

PROJECT REPORT

Of

COMPOSTABLE BAG

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Compostable bag making unit**.

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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COMPOSTABLE STARCH BAG

Introduction



Compostable Liners and Bags are the essential waste diversion product for home, business, or zero-waste event and are made with renewable resources.

In typical parlance, the word compostable is distinct in meaning from biodegradable. 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.

Advantages of Compostable Starch Bag

Unlike standard plastic bags, and even some biodegradable plastic bags, compostable bags are made of vegetable matter, such as sugar starch. When exposed to enough moisture, the bags will compost, right along with whatever was placed inside them.

Standard biodegradable bags may just break down into smaller and smaller pieces of plastic. While this is better for the environment than a regular plastic bag, and biodegradable bags will never wind up in the ocean in a large piece, they can still contaminate the environment with plastic chemicals.

Benefits:

- Easily accessible
- Certified to be compostable
- Thick bag unlikely to split when carried short distances
- Fits into standard sized trash cans
- Breaks down well with moisture
- Made from renewable plant resources

Compostable 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. Compostable Plastic Market is expected to grow at a CAGR of 7% by 2020.

However, technological advancement and increasing demand from different sectors such as automobiles, packaging, healthcare, retail and agriculture, will lead to robust demand in Indian Compostable Starch Bags industry by 2020. Various regulation laid down by government and growing concern for environment will lead to increasing demand for biodegradable plastic in coming years.

Description of Machinery & Equipment

Following machinery are required for Compostable Starch Bag manufacturing process:

- Extrusion Machine: It is the main machinery which converts small granules into long sheets.
- Cutting Machine: This cuts the sheets into different sizes.
- Printing Machine: The printing machine prints logos, brands or trademarks as required.
- Packaging Machine: The printed bags are finally packed into carry bags of different sizes by this machine.

Manufacturing Process

1. Raw material i.e. starch granules are put into extrusion plant.
2. Long sheets produced after processing is taken through winding process.
3. Then printing done with the help of printer.
4. After that, as per the size required, the sheets are sealed, cut and punched.
5. The final product is out.
6. Packaging & transportation of goods.

Machinery & Equipment's required:

Name	Cost
Extrusion machinery	4,00,000
Cutting & sealing Machine	3,00,000
4 Colour Film Printing Machine	2,00,000
Other equipment	3,00,000
Total	12,00,000
GST @ 18%	2,16,000
Total	14,16,000

❖ Cost of the machine is other than transportation cost.

Land & Building required:

Land required 1,000 square feet

Approximate rent for the same is Rs. 25,000 per month.

Raw Material Requirement

Starch is required as the major raw material for the Compostable Starch Bag unit. Other requirements are ink for printing, additives etc.

Average raw material (cost per KG): Rs. 262

Labour Requirement:

8 Manpower are required for the Compostable Starch Bag unit.

Includes:

2 Skilled Labour

3 Unskilled Labour

1 Supervisor

1 Helper

1 Accountant

Compostable Starch Bag license & registration

For Company:

- Obtain the GST registration.
- Additionally, obtain the Udyog Aadhar registration Number.
- Registration from Central Pollution Control Board.
- Choice of a Brand Name of the product and secure the name with Trademark if required.

Compostable Starch Bag size

S. No.	Item Description	Dimensions	Bags Per Case	Case Pack
1	3 Gallon Bag	16" x 17" 0.65mil	500	25/roll x 20 rolls
2	5 Gallon Bag	19.5" x 23" 0.7mil	300	25/roll x 12 rolls
3	13 Gallon Bag	23.5" x 29" 0.8mil	250	25/roll x 10 rolls
4	23 Gallon Bag	28" x 44" 0.9mil	200	25/roll x 8 rolls
5	30 Gallon Bag	30" x 39" 0.8mil	200	25/roll x 8 rolls
6	33 Gallon Bag Slim Liner	33" x 40" 0.8mil	200	25/roll x 8 rolls
7	33 Gallon Bag	33" x 40" 1.0mil	200	25/roll x 8 rolls
8	35 Gallon Bag	34" x 48" 0.9mil	100	20/roll x 5 rolls
9	39 Gallon Bag	35" x 44" 1.0mil	100	20/roll x 5 rolls
10	45 Gallon Bag	38" x 48" 1.0mil	100	20/roll x 5 rolls
11	55 Gallon Bag Slim Liner	42" x 48" 0.8mil	100	10/roll x 10 rolls
12	55 Gallon Bag	42" x 48" 1.0mil	100	20/roll x 5 rolls
13	58 Gallon Bag	38" x 58" 0.9mil	100	20/roll x 5 rolls
14	64 Gallon Bag Slim Liner	47" x 60" 0.9mil	60	10/roll x 6 rolls
15	96 Gallon Bag	54" x 59" 0.9mil	60	10/roll x 6 rolls

Implementation Schedule

S.N.	Activity	Time Required (in Months)
1	Acquisition Of premises	1
2	Procurement & installation of Plant & Machinery	1
3	Pollution certificate registration	3-4 months
4	Arrangement of Finance	1
5	Requirement of required Manpower	1
	Total time Required (some activities shall run concurrently)	5-6 Months

Conclusion:

After completion of manufacturing process, product is ready to sell in the market. Compostable Starch Bags are used for daily routine activities. This machine can be installed & one can earn a good Margin of profit by doing this business.

PROJECT AT A GLANCE

- 1 Name of the Entrepreneur Constitution (legal Status) **xx**
- 2 :
- 3 Father's/Spouce's Name **xx**
- 4 Unit Address
- Taluk/Block **xx**
- District **xx**
- Pin
- E-Mail **xx**
- Mobile **xx**
- 5 Product and By Product Compostable Bags
- Name of the project / business
- 6 activity proposed :
- 7 Cost of Project (in Lacs) **Rs.** 25.00
- capital expenditure **Rs.** 15.00
- 8 **Means of Finance**
- Term Loan (in Lacs) **Rs.** 12.50
- Own Capital (in Lacs) **Rs.** 2.50 -
- Working Capital Limit **Rs.** 10.00
- 9 Debt Service Coverage Ratio 2.45
- 10 Pay Back Period 5 years
- 11 Project Implementation Period 6 months
- 12 Employment
- 13 Power Requirement 40 kW connection
- 14 Major Raw materials Starch granules
- Estimated Annual Sales Turnover 145.20 Lacs (at 55% capacity)
- 15 Detailed Cost of Project & Means
- 16 of Finance

COST OF PROJECT

(Rs. In Lacs)

Particulars	Amount
Land	
Building & Civil Work	-
Plant & Machinery	14.16
Furniture & Fixtures	0.84

MEANS OF FINANCE

Pre-operative Expenses	
Contingencies	
Working Capital Requirement	10.00
Total	25.00

Particulars	Amount
Own Contribution	2.50
Bank Finance	12.50
working capital from bank	10.00
Total	25.00

COMPUTATION OF PRODUCTION OF Compostable Bags**Items to be Manufactured**

Compostable Bags

machine capacity per day 300 kg

machine capacity per annum 90,000 kg

Production of Compostable Bags

Production	Capacity	kg
1st year	55%	49,500
2nd year	60%	54,000
3rd year	65%	58,500
4th year	70%	63,000
5th year	75%	67,500

Details of raw materials

Items	Percentage	Rate	Amount
	Mixture	(per kg)	
Starch Granules	97%	250.00	242.50
Ink for printing	2%	220.00	4.40
Extra Components	1%	1,520.00	15.20
Total			262.10

Raw Material Cost			
Year	Capacity Utilisation	Rate (per kg)	Amount (Rs. in lacs)
1st year	55%	262.10	129.74
2nd year	60%	269.96	145.78
3rd year	65%	278.06	162.67
4th year	70%	286.40	180.43
5th year	75%	295.00	199.12

<u>COMPUTATION OF SALE</u>					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Op Stock	-	4,125	4,500	4,875	5,250
Production	49,500	54,000	58,500	63,000	67,500
Less : Closing Stock	4,125	4,500	4,875	5,250	5,625
Net Sale	45,375	53,625	58,125	62,625	67,125
sale price per kg	320.00	329.60	339.49	349.67	360.16
Sales (in Lacs)	145.20	176.75	197.33	218.98	241.76

Utility Charges at 100% capacity (per month)		
Particulars	value	Description
Power connection required	40	KWH
consumption per day	320	units
Consumption per month	8,000	units
Rate per Unit	7	Rs.
Power Bill per month	56,000	Rs.

<u>BREAK UP OF LABOUR & STAFF CHARGES</u>			
Particulars	Wages per Month	No of Employees	Total Salary
Skilled (in thousand rupees)	14,000	2	28,000
Unskilled (in thousand rupees)	7,000	3	21,000
Supervisor	12,000	1	12,000
Total per Month			61,000
Total annual labour charges	(in lacs)		7.32

<u>BREAK UP OF STAFF CHARGES</u>			
Particulars	Wages per Month	No of Employees	Total Salary
Helper (in thousand rupees)	4,000	1	4,000
Accountant	10,000	1	10,000
Total Per Month			14,000
Total Annual Labour Charges	(in Lacs)		1.68

PROJECTED PROFITABILITY STATEMENT					
	-	-	-		
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	55%	60%	65%	70%	75%
<u>SALES</u>					
Gross Sale					
Compostable Bags	145.20	176.75	197.33	218.98	241.76
Total	145.20	176.75	197.33	218.98	241.76
COST OF SALES					
Raw Material Consumed	129.74	145.78	162.67	180.43	199.12
Electricity Expenses	3.70	4.03	4.37	4.70	5.04
Depreciation	2.21	1.88	1.60	1.37	1.16
Labour	7.32	7.69	8.07	8.47	8.90
Repair & maintenace	0.58	1.77	2.96	4.38	6.04
Wastage	1.95	3.64	4.07	5.41	5.97
Packaging Charges	1.49	1.62	1.76	1.89	2.03
Cost of Production	146.98	166.41	185.49	206.66	228.27
Add: Opening Stock /WIP	-	12.25	13.87	15.46	17.22
Less: Closing Stock /WIP	12.25	13.87	15.46	17.22	19.02
Cost of Sales	134.73	164.79	183.90	204.90	226.47
GROSS PROFIT	10.47	11.96	13.43	14.09	15.29
Salary to staff	1.68	1.85	2.03	2.24	2.57
Interest on Term Loan	1.12	0.98	0.70	0.43	0.15
Interest on working Capital	1.10	1.10	1.10	1.10	1.10

Rent	3.00	3.30	3.63	3.99	4.39
TOTAL	6.90	7.23	7.47	7.76	8.21
NET PROFIT	3.58	4.73	5.96	6.33	7.08
Taxation			0.20	0.28	0.43
PROFIT (After Tax)	3.58	4.73	5.76	6.05	6.65

PROJECTED BALANCE SHEET

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>					
Capital					
opening balance		5.08	7.80	10.56	13.12
<i>Add:- Own Capital</i>	2.50				
Add:- Retained Profit	3.58	4.73	5.76	6.05	6.65
Less:- Drawings	1.00	2.00	3.00	3.50	4.00
Closing Blance	5.08	7.80	10.56	13.12	15.76
Term Loan	11.11	8.32	5.54	2.76	-
Working Capital Limit	10.00	10.00	10.00	10.00	10.00
Sundry Creditors	13.84	14.58	16.27	18.04	19.91
Provisions & Other Liab	1.00	1.50	2.25	2.70	3.38
TOTAL :	41.02	42.20	44.62	46.62	49.05
<u>Assets</u>					
Fixed Assets (Gross)	15.00	15.00	15.00	15.00	15.00
Gross Dep.	2.21	4.09	5.69	7.06	8.22
Net Fixed Assets	12.79	10.91	9.31	7.94	6.78
Current Assets					
Sundry Debtors	3.87	4.71	5.26	5.84	6.45
Stock in Hand	20.90	25.04	27.93	31.06	34.29
Cash and Bank	3.46	1.53	2.12	1.78	1.54
TOTAL :	41.02	42.20	44.62	46.62	49.05

PROJECTED CASH FLOW STATEMENT					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>SOURCES OF FUND</u>					
Own Margin	2.50				
Net Profit	3.58	4.73	5.96	6.33	7.08
Depriciation & Exp. W/off	2.21	1.88	1.60	1.37	1.16
Increase in Cash Credit	10.00	-	-	-	-
Increase In Term Loan	12.50	-	-	-	-
Increase in Creditors	13.84	0.74	1.69	1.78	1.87
Increase in Provisions & Oth lib	1.00	0.50	0.75	0.45	0.68
TOTAL :	45.62	7.85	10.00	9.92	10.79
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	15.00				
Increase in Stock	20.90	4.15	2.88	3.13	3.23
Increase in Debtors	3.87	0.84	0.55	0.58	0.61
Repayment of Term Loan	1.39	2.78	2.78	2.78	2.76
Drawings	1.00	2.00	3.00	3.50	4.00
Taxation	-	-	0.20	0.28	0.43
TOTAL :	42.16	9.77	9.42	10.26	11.03
Opening Cash & Bank Balance	-	3.46	1.53	2.12	1.78
Add : Surplus	3.46	- 1.93	0.59	- 0.34	- 0.24
Closing Cash & Bank Balance	3.46	1.53	2.12	1.78	1.54

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Finished Goods	12.25	13.87	15.46	17.22	19.02
Raw Material	8.65	11.18	12.47	13.83	15.27
Closing Stock	20.90	25.04	27.93	31.06	34.29

COMPUTATION OF WORKING CAPITAL REQUIREMENT	
TRADITIONAL METHOD	
Particulars	Amount
Finished Goods & Raw Material	20.90
Less : Creditors	13.84
Paid stock	7.06
Sundry Debtors	3.87
	10.93
WORKING CAPITAL LIMIT DEMAND (from Bank)	10.00

2nd Method		
PARTICULARS	1st year	2nd year
Total Current Assets	28.23	31.29
Other Current Liabilities	14.84	16.08
Working Capital Gap	13.39	15.21
Min Working Capital		
25% of WCG	3.35	3.80
Actual NWC	3.39	5.21
item III - IV	10.04	11.41
item III - V	10.00	10.00
MPBF (Lower of VI & VII)	10.00	10.00

3rd Method		
PARTICULARS	1st year	2nd year
Total Current Assets	28.23	31.29
Other Current Liabilities	14.84	16.08
Working Capital Gap	13.39	15.21
Min Working Capital		
25% of Current Assets	7.06	7.82
Actual NWC	3.39	5.21
item III - IV	6.33	7.39
item III - V	10.00	10.00
MPBF (Lower of VI & VII)	10.00	10.00

COMPUTATION OF DEPRECIATION

Description	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation	15.00%	10.00%	
Opening Balance	-	-	-
Addition	14.16	0.84	15.00
Total	14.16	0.84	15.00
Less : Depreciation	2.12	0.08	2.21
WDV at end of Year	12.04	0.76	12.79
Additions During The Year	-	-	-
Total	12.04	0.76	12.79
Less : Depreciation	1.81	0.08	1.88
WDV at end of Year	10.23	0.68	10.91
Additions During The Year	-	-	-
Total	10.23	0.68	10.91
Less : Depreciation	1.53	0.07	1.60
WDV at end of Year	8.70	0.61	9.31
Additions During The Year	-	-	-
Total	8.70	0.61	9.31
Less : Depreciation	1.30	0.06	1.37
WDV at end of Year	7.39	0.55	7.94
Additions During The Year	-	-	-
Total	7.39	0.55	7.94
Less : Depreciation	1.11	0.06	1.16
WDV at end of Year	6.28	0.50	6.78
Additions During The Year	-	-	-

Total	6.28	0.50	6.78
Less : Depreciation	0.94	0.05	0.99
WDV at end of Year	5.34	0.45	5.79
Less : Depreciation	0.80	0.04	0.85
WDV at end of Year	4.54	0.40	4.94
Less : Depreciation	0.68	0.04	0.72
WDV at end of Year	3.86	0.36	4.22

<u>CALCULATION OF D.S.C.R</u>					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	5.78	6.61	7.36	7.42	7.81
Interest on Term Loan	1.12	0.98	0.70	0.43	0.15
Total	6.90	7.59	8.07	7.85	7.96
<u>REPAYMENT</u>					
Instalment of Term Loan	1.39	2.78	2.78	2.78	2.76
Interest on Term Loan	1.12	0.98	0.70	0.43	0.15
Total	2.51	3.77	3.49	3.21	2.90
DEBT SERVICE COVERAGE RATIO	2.75	2.01	2.31	2.44	2.74
AVERAGE D.S.C.R.	2.45				

REPAYMENT SCHEDULE OF TERM LOAN

Interest 10.00%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
1st	Opening Balance						
	1st month	-	12.50	12.50	-	-	12.50
	2nd month	12.50	-	12.50	0.10	-	12.50
	3rd month	12.50	-	12.50	0.10	-	12.50
	4th month	12.50	-	12.50	0.10		12.50
	5th month	12.50	-	12.50	0.10		12.50
	6th month	12.50	-	12.50	0.10		12.50
	7th month	12.50	-	12.50	0.10	0.232	12.27
	8th month	12.27	-	12.27	0.10	0.232	12.04
	9th month	12.04	-	12.04	0.10	0.232	11.80
	10th month	11.80	-	11.80	0.10	0.232	11.57
	11th month	11.57	-	11.57	0.10	0.232	11.34
	12th month	11.34	-	11.34	0.09	0.232	11.11
					1.12	1.392	
2nd	Opening Balance						
	1st month	11.11	-	11.11	0.09	0.232	10.88
	2nd month	10.88	-	10.88	0.09	0.232	10.64
	3rd month	10.64	-	10.64	0.09	0.232	10.41
	4th month	10.41	-	10.41	0.09	0.232	10.18
	5th month	10.18	-	10.18	0.08	0.232	9.95
	6th month	9.95	-	9.95	0.08	0.232	9.72

	7th month	9.72	-	9.72	0.08	0.232	9.48
	8th month	9.48	-	9.48	0.08	0.232	9.25
	9th month	9.25	-	9.25	0.08	0.232	9.02
	10th month	9.02	-	9.02	0.08	0.232	8.79
	11th month	8.79	-	8.79	0.07	0.232	8.56
	12th month	8.56	-	8.56	0.07	0.232	8.32
					0.98	2.784	
3rd	Opening Balance						
	1st month	8.32	-	8.32	0.07	0.232	8.09
	2nd month	8.09	-	8.09	0.07	0.232	7.86
	3rd month	7.86	-	7.86	0.07	0.232	7.63
	4th month	7.63	-	7.63	0.06	0.232	7.40
	5th month	7.40	-	7.40	0.06	0.232	7.16
	6th month	7.16	-	7.16	0.06	0.232	6.93
	7th month	6.93	-	6.93	0.06	0.232	6.70
	8th month	6.70	-	6.70	0.06	0.232	6.47
	9th month	6.47	-	6.47	0.05	0.232	6.24
	10th month	6.24	-	6.24	0.05	0.232	6.00
	11th month	6.00	-	6.00	0.05	0.232	5.77
	12th month	5.77	-	5.77	0.05	0.232	5.54
					0.70	2.784	
4th	Opening Balance						
	1st month	5.54	-	5.54	0.05	0.232	5.31
	2nd month	5.31	-	5.31	0.04	0.232	5.08

	3rd month	5.08	-	5.08	0.04	0.232	4.84
	4th month	4.84	-	4.84	0.04	0.232	4.61
	5th month	4.61	-	4.61	0.04	0.232	4.38
	6th month	4.38	-	4.38	0.04	0.232	4.15
	7th month	4.15	-	4.15	0.03	0.232	3.92
	8th month	3.92	-	3.92	0.03	0.232	3.68
	9th month	3.68	-	3.68	0.03	0.232	3.45
	10th month	3.45	-	3.45	0.03	0.232	3.22
	11th month	3.22	-	3.22	0.03	0.232	2.99
	12th month(Subsidy adjusted)	2.99	-	2.99	0.02	0.232	2.76
					0.43	2.784	
5th	Opening Balance						
	1st month	2.76	-	2.76	0.02	0.232	2.52
	2nd month	2.52	-	2.52	0.02	0.232	2.29
	3rd month	2.29	-	2.29	0.02	0.232	2.06
	4th month	2.06	-	2.06	0.02	0.232	1.83
	5th month	1.83	-	1.83	0.02	0.232	1.60
	6th month	1.60	-	1.60	0.01	0.232	1.36
	7th month	1.36	-	1.36	0.01	0.232	1.13
	8th month	1.13	-	1.13	0.01	0.232	0.90
	9th month	0.90	-	0.90	0.01	0.232	0.67
	10th month	0.67	-	0.67	0.01	0.232	0.44
	11th month	0.44	-	0.44	0.00	0.232	0.20
	12th month	0.20	-	0.20	0.00	0.204	-

0.15

2.76

DOOR TO DOOR	60 MONTHS
MORATORIUM PERIOD	6 MONTHS
REPAYMENT PERIOD	54 MONTHS

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