

PROJECT REPORT

Of

CORRUGATED BOXES

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Corrugated Boxes**

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.]



Lucknow Office: Sidhivinayak Building ,
27/1/B, Gokhley Marg, Lucknow-226001

Delhi Office : Multi Disciplinary Training
Centre, Gandhi Darshan Rajghat,
New Delhi 110002

Email : info@udyami.org.in
Contact : +91 7526000333, 444, 555

PROJECT AT A GLANCE

- 1 Name of the Entrepreneur : XXXXXXXX
- 2 Constitution (legal Status) : XXXXXXXX
- 3 Father's/Spouce's Name : XXXXXXXX
- 4 Unit Address : XXXXXXXX
- Taluk/Block: XXXXX
 District : XXXXX State: XXXXX
 Pin: XXXXX
 E-Mail : XXXXX
 Mobile : XXXXX
- 5 Product and By Product : Corrugated Box
- 6 Name of the project / business activity proposed : Manufaturing Unit of Corrugated Box
- 7 Cost of Project :
- 8 Means of Finance
 Term Loan Rs.14.99 Lacs
 KVIC Margin Money - As per Project Eligibility
 Own Capital Rs.2.48 Lacs
 Working Capital Rs.7.37 Lacs
- 9 Debt Service Coverage Ratio : 2.13
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 8 Months
- 12 Break Even Point : 40%
- 13 Employment : 15 Persons
- 14 Power Requirement : 10 KVA
- 15 Major Raw materials : Single Corrugated Sheet
- 16 Estimated Annual Sales Turnover : 61.56 Lacs
- 16 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lacs)

Particulars	Amount
Land	Rented/Owned
Building & Civil Work	Rented/Owned
Plant & Machinery	15.65
Furniture & Fixtures	0.50
Pre-operative Expenses	0.50
Working Capital Requirement	8.19
Total	24.84

MEANS OF FINANCE

Particulars	Amount
Own Contribution @10%	2.48
Term Loan	14.99
Workign Capital Finance	7.37
Total	24.84

	General	Special
KVIC Margin Monery Urban	15%	25%
KVIC Margin Monery Rural	25%	35%

PLANT & MACHINERY

<u>PARTICULARS</u>	<u>QTY.</u>	<u>RATE</u>	<u>AMOUNT IN RS.</u>	
Cutting machine	1.00		1,90,000.00	1,90,000.00
Paper Pasting machine size 75" complete with motor	1.00		7,00,000.00	7,00,000.00
Stapler 36"	1.00		75,000.00	75,000.00
Testing Equipment, Physical Balance meter scales	1.00		60,000.00	60,000.00
4 Bar Rotary machine for creasing & sizing	1.00		1,80,000.00	1,80,000.00
Eccentric Slotter	1.00		1,90,000.00	1,90,000.00
Generator set 5 KVA	1.00		1,20,000.00	1,20,000.00
Packaging Material	1.00		50,000.00	50,000.00
<u>TOTAL</u>				<u>15,65,000.00</u>

CORRUGATED BOXES



1. INTRODUCTION

Corrugated cardboard is generally used to make packing or shipping containers. Though there are various other types of cardboard boxes available, corrugated cardboard boxes are the most suitable for maintaining the safety of the object it is carrying, especially for long distance shipping purposes. This is because they are made of corrugated paper, manufactured from fiber and is sandwiched by cardboard. This setup makes it very sturdy and ensures the delivery of the articles that it is carrying with zero damage. While some corrugated boxes are made out of plastic, the majority is limited to paper. Corrugated boxes confirm safety and protection of the product being shipped. It also offers durability, cost effectiveness, lightness, strength and recyclability which make it an ideal choice for merchandising and marketing of goods with ease. They are also known to have a good stacking strength. Stacking strength refers to the pressure that is formed during stacking. This is a great advantage for transportation. The stacking strength of the corrugated box also plays a vital role in providing crush resistance and product protection.

Corrugated is made of paper and has an arched layer, called "fluting," between smooth sheets, called "liner." This arched layer provides corrugated with a very high strength-to-weight ratio.

The corrugated most commonly used to make boxes has one layer of fluting between two smooth sheets. But there are many types of corrugated available, each with different flute sizes and thicknesses.

Corrugated Paper boxes are extensively used in the packaging of industrial as well as consumer goods. In some of products like crockery, electronic items, automobile components, glass and cigarettes, pharmaceuticals, soaps & cosmetics, biscuits, hosiery, toys, rubber & rubber products, refrigerator, cooler & fans, proper type of packaging becomes very important.

2. PRODUCTS AND ITS APPLICATION

Corrugated is an extremely durable, versatile, economical and lightweight material used for custom-manufactured shipping containers, packaging and point-of-purchase displays, in addition to numerous non-traditional applications ranging from pallets to children's toys to furniture

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3. INDUSTRY OUTLOOK AND TREND

Does paper have a future in the digital age? Ultimately, it is a question best answered by the needs of the consumers, but based on the global demand outlook; consumers still want paper well into the 21st century. World demand for paper has doubled in the past 20 years and it is forecast to double again by the year 2020.

Per capita consumption of paper & paper board in India at 5 Kg is very low compared to other developing countries like China and Brazil. Therefore, despite the threat of paperless transaction, scope for paper demand appears to be bright. In developed nations it is as high as 160 Kgs per annum.

The challenge for the Indian paper industry to meet the ever-increasing demand of paper, board and newsprint is getting crippled due to shortage of fibers in the country. The future demand of paper is expected to grow from 13 MT at present TO 20 MT in 2020. Demand for cream wove paper and Map litho paper is expected to increase by 7-8%. Demand for different kinds of coated paper has increased by 8%, duplex board has recorded increase by 6.5%, kraft paper has registered a 6% rise in demand and newsprint an impressive 10%.

4. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY

With the steady rise in the industrial production, the demand for corrugated paper boxes increasing every year. These boxes have got distinct advantages such as light in weight, easy to fabricate as per required specifications. The corrugated papers and boards may also find market in the rural areas for packing of fruits, vegetables & eggs.

5. RAW MATERIAL REQUIREMENTS

- Craft Papers
- Glue
- Staples wire etc.
- Packaging Material

6. MANUFACTURING PROCESS

Calculation has been based on single corrugated sheet pasted with one sheet of craft paper. Two paper reels are run together on corrugated machine. One layer of paper becomes corrugated after passing through the heated fluted rolls and other is brought in contact with the former having been glued at the tips. These two get pasted together and are wound in rolls. These will be procured on job work. By cutting this roll with board cutters and gluing the corrugated side on pasting machine. A double face board is produced by the 3rd ply of paper over it. This board is kept under a sheet pressing machines for some time for setting of wet glued sheets. Similarly board to board can be pasted to form thicker board i.e. 5 Ply, 7 Ply and 9 Ply etc.

PROJECTED BALANCE SHEET

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<u>SOURCES OF FUND</u>					
Capital Account	2.48	2.48	2.48	2.48	2.48
Retained Profit	3.11	7.81	14.57	23.75	35.21
Term Loan	14.99	11.24	7.49	3.75	-
Cash Credit	7.37	7.37	7.37	7.37	7.37
Sundry Creditors	0.84	1.01	1.18	1.34	1.51
Provisions & Other Liab	0.36	0.40	0.44	0.48	0.53
TOTAL :	29.14	30.31	33.52	39.17	47.10
<u>APPLICATION OF FUND</u>					
Fixed Assets (Gross)	16.15	16.15	16.15	16.15	16.15
Gross Dep.	2.37	4.42	6.15	7.63	8.89
Net Fixed Assets	13.78	11.73	10.00	8.52	7.26
Current Assets					
Sundry Debtors	4.31	5.40	6.31	7.21	8.12
Stock in Hand	4.72	5.66	6.60	7.55	8.49
Cash and Bank	3.34	4.22	6.99	11.90	18.85
Deposits & Advances	3.00	3.30	3.63	3.99	4.39
TOTAL :	29.14	30.31	33.52	39.17	47.10

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PROJECTED CASH FLOW STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<u>SOURCES OF FUND</u>					
Share Capital	2.48	-			
Reserve & Surplus	3.11	5.23	8.44	11.48	14.33
Depriciation & Exp. W/off	2.37	2.04	1.74	1.48	1.26
Increase in Cash Credit	7.37	-	-	-	-
Increase In Term Loan (New)	14.99	-	-	-	-
Increase in Creditors	0.84	0.17	0.17	0.17	0.17
Increase in Provisions	0.36	0.04	0.04	0.04	0.05
TOTAL :	31.52	7.48	10.39	13.17	15.81
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	16.15	-	-	-	-
Increase in Stock	4.72	0.94	0.94	0.94	0.94
Increase in Debtors	4.31	1.09	0.91	0.91	0.91
Increase in Deposits & Adv	3.00	0.30	0.33	0.36	0.40
Repayment of Term Loan (New)	-	3.75	3.75	3.75	3.75
Taxation	-	0.52	1.69	2.30	2.87
TOTAL :	28.18	6.60	7.62	8.26	8.86
Opening Cash & Bank Balance	-	3.34	4.22	6.99	11.90
Add : Surplus	3.34	0.87	2.77	4.91	6.94
Closing Cash & Bank Balance	3.34	4.22	6.99	11.90	18.85

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
A) SALES					
Gross Sale	61.56	77.11	90.07	103.03	115.99
Total (A)	61.56	77.11	90.07	103.03	115.99
B) COST OF SALES					
Raw Mateiral Consumed	36.00	43.20	50.40	57.60	64.80
Electricity Expenses	5.27	6.33	7.38	8.44	9.49
Repair & Maintenance	-	0.77	0.90	1.03	1.16
Labour & Wages	7.78	8.55	9.41	10.35	11.38
Depriciation	2.37	2.04	1.74	1.48	1.26
Consumables and Other Expenses	1.23	1.54	1.80	2.06	2.32
Cost of Production	52.65	62.44	71.63	80.96	90.42
Add: Opening Stock /WIP	-	2.92	3.50	4.08	4.67
Less: Closing Stock /WIP	2.92	3.50	4.08	4.67	5.25
Cost of Sales (B)	49.74	61.85	71.05	80.37	89.83
C) GROSS PROFIT (A-B)	11.82	15.26	19.02	22.66	26.16
	19%	20%	21%	22%	23%
D) Bank Interest (Term Loan)	1.29	1.56	1.13	0.70	0.27
Bank Interest (C.C. Limit)	0.74	0.74	0.74	0.74	0.74
E) Salary to Staff	4.22	4.65	5.11	5.62	6.18
F) Selling & Adm Expenses Exp.	2.46	3.08	3.60	4.12	4.64
TOTAL (D+E)	8.72	10.03	10.58	11.18	11.83
H) NET PROFIT	3.11	5.23	8.44	11.48	14.33
I) Taxation	-	0.52	1.69	2.30	2.87
J) PROFIT (After Tax)	3.11	4.71	6.75	9.18	11.46

COMPUTATION OF MANUFACTURING OF CORRUGATED BOXES

Items to be Manufactured Corrugated Boxes

Manufacturing Capacity	Corrugated Box	600	Kg Per Day
	-		
No. of Working Hour		10	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		180	Tons per Annum
Year	Capacity Utilisation		Sheet
IST YEAR	50%		90
IIND YEAR	60%		108
IIIRD YEAR	70%		126
IVTH YEAR	80%		144
VTH YEAR	90%		162

COMPUTATION OF RAW MATERIAL

Item Name	Quantity of Raw Material	Recovery	Unit Rate of / Kg	Total Cost Per Day (100%)	
Raw Material	100%	180	100%	40,000.00	72.00
Total (Rounded off in lacs)					<u>72.00</u>
Annual Consumption cost	(In Lacs)				72.00

Raw Material Consumed	Capacity Utilisation	Amount (Rs.)
IST YEAR	50%	36.00
IIND YEAR	60%	43.20
IIIRD YEAR	70%	50.40
IVTH YEAR	80%	57.60
VTH YEAR	90%	64.80

COMPUTATION OF SALE

Particulars	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Op Stock	-	5	5	6	7
Production	90	108	126	144	162
	90	113	131	150	169
Less : Closing Stock	5	5	6	7	8
Net Sale	86	107	125	143	161
Sale Price Tonnes	72,000.00	72,000.00	72,000.00	72,000.00	72,000.00
Sale (in Lacs)	61.56	77.11	90.07	103.03	115.99

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Finished Goods					
(15 Days requirement)	2.92	3.50	4.08	4.67	5.25
Raw Material					
(15 Days requirement)	1.80	2.16	2.52	2.88	3.24
Closing Stock	4.72	5.66	6.60	7.55	8.49

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars			Total
			Amount
Stock in Hand			4.72
Sundry Debtors			4.31
		Total	9.03
Sundry Creditors			0.84
Working Capital Requirement			8.19
Margin			0.82
Working Capital Finance			7.37

BREAK UP OF LABOUR

Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Skilled Worker		10,000.00	1	10,000.00
Unskilled Worker		8,000.00	1	8,000.00
Casual Labour		6,000.00	6	36,000.00
				54,000.00
Add: 20% Fringe Benefit				10,800.00
Total Labour Cost Per Month				64,800.00
Total Labour Cost for the year (In Rs. Lakhs)				7.78

BREAK UP OF SALARY

Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		12,000.00	1	12,000.00
Accountant		8,000.00	1	8,000.00
Marketing Executive		6,000.00	2	12,000.00
Total Salary Per Month				32,000.00
Add: 10% Fringe Benefit				3,200.00
Total Salary for the month				35,200.00
Total Salary for the year (In Rs. Lakhs)				4.22

COMPUTATION OF ELECTRICITY

(A) POWER CONNECTION				
Total Working Hour per day			8 Hrs	
Electric Load Required			10 KVA	
Load Factor			0.08	
Electricity Charges			8.00 per unit	
Total Working Days			300	
Electricity Charges (8 Hrs Per day)				
=10*300 * 8.00 * 0.746 * 8				1,43,232.00
Add : Minimim Charges (@ 10%)				14,323.20
				1,57,555.20
(B) D.G. SET				
No. of Working Days			300	days
No of Working Hours			5	Hour per day
Total no of Hour			1,500	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			12,000	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			7.80	
Add : Lube Cost @15%			1.17	
Total			8.97	
Total cost of Power & Fuel at 100%				10.55
Year		Capacity		Amount
				(in Lacs)
IST YEAR		50%		5.27
IIND YEAR		60%		6.33
IIIRD YEAR		70%		7.38
IVTH YEAR		80%		8.44
VTH YEAR		90%		9.49

COMPUTATION OF DEPRECIATION

Description	Land	Building	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation		10.00%	15.00%	10.00%	
Opening Balance	Leased	-	-	-	-
Addition	-	Rented/Owned	15.65	0.50	16.15
	-	-	15.65	0.50	16.15
Less : Depreciation	-	-	2.35	0.03	2.37
WDV at end of Ist year	-	-	13.30	0.48	13.78
Additions During The Year	-	-	-	-	-
	-	-	13.30	0.48	13.78
Less : Depreciation	-	-	2.00	0.05	2.04
WDV at end of IInd Year	-	-	11.31	0.43	11.73
Additions During The Year	-	-	-	-	-
	-	-	11.31	0.43	11.73
Less : Depreciation	-	-	1.70	0.04	1.74
WDV at end of IIIrd year	-	-	9.61	0.38	10.00
Additions During The Year	-	-	-	-	-
	-	-	9.61	0.38	10.00
Less : Depreciation	-	-	1.44	0.04	1.48
WDV at end of IV year	-	-	8.17	0.35	8.52
Additions During The Year	-	-	-	-	-
	-	-	8.17	0.35	8.52
Less : Depreciation	-	-	1.23	0.03	1.26
WDV at end of Vth year	-	-	6.94	0.31	7.26

REPAYMENT SCHEDULE OF TERM LOAN

12%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
IST YEAR	Opening Balance						
	Ist Quarter	-	14.99	14.99	-	-	14.99
	Iind Quarter	14.99	-	14.99	0.43	-	14.99
	IIIrd Quarter	14.99	-	14.99	0.43	-	14.99
	Ivth Quarter	14.99	-	14.99	0.43	-	14.99
						1.29	-
IIIND YEAR	Opening Balance						
	Ist Quarter	14.99	-	14.99	0.43	0.94	14.05
	Iind Quarter	14.05	-	14.05	0.40	0.94	13.11
	IIIrd Quarter	13.11	-	13.11	0.38	0.94	12.18
	Ivth Quarter	12.18	-	12.18	0.35	0.94	11.24
						1.56	3.75
IIIRD YEAR	Opening Balance						
	Ist Quarter	11.24	-	11.24	0.32	0.94	10.30
	Iind Quarter	10.30	-	10.30	0.30	0.94	9.37
	IIIrd Quarter	9.37	-	9.37	0.27	0.94	8.43
	Ivth Quarter	8.43	-	8.43	0.24	0.94	7.49
						1.13	3.75
IVTH YEAR	Opening Balance						
	Ist Quarter	7.49	-	7.49	0.22	0.94	6.56
	Iind Quarter	6.56	-	6.56	0.19	0.94	5.62
	IIIrd Quarter	5.62	-	5.62	0.16	0.94	4.68
	Ivth Quarter	4.68	-	4.68	0.13	0.94	3.75
						0.70	3.75
VTH YEAR	Opening Balance						
	Ist Quarter	3.75	-	3.75	0.11	0.94	2.81
	Iind Quarter	2.81	-	2.81	0.08	0.94	1.87
	IIIrd Quarter	1.87	-	1.87	0.05	0.94	0.94
	Ivth Quarter	0.94	-	0.94	0.03	0.94	0.00
						0.27	3.75

CALCULATION OF D.S.C.R

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
<u>CASH ACCRUALS</u>	5.48	6.75	8.49	10.66	12.72
Interest on Term Loan	1.29	1.56	1.13	0.70	0.27
Total	6.77	8.31	9.62	11.36	12.99
<u>REPAYMENT</u>					
Instalment of Term Loan	3.75	3.75	3.75	3.75	3.75
Interest on Term Loan	1.29	1.56	1.13	0.70	0.27
Total	5.04	5.31	4.88	4.45	4.02
DEBT SERVICE COVERAGE RATIO	1.34	1.57	1.97	2.56	3.24
AVERAGE D.S.C.R.			2.13		

BREAK EVEN POINT ANALYSIS

Year	I	II	III	IV	V
Net Sales & Other Income	61.56	77.11	90.07	103.03	115.99
Less : Op. WIP Goods	-	2.92	3.50	4.08	4.67
Add : Cl. WIP Goods	2.92	3.50	4.08	4.67	5.25
Total Sales	64.48	77.70	90.66	103.62	116.58
Variable & Semi Variable Exp.					
Raw Material & Tax	36.00	43.20	50.40	57.60	64.80
Electricity Exp/Coal Consumption at 85%	4.48	5.38	6.27	7.17	8.07
Manufacturing Expenses 80%	0.98	1.85	2.16	2.47	2.78
Wages & Salary at 60%	7.20	7.92	8.71	9.58	10.54
Selling & administrative Expenses 80%	1.97	2.47	2.88	3.30	3.71
Intt. On Working Capital Loan	0.74	0.74	0.74	0.74	0.74
Total Variable & Semi Variable Exp	51.37	61.55	71.17	80.86	90.64
Contribution	13.10	16.14	19.49	22.75	25.93
Fixed & Semi Fixed Expenses					
Manufacturing Expenses 20%	0.25	0.46	0.54	0.62	0.70
Electricity Exp/Coal Consumption at 15%	0.79	0.95	1.11	1.27	1.42
Wages & Salary at 40%	4.80	5.28	5.81	6.39	7.03
Interest on Term Loan	1.29	1.56	1.13	0.70	0.27
Depreciation	2.37	2.04	1.74	1.48	1.26
Selling & administrative Expenses 20%	0.49	0.62	0.72	0.82	0.93
Total Fixed Expenses	9.99	10.91	11.05	11.28	11.60
Capacity Utilization	50%	60%	70%	80%	90%
OPERATING PROFIT	3.11	5.23	8.44	11.48	14.33
BREAK EVEN POINT	38%	41%	40%	40%	40%
BREAK EVEN SALES	49.18	52.53	51.38	51.35	52.16

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