INTRODUCTION
Of late, owing to the increased awareness of biologically non-disposable nature of the plastics bags, the plastic carrybags are being banned in many cities and urban centres. The disposal and recycling of plastic bags have created havoc and a threat to the environment. Suitable solution to come out of this difficulty is to replace, wherever possible, plastic bags with other bio-degradable materials such as paper bags, cotton bags, jute bags etc., Considering the necessity to solve this problem there is an immediate demand for paper carrybags, which can be made in different sizes and thicknesses.

PRODUCT USES & SPECIFICATIONS
Paper carrybags are used in all types of trade. Some of them are the following.

- Textile Shops
- Bakeries
- Shoe / Chappal Shops
- Grocery Shops
- Fancy Shops
- Book Shops
- Sweet Shops
- Meat / Fish Shops
- Vegetable Shops
- Stationery Shops
- Hardware Shops
- All departmental shops & consumer shops
The Bureau of Indian Standards has not prescribed any standards for paper carry bags. IS:1060-1996 parts 1 to 3 deal with methods of sampling and testing and allied products for various tests, such as bursting strength, tensile strength etc.

**MARKET POTENTIAL**

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 2010.

Per capita consumption of paper & paper board in India at 5 Kg is very low compared to other developing countries like China (17.2 Kg), Brazil (28 Kg) for the year 2000. Therefore, despite the threat of paperless transaction, scope for paper demand appears to be bright. In developed nations it is as high as 152 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 fibres in the country. The future demand of paper is expected to grow from 5.6 MT at present TO 9.5 MT in 2010 and 13 MT in 2015. Demand for cream wove paper and Maplitho paper is expected to increase by 7-8%. Demand for different kinds of coated paper has increased by 8% in 2002, duplex board has recorded increase by 6.5%, kraft paper has registered a 6% rise in demand and newsprint an impressive 10%.

Current world production of paper is of the order of 283 million tonnes. The per capita consumption of paper is 45 kg. Developing countries average at 12 kg per annum and developed countries at 152 kg per annum.

Paper is an eco-friendly product. It is made from natural raw materials and as an end product, paper is bio-degradable. Paper has no real competing product. Plastic which was rated as a substitute for paper has lost the race, being non bio-degradable.
Electronic media, which was considered a threat to the growth of the print media, has not dampened the growth of paper usage by the print media. Thus there seems to be no barrier for growth of the paper industry. Among the regions, Asia is expected to record the highest rate of growth.

There are certain products for which market demand is always accelerated. Paper bag is also one of such products. In view of Government’s proposal for banning plastic bags and pouches, the demand for paper bags and pouches is bound to increase manifold. There is export potential for export of paper bags & pouches. The consumption of paper boards used in packaging industry has been increasing.

**A. TECHNICAL ASPECTS**

**PRESENT PROJECT**

The project proposed is to manufacture paper carry bags. With the machineries proposed from indigenous sources about 10,000 bags of different sizes can be manufactured per hour.

For this proposed project calculation, on a conservative basis 5000 bags per hour is taken as capacity. The total capacity providing on single shift basis is assumed at 40000 bags. The capacity per annum is 120,00,000 bags.

**SIZES OF BAGS**

The maximum size bags, which can be manufactured by the machine, are the following:

- **Paper bags (Flat Type)**
  - 8cm X 12cm  (3.2” X 4¾”)
  - to
  - 50cm X 50cm (20” X 20”)

- **Paper bags (Sachet type)**
  - 8cm X 2cm X 12cm  (3.2” X 0.8” X 4.8”)
  - to
  - 50cm X 12cm X 50cm (20” X 4.8” X 20”)

3
**Paper Carry bags**: by fixing the Bottom Board,

**Handles**: All the above sizes

(Eyeleting & tag fixing manual)

The bags may be plain style colour or double colour printed.

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**PLANT & MACHINERY**

The machinery consists of the following:

- Fully Automatic Special type paper bag making unit with the following attachments & accessories.

  a) Single Slit Slitting unit to size the paper from big width to small width to produce small bags with 3 HP Motor

  b) Double Colour Flexo printing unit with attachment

  c) 3 HP Motor for Main drive

  d) 12 Nos Flat type size plates and, 12 Nos Sachet type size plates

  e) 48 Nos Size Gear Wheels

  f) 12 Nos Stereo rollers

  g) One bag cutting machine

  h) Eyeletting Machine

  i) The total cost of the above Plant & Machinery works out to Rs. 7.00 Lakhs from reputed indigenous manufacturer
MANUFACTURING PROCESS
The whole process involved in the manufacture of paper bags is automatic, starting with printing and ending with stacking up of finished bags. The paper roll is initially cut into proper width and they are fed into the printing unit first. After the printing is done the roll goes into the bag making section where it is folded, pasted, sheared and stacked. The bags will be plain bags or sachetted bags with folds in the middle.

RAW MATERIALS CALCULATION (FOR 120 LAKHS BAGS)
The paper bags can be manufactured from different varieties of papers ranging from 44 GSM (Grams per Square Metre) to 160 GSM with Burst Factor ranging from 2 to 30. Besides Kraft paper, Wrapper paper, Art paper, Butter paper, Wax coated paper also can be used to manufacture paper bags. The following working is related to a particular size namely 36cm X 40cm with a centre width of 120 GSM Kraft paper.

<table>
<thead>
<tr>
<th>Kraft Paper 120 GSM</th>
<th>Qty.</th>
<th>Rate</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Bag Size 36cm X 40cm X width 9 cm</td>
<td>MT</td>
<td>Rs. Lakhs</td>
<td></td>
</tr>
<tr>
<td>Requirement per Bag in gms.</td>
<td>53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add : Wastage 5%</td>
<td>gms. 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gms</td>
<td>56</td>
<td>672</td>
<td>33000</td>
</tr>
<tr>
<td>Glue</td>
<td>Re.</td>
<td>0.03 per Bag</td>
<td>3.60</td>
</tr>
<tr>
<td>Printing Ink</td>
<td>Re.</td>
<td>0.20 per Bag</td>
<td>24.00</td>
</tr>
<tr>
<td>Eyelets</td>
<td>Re.</td>
<td>0.03 per Bag</td>
<td>3.60</td>
</tr>
<tr>
<td>Cotton Tag</td>
<td>Re.</td>
<td>0.07 per Bag</td>
<td>8.40</td>
</tr>
<tr>
<td>For 120 lakhs Bags</td>
<td></td>
<td></td>
<td>261.36</td>
</tr>
<tr>
<td>Raw Materials Cost per Bag</td>
<td>Rs.</td>
<td>2.18</td>
<td></td>
</tr>
</tbody>
</table>
**LAND & BUILDING REQUIREMENT**

A shed with a floor area of 700 sq. feet on rental basis is adequate.

**UTILITIES**

**Electricity:** Power requirement is 6 HP connected load.

**Water:** Water is required only for human consumption.

**MANPOWER**

<table>
<thead>
<tr>
<th>Production</th>
<th>Rs./Month</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Operators</td>
<td>4000</td>
<td>4000</td>
</tr>
<tr>
<td>2. Helpers</td>
<td>3000</td>
<td>6000</td>
</tr>
<tr>
<td>3. Packing-unskilled</td>
<td>3000</td>
<td>6000</td>
</tr>
<tr>
<td>4. Supervisor</td>
<td>5000</td>
<td>5000</td>
</tr>
<tr>
<td>5. Office Assistant</td>
<td>4000</td>
<td>4000</td>
</tr>
<tr>
<td>6. Sales Rep.</td>
<td>4000</td>
<td>8000</td>
</tr>
</tbody>
</table>

33000

Add : Benefits 20% 6600

**Total** 39600

Annually Rs. 4.75 lakhs

**IMPLEMENTATION SCHEDULE**

The machines are available from supplier within one month’s period. The project can be implemented within one month period.

**COST & PROFITABILITY ASSUMPTIONS**

1. The unit would work for 300 days on single shift basis. The installed capacity is 120 lakhs paper bags p.a.

2. The selling price is assumed at Re.2.40 per bag.
3. Raw Materials cost is assumed at Rs. 2.18 per bag as per calculations furnished.

4. Power charges works out to Rs. 2500 per month.

5. Wages & Salaries works out to Rs.4.75 lakhs per annum.

6. Repairs & Maintenance is assumed at Rs. 3000 p.m

7. Depreciation calculated @ 15% on Plant & Machinery on WDV method.

8. Admin. Expenses is assumed at Rs. 20000 p.m.

9. Selling expenses are assumed at Rs1.08 lakhs during first year.

10. Interest on TL is provided at 12% p.a. on reducing balance.

11. Interest on WC is provided at 12% p.a.

12. Income tax is provided at 33.99% on profit.

**Machinery Suppliers**

1. M/s. Yeneskey Machine Tools, SF No. 362, Thadagam Road (Next to JM Hospital), Coimbatore-641025. Phone: (0422) 402228 / 434288.


**Dealers / Manufacturers of Kraft Papers**

1. M/s. Ballarpur Industries Ltd., 2-B, 24, CNC Road, Chennai-600105.


4. Besant Paper House, 64(New 90), Narayana Mudali Street, Chennai-600079.

5. Several other paper dealers in Anderson Street & Bunder Street, Chennai-600001.
### COST OF PROJECT  Rs. lakhs

- Land & Building-Rental Advance 0.56
- Plant & Machinery 7.00
- Other Misc. assets 0.50
- Pre-op. expenses 0.35
- Working Capital Margin 4.48

**Total** 12.89

### MEANS OF FINANCE

- Capital 7.64
- Term Loan 5.25

**Total** 12.89

### COST OF PRODUCTION & PROFITABILITY STATEMENT

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Installed Capacity (No. of bags-in lakhs)</td>
<td>120.00</td>
<td>120.00</td>
</tr>
<tr>
<td></td>
<td>Utilisation (%)</td>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td>Production/Sales-lakh bags.</td>
<td>72.00</td>
<td>84.00</td>
</tr>
<tr>
<td></td>
<td>Selling Rate</td>
<td>Re. 2.40 per bag</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sales Value (Rs. lakhs)</td>
<td>172.80</td>
<td>201.60</td>
</tr>
<tr>
<td></td>
<td>Raw Materials</td>
<td>156.82</td>
<td>182.95</td>
</tr>
<tr>
<td></td>
<td>Power</td>
<td>0.30</td>
<td>0.35</td>
</tr>
<tr>
<td></td>
<td>Wages &amp; Salaries</td>
<td>4.75</td>
<td>4.99</td>
</tr>
<tr>
<td></td>
<td>Repairs &amp; Maintenance</td>
<td>0.36</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Depreciation</td>
<td>1.18</td>
<td>0.89</td>
</tr>
<tr>
<td></td>
<td>Cost of Production</td>
<td>163.41</td>
<td>189.55</td>
</tr>
<tr>
<td></td>
<td>Administration &amp; Gen. Expenses</td>
<td>2.40</td>
<td>2.52</td>
</tr>
<tr>
<td></td>
<td>Selling Exp.</td>
<td>1.08</td>
<td>1.26</td>
</tr>
</tbody>
</table>
Interest in Term Loan 0.48 0.36 0.27
Interest on Working Capital 0.93 0.93 0.93
**Total** 168.30 194.62 221.07
Profit Before Tax 4.50 6.98 9.33
Provision for Taxes 1.53 2.37 3.17
Profit After Tax 2.97 4.61 6.16

**ASSESSMENT OF WORKING CAPITAL**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>%</th>
<th>Margin</th>
<th>Bank Amount</th>
<th>Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Materials</td>
<td>1/2 month</td>
<td>6.53 25%</td>
<td>1.63</td>
<td>4.90</td>
</tr>
<tr>
<td>Finished Goods</td>
<td>1/4 month</td>
<td>3.40 25%</td>
<td>0.85</td>
<td>2.55</td>
</tr>
<tr>
<td>Debtors</td>
<td>1/2 month</td>
<td>7.20 25%</td>
<td>1.80</td>
<td>5.40</td>
</tr>
<tr>
<td>Expenses</td>
<td>1 month</td>
<td>0.20 100%</td>
<td>0.20</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Say Rs.** 12.85

**CALCULATION OF BREAK EVEN LEVEL**

**SALES @ 80%** 230.40

**LESS: VARIABLE EXPENSES**

Raw Materials 209.09
Power 0.40
Selling Exp. 1.44
Interest on Working Capital 1.54

**212.47**

**CONTRIBUTION** 17.93
**FIXED EXPENSES**

Wages & Salaries  
5.24

Repairs & Maintenance  
0.40

Depreciation  
0.66

Admin. & General Exp.  
2.65

Interest in Term Loan  
0.27

**9.21**

**PROFIT**  
8.72

**BREAK-EVEN LEVEL**  
41%

**CASH BREAK EVEN LEVEL**  
38%

**PROFITABILITY RATIOS BASED ON 80%**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit Before tax</td>
<td>8.72</td>
</tr>
<tr>
<td>Sales</td>
<td>230.40</td>
</tr>
<tr>
<td>Profit before Interest &amp; Tax</td>
<td>10.53</td>
</tr>
<tr>
<td>Total Investment</td>
<td>25.70</td>
</tr>
<tr>
<td>Profit after Tax</td>
<td>5.76</td>
</tr>
<tr>
<td>Promoters Capital</td>
<td>7.64</td>
</tr>
</tbody>
</table>