, low cost and biodegradability. The longstanding quest of developing starch-based biodegradable plastics has witnessed the use of different starches in many forms such as native granular starch, modified starch, plasticized starch and in blends with many synthetic polymers, both biodegradable and non-biodegradable, for the purpose of achieving cost effectiveness and biodegradation respectively. In this regard, starch has been used as fillers in starch-filled polymer blends, thermoplastic starch (TPS) (produced from the combination of starch, plasticizer and thermomechanical energy), in the production of foamed starch and biodegradable synthetic polymer like polylactic acid (PLA) with varying results. However, most starch-based composites exhibit poor material properties such as tensile strength, yield strength, stiffness and elongation at break, and also poor moisture stability. This therefore warranted scientific inquiries towards improving the properties of these promising starch-based biocomposites through starch modification, use of compatibilizers and reinforcements (both organic and inorganic), processing conditions, all in the hope of realizing renewable biodegradable substitutes for the conventional plastics.

Biodegradable starch Bag Market Analysis

With a population of 1.252 billion, Indian economy is one of the fastest growing economies of the world and a founding member of SAARC and G4 nations. Some of the largest cities in India are Mumbai, Delhi, Bangalore, Hyderabad, Chennai, Jaipur, Ahmedabad, and Kolkata. The country have low per capita income of USD 1165 and USD 5238 in PPP terms. Biodegradable Plastic Market is expected to grow at a CAGR of 7% by 2020.

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	5.48	9.29	14.33	19.52
Add: Additions	4.37	-	-	-	-
Add: Net Profit	2.60	6.31	10.04	13.19	16.15
Less: Drawings	1.50	2.50	5.00	8.00	10.00
Closing Balance	5.48	9.29	14.33	19.52	25.67
CC Limit	8.75	8.75	8.75	8.75	8.75
Term Loan	27.20	20.40	13.60	6.80	-
Sundry Creditors	1.99	2.29	2.63	2.99	3.38
TOTAL :	**43.41**	**40.73**	**39.31**	**38.05**	**37.80**
APPLICATION OF FUND					
Fixed Assets (Gross)	34.00	34.00	34.00	34.00	34.00
Gross Dep.	5.05	9.35	13.00	16.12	18.77
Net Fixed Assets	28.95	24.65	21.00	17.88	15.23
Current Assets					
Sundry Debtors	3.35	3.99	4.57	5.20	5.88
Stock in Hand	8.36	9.44	10.76	12.19	13.75
Cash and Bank	2.75	2.65	2.98	2.78	2.93
TOTAL :	**43.41**	**40.73**	**39.31**	**38.05**	**37.80**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	143.55	171.00	195.92	222.91	252.10
Total (A)	**143.55**	**171.00**	**195.92**	**222.91**	**252.10**
B) COST OF SALES					
Raw Mateiral Consumed	119.12	137.56	157.57	179.24	202.67
Electricity Expenses	1.79	1.97	2.15	2.33	2.51
Repair & Maintenance	0.72	0.85	0.98	1.11	1.26
Labour & Wages	4.88	5.37	5.91	6.50	7.15
Depreciation	5.05	4.30	3.66	3.11	2.65
Cost of Production	131.56	150.06	170.27	192.30	216.24
Add: Opening Stock /WIP	-	4.39	4.85	5.51	6.22
Less: Closing Stock /WIP	4.39	4.85	5.51	6.22	6.99
Cost of Sales (B)	127.18	149.59	169.62	191.59	215.47
C) GROSS PROFIT (A-B)	16.37	21.41	26.31	31.32	36.64
	11.41%	**12.52%**	**13.43%**	**14.05%**	**14.53%**
D) Bank Interest (Term Loan)	3.32	2.71	1.96	1.22	0.47
ii) Interest On Working Capital	0.96	0.96	0.96	0.96	0.96
E) Salary to Staff	2.31	2.54	2.80	3.07	3.38
F) Selling & Adm Expenses Exp.	7.18	8.55	9.80	11.15	12.61
TOTAL (D+E)	**13.77**	**14.76**	**15.52**	**16.40**	**17.42**
H) NET PROFIT	2.60	6.65	10.79	14.92	19.22
	1.8%	**3.9%**	**5.5%**	**6.7%**	**7.6%**
I) Taxation	-	0.33	0.75	1.74	3.07
J) PROFIT (After Tax)	2.60	6.31	10.04	13.19	16.15

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	4.37	-			
Net Profit	2.60	6.65	10.79	14.92	19.22
Depreciation & Exp. W/off	5.05	4.30	3.66	3.11	2.65
Increase In Cash Credit	8.75				
Increase In Term Loan	30.60	-	-	-	-
Increase in Creditors	1.99	0.31	0.33	0.36	0.39
TOTAL :	**53.36**	**11.25**	**14.78**	**18.40**	**22.26**
APPLICATION OF FUND					
Increase in Fixed Assets	34.00	-	-	-	-
Increase in Stock	8.36	1.08	1.32	1.43	1.55
Increase in Debtors	3.35	0.64	0.58	0.63	0.68
Repayment of Term Loan	3.40	6.80	6.80	6.80	6.80
Taxation	-	0.33	0.75	1.74	3.07
Drawings	1.50	2.50	5.00	8.00	10.00
TOTAL :	**50.61**	**11.36**	**14.45**	**18.60**	**22.10**
Opening Cash & Bank Balance	-	2.75	2.65	2.98	2.78
Add : Surplus	2.75	- 0.11	0.33	- 0.20	0.16
Closing Cash & Bank Balance	**2.75**	**2.65**	**2.98**	**2.78**	**2.93**

COMPUTATION OF BIODEGRADABLE BAGS MANUFACTURING UNIT

Items to be Manufactured Biodegradable Bags

Manufacturing Capacity per Day		300.00	kg
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		90,000	kg
Year		Capacity	Biodegradable Bags
		Utilisation	
I		50%	45,000
II		55%	49,500
III		60%	54,000
IV		65%	58,500
V		70%	63,000

COMPUTATION OF RAW MATERIAL

Item Name		**Quantity of Raw Material**	**Unit**	**Unit Rate of**	**Total CostPer Annum (100%)**
Starch		105,882.00	kg	225.00	23,823,450.00
Total		**105,882.00**			**23,823,450.00**

Total Raw material in Rs lacs	at 100% Capacity		238.23
Cost per kg		(In Rs)	**264.71**

Raw Material Consumed	**Capacity Utilisation**	**Rate**	**Amount (Rs.)**
I	50%	264.71	119.12
II	55%	277.90	137.56
III	60%	291.80	157.57
IV	65%	306.40	179.24
V	70%	321.70	202.67

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	4.39	4.85	5.51	6.22	6.99
Raw Material					
(10 Days requirement)	3.97	4.59	5.25	5.97	6.76
Closing Stock	**8.36**	**9.44**	**10.76**	**12.19**	**13.75**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	8.36		
Less:			
Sundry Creditors	1.99		
Paid Stock	**6.37**	**0.64**	**5.73**
Sundry Debtors	3.35	0.33	3.01
Working Capital Requirement			**8.75**
Margin			0.97
MPBF			**8.75**
Working Capital Demand			**8.75**

BREAK UP OF LABOUR

Particulars		Wages Per Month	No of Employees	Total Salary
Plant Operator		15,000.00	1	15,000.00
Unskilled Worker		8,500.00	2	17,000.00
Helper		5,000.00	1	5,000.00
				37,000.00
Add: 10% Fringe Benefit				3,700.00
Total Labour Cost Per Month				40,700.00
Total Labour Cost for the year (In Rs. Lakhs)			4	4.88

BREAK UP OF SALARY

Particulars		Salary Per Month	No of Employees	Total Salary
Accountant cum store keeper		10,000.00	1	10,000.00
Administrative Staffs		7,500.00	1	7,500.00
Total Salary Per Month				17,500.00
Add: 10% Fringe Benefit				1,750.00
Total Salary for the month				19,250.00
Total Salary for the year (In Rs. Lakhs)			2	2.31

COMPUTATION OF DEPRECIATION

Description	Land	Building/shed	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation			**15.00%**	**10.00%**	
Opening Balance	Own/Rented		-	-	-
Addition	-		33.00	1.00	34.00
	-		33.00	1.00	34.00
TOTAL		-	33.00	1.00	34.00
Less : Depreciation	-	-	4.95	0.10	5.05
WDV at end of Ist year	-	-	28.05	0.90	28.95
Additions During The Year	-	-	-	-	-
	-	-	28.05	0.90	28.95
Less : Depreciation	-	-	4.21	0.09	4.30
WDV at end of IInd Year	-	-	23.84	0.81	24.65
Additions During The Year	-	-	-	-	-
	-	-	23.84	0.81	24.65
Less : Depreciation	-	-	3.58	0.08	3.66
WDV at end of IIIrd year	-	-	20.27	0.73	21.00
Additions During The Year	-	-	-	-	-
	-	-	20.27	0.73	21.00
Less : Depreciation	-	-	3.04	0.07	3.11
WDV at end of IV year	-	-	17.23	0.66	17.88
Additions During The Year	-	-	-	-	-
	-	-	17.23	0.66	17.88
Less : Depreciation	-	-	2.58	0.07	2.65
WDV at end of Vth year	-	-	14.64	0.59	15.23

REPAYMENT SCHEDULE OF TERM LOAN 11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
I	Opening Balance						
	Ist Quarter	-	30.60	30.60	0.84	-	30.60
	Iind Quarter	30.60	-	30.60	0.84	-	30.60
	IIIrd Quarter	30.60	-	30.60	0.84	1.70	28.90
	Ivth Quarter	28.90	-	28.90	0.79	1.70	27.20
					3.32	3.40	
II	Opening Balance						
	Ist Quarter	27.20	-	27.20	0.75	1.70	25.50
	Iind Quarter	25.50	-	25.50	0.70	1.70	23.80
	IIIrd Quarter	23.80	-	23.80	0.65	1.70	22.10
	Ivth Quarter	22.10		22.10	0.61	1.70	20.40
					2.71	6.80	
III	Opening Balance						
	Ist Quarter	20.40	-	20.40	0.56	1.70	18.70
	Iind Quarter	18.70	-	18.70	0.51	1.70	17.00
	IIIrd Quarter	17.00	-	17.00	0.47	1.70	15.30
	Ivth Quarter	15.30		15.30	0.42	1.70	13.60
					1.96	6.80	
IV	Opening Balance						
	Ist Quarter	13.60	-	13.60	0.37	1.70	11.90
	Iind Quarter	11.90	-	11.90	0.33	1.70	10.20
	IIIrd Quarter	10.20	-	10.20	0.28	1.70	8.50
	Ivth Quarter	8.50		8.50	0.23	1.70	6.80
					1.22	6.80	
V	Opening Balance						
	Ist Quarter	6.80	-	6.80	0.19	1.70	5.10
	Iind Quarter	5.10	-	5.10	0.14	1.70	3.40
	IIIrd Quarter	3.40	-	3.40	0.09	1.70	1.70
	Ivth Quarter	1.70		1.70	0.05	1.70	0.00
					0.47	6.80	

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	7.65	10.61	13.70	16.30	18.80
Interest on Term Loan	3.32	2.71	1.96	1.22	0.47
Total	10.97	13.32	15.66	17.51	19.27
REPAYMENT					
Repayment of Term Loan	3.40	6.80	6.80	6.80	6.80
Interest on Term Loan	3.32	2.71	1.96	1.22	0.47
Total	6.72	9.51	8.76	8.02	7.27
DEBT SERVICE COVERAGE RATIO	**1.63**	**1.40**	**1.79**	**2.19**	**2.65**
AVERAGE D.S.C.R.			**1.91**		

COMPUTATION OF SALE

Particulars	I	II	III	IV	V
Op Stock	-	1,500.00	1,650.00	1,800.00	1,950.00
Production	45,000.00	49,500.00	54,000.00	58,500.00	63,000.00
	45,000.00	51,000.00	55,650.00	60,300.00	64,950.00
Less : Closing Stock(10 Days)	1,500.00	1,650.00	1,800.00	1,950.00	2,100.00
Net Sale	43,500.00	49,350.00	53,850.00	58,350.00	62,850.00
Avg Sale Price per kg	330.00	346.50	363.83	382.02	401.12
Sale (in Lacs)	**143.55**	**171.00**	**195.92**	**222.91**	**252.10**

COMPUTATION OF ELECTRICITY

(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	20	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				2.69
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%				3.58
Year		**Capacity**		**Amount**
				(in Lacs)
I		50%		1.79
II		55%		1.97
III		60%		2.15
IV		65%		2.33
V		70%		2.51

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