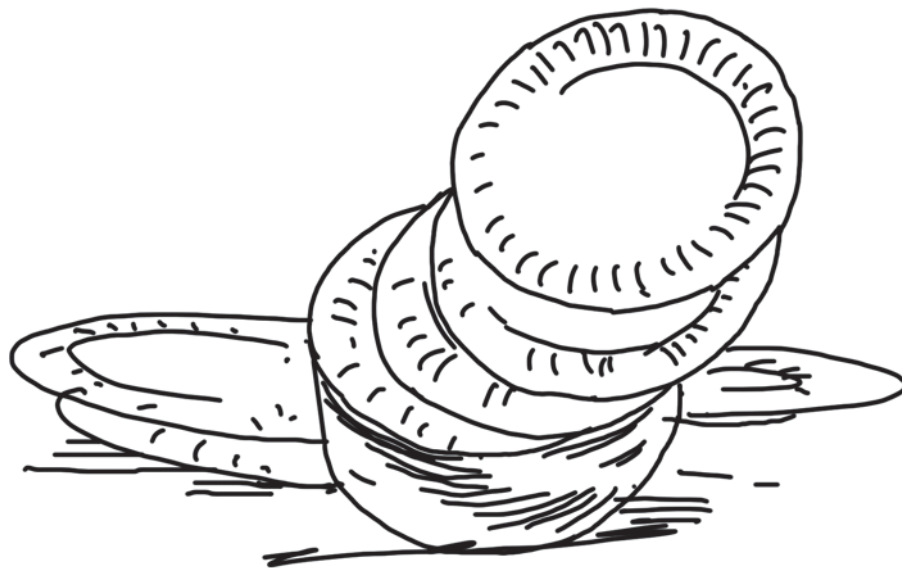


DISPOSABLE PAPER PLATES



1.0 INTRODUCTION

Disposable paper plates are made out of special quality paper reinforced with polythene sheets to make it leak proof. These products are conveniently used for serving eatables during parties, functions, workshops, etc. Most of the sweet shops use it for serving their customers. These are a convenient replacement for crockery and utensils. These have many advantages over conventional crockery/steel utensils. Whereas conventional utensils need care in handling, have to be cleaned before and after use need lot of space for storage and are difficult to handle. In turn, these products are light in weight, are disposable after use, cheaper and can be stored easily.

This project profile is for production of disposable paper plates with installed capacity of 96 lacs plates per annum, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

These products have urban as well as rural market. These products are mostly used during social functions, religious gatherings, parties, marriages, outings, in sweet shops, by caterers etc. The products have many advantages and are hence preferred as compared to standard utensils/crockery for serving eatables. They can easily be disposed off after use and hence save a lot of labour as far as cleaning/ drying of utensils are concerned. These are easily transportable and easy to

handle. In our country, people are religious and organize functions throughout the year. All such occasions call for social gathering and celebrations with meals, snacks sweets being served. Further, our vast population organizes marriages, celebrates birthdays and other family functions on a regular basis. Sweet shops and small eateries can be found at every street corner and all such joints use these disposable plates and bowls. Thus keeping in view the culture of the people and the habits there is a vast market for the products not only in urban areas but also in rural areas.

3.0 PROCESS DETAILS

The process of manufacturing is not complicated. The product is manufactured using the specific die. The paper and the polythene sheets are previously cut to size or can also be purchased as per the production requirement. The specific die is mounted on the press and the die is heated to the desired temperature. The two layers of paper and the polythene sheets are placed in between the male-female die parts and pressure is applied so that the product takes shape. The formed product is next removed and another set is loaded. The machine is an ordinary press with one fixed platform and another moving plunger. The movement of the plunger is through hydraulic mechanism.

The formed products are collected and the edges are trimmed to give it a proper shape. The plates and bowls are packed separately and stocked for dispatch.

4.0 COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)	
Particulars	Amount (Rs)
Land & Building	1.50
Machinery & Equipment	4.27
Misc. Fixed Assets	0.40
Preliminary & Pre-operative Expenses	0.46
Contingencies & Escalation @ 3%	0.19
Working Capital	3.72
TOTAL	10.53

4.1 Land & Building: No cost has been considered for land & construction of building. It is assumed that the unit will be set up on a leased premise. Expenses for renovation works is given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Renovation of premise	150	1000	150000
Say (Rs. in lacs)			1.50

4.2 Machinery & Equipment: Details of machinery & equipment are given below.

Particulars	Quantity	Rate (Rs)	Amount (Rs)
Automatic paper plate making machine	2	180800	361600
Miscellaneous items	LS	LS	10000
Sub total			371600
Add: Transportation, taxes, etc @ 15%			55740
TOTAL			427340
Say (Rs. in lacs)			4.27

4.3 Misc. Fixed Assets: Details of miscellaneous fixed assets are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Furniture & fixtures	LS	LS	20000
Miscellaneous items	LS	LS	20000
TOTAL			40000
Say (Rs. in lacs)			0.40

4.4 Preliminary & Pre-operative Expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)	
Particulars	Amount (Rs)
Travelling expenses	0.20
Professional & other fees	0.10
Interest during implementation	0.06
Miscellaneous expenses	0.10
TOTAL	0.46

4.5 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of the cost of renovation works, machinery & equipment and miscellaneous fixed assets.

4.6 Working Capital: Details of working capital are given below.

(Rs. In lacs)

	Period (Days)	Amount (Rs)		
		Year 1	Year 2	Year 3
Raw materials & consumables	30	1.44	1.73	2.02
Power	30	0.03	0.03	0.04
Rent	30	0.15	0.15	0.15
Salary	30	0.19	0.19	0.19
Finished Goods	15	0.92	1.07	1.23
Receivables	15	0.99	1.18	1.38
Total		3.72	4.36	5.00
Working Capital Margin in Yr 1 (100%)	3.72			

5.0 MEANS OF FINANCE

The means of finance for the project is estimated as below.

(Rs. in lacs)

Particulars	Percent	Amount
<u>EQUITY</u>		
A. Equity from Promoters	40%	4.21
B. Subsidy from Central/State Govt.	-	
<u>DEBT</u>		
Term Loan from Banks/FIs	60%	6.32
TOTAL	100%	10.53

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
<u>A. INCOME</u>					
Production capacity (bundles/annum)	192000	192000	192000	192000	192000
Capacity utilisation	50%	60%	70%	70%	70%
Production/annum at capacity utilisation	96000	115200	134400	134400	134400
Price of paper plate bundle (Rs/bundle)	25	25	25	25	25
Total income/annum	24.00	28.80	33.60	33.60	33.60
<u>B. OPERATING EXPENSES</u>					
Raw Materials & Consumables	17.58	21.09	24.61	24.61	24.61
Power	0.32	0.39	0.45	0.45	0.45
Rent	1.80	1.80	1.80	1.80	1.80
Salary	2.28	2.29	2.30	2.31	2.33
Repair & Maintenance	0.11	0.12	0.14	0.16	0.19
Selling Expenses	0.24	0.29	0.34	0.34	0.34
Miscellaneous Expenses	0.12	0.14	0.17	0.17	0.17
Total Operating Expenses	22.45	26.13	29.81	29.85	29.88
Less: working expenses capitalised	3.72	0.00	0.00	0.00	0.00
Operating profit	5.27	2.67	3.79	3.75	3.72
<u>C. FINANCIAL EXPENSES</u>					
Depreciation	0.38	0.38	0.38	0.38	0.38
Interest on Term Loan	0.50	0.42	0.30	0.18	0.06

Net Profit	4.39	1.87	3.11	3.19	3.28
Net cash accruals	4.76	2.25	3.49	3.57	3.65
Principal Repayment	0.37	1.49	1.49	1.49	1.49

6.1 Production Capacity: Total production of paper plate bundles at installed capacity is estimated as below.

Rated machine capacity (No. of plates/hr)	4000
No. of machines	2
No. of hrs/day	8
No. of days/annum	300
Total quantity of paper plates/annum	19200000
No. of plates/bundle	100
Total production of bundles per annum at installed capacity	192000

6.2 Raw Material & Consumables: Expenses on raw material and consumables at installed capacity is estimated as below.

Total quantity of paper plates	19200000
Quantity of plates/kg	250
Total production by weight (kg)	76800
Consumption of raw materials by weight (kg) including wastage @ 2%	78336
Proportion of paper by weight (%)	99%
Proportion of plastic film by weight (%)	1%
Total quantity of paper at 100% capacity (kg)	77553
Total quantity of plastic film at 100% capacity (kg)	783
Price of paper (Rs/kg)	40
Price of plastic film (Rs/kg)	120
Expenses on paper at 100% capacity (Rs)	3102106
Expenses on plastic film	94003
Expenses on raw materials	3196109
Add: Expenses on consumables @ 10%	319611
Expenses on raw material & consumables at installed capacity (Rs)	3515720

6.3 Power: Expenses on power at installed capacity is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Automatic paper plate making machine	2	2.24	4.48
General Lighting	5	0.10	0.50
Others	LS	LS	1.00
Total power requirement/day (Kw)			5.98
No. of hrs/day	8		
No. of days/annum	300		
Annual power requirement (kwh)	14342		
Rate per unit (Rs)	4.50		
Expenses on power at installed capacity (Rs)	64541		

6.4 Rent: Monthly rent for the leased premise is estimated at Rs 15,000/- per month.

6.5 Salary: Expenses on salary in the 1st year are estimated as given below. It is assumed that salary expenses will increase @ 0.5% every subsequent year.

Particulars of Employees	Numbers	Salary/Month (Rs)	Cost/annum (Rs)
Manager (Self)	-	-	-
Technicians/machine operators	2	5000	120000
Sales Staff	1	4000	48000
Helpers	2	2500	60000
Expenses on salary in the 1st year (Rs)			228000

6.6 Repair & Maintenance: Expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 15% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Land & Building	1.50	1%	0.02
Machinery & Equipment	4.27	2%	0.09
Misc. Fixed Assets	0.40	2%	0.01
Expenses on repair & maintenance in year 1			0.11

6.7 Selling Expenses: Selling expenses have been assumed at 1% of sales.

6.8 Miscellaneous Expenses: Miscellaneous expenses have been assumed at 0.5% of sales.

6.9 Depreciation: Depreciation has been calculated by straight line method. The details of calculation are given below.

(Rs in lacs)

Description	Cost (Rs)	Rate	Amount/annum (Rs)
Land & Building	1.50	3.34%	0.05
Machinery & Equipment	4.27	7.07%	0.30
Misc. Fixed Assets	0.40	6.23%	0.02
TOTAL			0.38

6.10 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 5 years including moratorium period of 9 months with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5
Month 1	Opening balance	6.32	5.95	4.46	2.97	1.49
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest (8%)	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.32	5.82	4.34	2.85	1.36
Month 2	Opening balance	6.32	5.82	4.34	2.85	1.36
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.32	5.70	4.21	2.73	1.24
Month 3	Opening balance	6.32	5.70	4.21	2.73	1.24
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.32	5.58	4.09	2.60	1.12
Month 4	Opening balance	6.32	5.58	4.09	2.60	1.12

	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.32	5.45	3.97	2.48	0.99
Month 5	Opening balance	6.32	5.45	3.97	2.48	0.99
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.32	5.33	3.84	2.35	0.87
Month 6	Opening balance	6.32	5.33	3.84	2.35	0.87
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.32	5.20	3.72	2.23	0.74
Month 7	Opening balance	6.32	5.20	3.72	2.23	0.74
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.32	5.08	3.59	2.11	0.62
Month 8	Opening balance	6.32	5.08	3.59	2.11	0.62
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.32	4.96	3.47	1.98	0.50
Month 9	Opening balance	6.32	4.96	3.47	1.98	0.50
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.32	4.83	3.35	1.86	0.37
Month 10	Opening balance	6.32	4.83	3.35	1.86	0.37
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.20	4.71	3.22	1.73	0.25
Month 11	Opening balance	6.20	4.71	3.22	1.73	0.25
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.07	4.58	3.10	1.61	0.12
Month 12	Opening balance	6.07	4.58	3.10	1.61	0.12
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	5.95	4.46	2.97	1.49	0.00
Principal Repayment		0.37	1.49	1.49	1.49	1.49
Interest		0.50	0.42	0.30	0.18	0.06

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	Total
Profit After Tax (Net Profit)	4.39	1.87	3.11	3.19	3.28	
Depreciation	0.38	0.38	0.38	0.38	0.38	
Interest	0.50	0.42	0.30	0.18	0.06	
Total	5.27	2.67	3.79	3.75	3.72	19.20
Interest	0.50	0.42	0.30	0.18	0.06	
Loan repayment	0.37	1.49	1.49	1.49	1.49	
Total	0.87	1.91	1.79	1.67	1.55	7.79
DSCR	6.02	1.40	2.12	2.25	2.40	

Average DSCR = 2.46

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	24.00	28.80	33.60
B. Variable cost			
Raw materials & consumables	17.58	21.09	24.61
Power	0.32	0.39	0.45
Other expenses	0.12	0.14	0.17
Total variable cost	18.02	21.63	25.23
C. Contribution (A-B)	5.98	7.17	8.37
D. Fixed & Semi-fixed Costs			
Rent	1.80	1.80	1.80
Salary	2.28	2.29	2.30
Repair & maintenance	0.11	0.12	0.14
Interest on Term Loan	0.50	0.42	0.30
Depreciation	0.38	0.38	0.38
Total fixed cost	3.27	3.21	3.13
E. BREAK EVEN POINT	54.67%	44.80%	37.34%
F. BEP at operating capacity	27.33%	26.88%	26.14%
G. Cash BEP	24.18%	23.73%	22.99%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	6.17	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	3.72	0.64	0.64	0.00	0.00
Total (A)	6.17	3.72	0.64	0.64	0.00	0.00
CASH INFLOW						
Profit After Tax		4.39	1.87	3.11	3.19	3.28
Add: Depreciation		0.38	0.38	0.38	0.38	0.38
Add: Interest		0.50	0.42	0.30	0.18	0.06
Add: Salvage Value						
Total (B)	0.00	5.27	2.67	3.79	3.75	3.72
NET FLOW (B-A)	-6.17	1.55	2.03	3.14	3.75	3.72

IRR = 30%

MACHINERY SUPPLIERS

- M.B. Engineering Works
Howrah- Amta Road, Near Japani Gate, P. O. Balitikuri, Howrah - 711113, West Bengal, India
- Ace Automation Engineers
C - 164, Mayapuri Industrial Area, Phase - 2, Delhi - 110064, Delhi, India
- Khalsa Engineering Works
A - 75, Gali No. - 9, Koyale Wali Gali, Samay Pur, Delhi - 110042, Delhi, India