MSME PROJECT PROFILES

Vol-3

Manufacturing and Miscellaneous Sector

North Eastern Development Finance Corporation Ltd.

NEDFi
an ISO 9001:2008 company

MSME PROJECT PROFILES

100 Micro, Small and Medium Enterprises (MSME) Project Profiles have been prepared as per the mandate of the MoU agreement signed with Ministry of Development of North Eastern Region (MDoNER) for the financial year 2012-13 under TEDF fund administered by NEDFi. The main objective of this initiative is to assist the first generation entrepreneurs as well as other entrepreneurs of the north-eastern region regarding business venture opportunities, market details, technical & financial aspects and addresses of machinery suppliers etc. with updated information.

The Project profiles are available in 4 (Four) volumes containing 25 sector-wise profiles each.

Agriculture and Allied Sector

Food Processing Sector

Manufacturing and Miscellaneous Sector

Services and Tiny Sector

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NEDFi House, G. S. Road, Ganeshguri, Guwahati- 781006

Disclaimer: The Project Cost estimates indicated in the Project Profiles were calculated based on the information available and the market price prevailing at the time of preparation of the Project Profiles. However, actual Project Cost may vary depending on the project location, applicable charges prevailing in the area, cost of infrastructure/input and capital expenditure etc.

पबन सिंह घाटोवार
Paban Singh Ghatowar

सत्यमेव जयते

राज्य मंत्री (स्वतंत्र प्रभार)
उत्तर पूर्वी क्षेत्र विकास मंत्रालय
एवं
संसदीय कार्य राज्यमंत्री
भारत सरकार
Minister of State (Independent Charge)
Ministry of Development of North Eastern Region
&
Minister of State for Parliamentary Affairs
Government of India

MESSAGE

I am happy that the North Eastern Development Finance Corporation Ltd. (NEDFi) has brought out a compendium of 100 Projects Profiles in the Micro, Small and Medium Enterprises (MSME) Sectors based on the Pre-investment Feasibility Studies. These Project Profiles would help first generation as well as the existing Entrepreneurs of the Region in selection of suitable business ideas based on market demand and help them prepare project reports.

MSME sector plays a crucial role in Indian economy in terms of employment generation, development of entrepreneurial base and production of goods and services. The sector is particularly relevant in North Eastern context because it involves lower capital cost than the large industries and also help in industrialization of rural and backward areas. As we know North East Region faces variety of challenges viz., poor infrastructure, inadequate supply of power, lack of skilled manpower, difficult terrain, inadequate industrial land etc; MSME sector has got promising potential to provide suitable solutions.

The Government of India is committed for the development of North Eastern Region and thus is making necessary interventions from time to time, 10% gross budgetary allocation is being inverted in North Eastern Region from the allocation of non-exempted Ministries.

I commend NEDFi for the initiative in helping budding Entrepreneurs which will eventually lead to accelerate the pace of industrial and economic development in the North Eastern Region.

(Paban Singh Ghatowar)

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सत्यमेव जयते

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विज्ञान भवन एनेक्सी,
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Government of India
Ministry of Development of North Eastern Region
Vigyan Bhavan Annexe
Maulana Azad Road, New Delhi-110 011

3rd October, 2013

MESSAGE

I am glald that the North Eastern Development Finance Corporation Ltd. (NEDFi) as a part of its ongoing effort to guide first generation entrepreneurs has brought out a compendium of 100 Project Profiles in the MSME Sector. The project profile will facilitate new entrepreneurs for identification of the projects and help them to prepare detailed project reports. The existing entrepreneurs looking for diversification may as well can use the compendium as a tool to analyze available options.

I urge upon potential young entrepreneurs to make full use of the compendium and take forward the entrepreneurial movement in the region.

(U.K. Sangma)

FOREWORD

The Micro, Small and Medium Enterprises (MSME) segment is a key source of economic growth and capital formation. The development of MSME sector leads to a greater utilisation of natural resources, production of goods and services, creation of employment opportunities and improvement in the general standard of living.

Being the Development Financial Institution of the North Eastern Region for the past 16 years, we have witnessed slow growth of industrial development, particularly in the Micro and Small Enterprises (MSE) sector despite abundant natural resources and supportive government policies and incentives.

It has always been the endeavour of NEDFi to create an enabling environment by providing hand holding support services to the entrepreneurs apart from extending financial assistance, in the MSME sector. Recently, the Corporation has taken a major initiative in setting up Business Facilitation Centres in the NE states to assist, guide and mentor potential entrepreneurs of North East.

To further assist the entrepreneurs of the region, NEDFi has developed 100 MSME Project Profiles. We hope that these Project Profiles would help first generation as well as the existing entrepreneurs of the region in selecting suitable business ideas based on market demand, availability of resources and of course their individual skills & expertise.

B. Paul Muktieh
Chairman cum Managing Director

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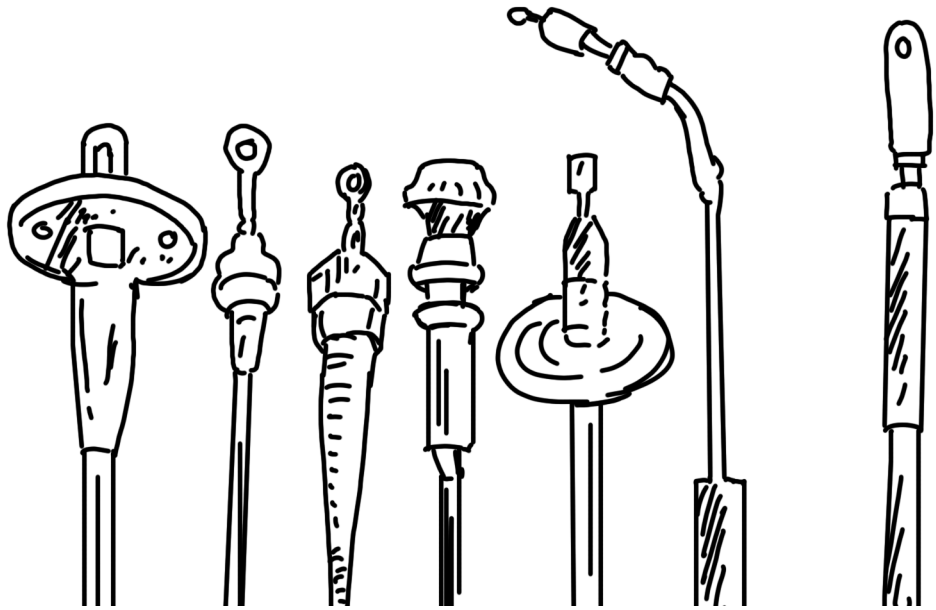
AUTO CONTROL CABLES



1.0 INTRODUCTION

Auto control cables are widely used in various controls of two/three wheel vehicles. Twisting of desired/required number of S.S. wires, of standard wire gauge and of different diameter into one cable makes these. The numbers of S.S. wires of standard gauge depends upon the end use of the auto control cables like brake wire, clutch wire, accelerator wire etc. Each type of cable is of different size depending upon the specific purpose of the cable. The auto control cables are put to frequent use during motion and also while starting and stopping. Due to frequent use, these are replaced often because of wear and breakage.

This project profile is for setting up of Auto Control Cables manufacturing unit with installed capacity of 7.20 lakhs numbers of cables per annum based on single shift of 8 working hours per day and 300 working days per annum.

2.0 MARKET POTENTIAL

Auto control cables have a wide and never ending replacement market, as the various control cables have to be replaced in any Scooter, Motorcycle, Auto Rickshaw, Moped etc. These are always required by Mechanics and Service stations. Different cables for different end use are packed in printed poly bags and marketed in dozen packing through the Auto part dealers/shops.

3.0 PROCESS DETAILS

S.S. wire of required standard wire gauge are reeled into the bobbins on the reel winder and loaded onto the bobbins holder of the wire twisting machine. With the help of wire twisting machine the required number of S.S. wires are twisted and converted into a single stranded wire of continuous length. The number of S.S. wires and gauge depend upon the type and use of Auto control cable to be made.

The stranded/twisted cable thus made is cut with the help of wire cutting machine into the required size. One end of this wire is butted and dipped into molten Zinc to avoid opening of strands of the cable. At the other end of the cable a zinc stopper of required design/size is fixed with the help of a die on a die-casting Machine. The cables thus made are checked/inspected and packed in printed poly bags for marketing.

4.0 COST OF THE PROJECT

The estimated project cost is given below.

Particulars	Amount (Rs lacs)
Land & Site Development	-
Building & Civil Works	5.04
Machinery & Equipment	3.20
Misc. Fixed Assets	0.20
Preliminary & Pre-operative Expenses	0.75
Working Capital	1.08
TOTAL	10.27

4.1 Land & Site Development: No. cost has been considered for land & site development. It is assumed that the unit will be set up in own land.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Work Shed (Open shed, CGI sheet roof, Concrete Floor)	60	3500	210000
Store room & office (Brick wall, CGI sheet roof, Concrete Floor)	40	6000	240000
		Sub total	450000
Add: Electrification, water supply, etc @ 12%			54000
		TOTAL	504000
		Say (Rs. in lacs)	5.04

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Wire twisting machine (19 bobbins - 1 hp motor)	4	25000	100000
Pressure Die Casting machine	1	45000	45000
Air Compressor (1 hp motor)	1	20000	20000
Wire stretching machine	1	28000	28000
Size cutter	1	2500	2500
Flower machine	1	5000	5000
Hand cutter	2	1000	2000
Hand press	1	3000	3000
Reel winder	1	4000	4000
Grinder	1	4000	4000
Dies for die casting	5	8000	40000
Shearing machine	1	1500	1500
Small bobbins	100	15	1500
Big bobbins	20	100	2000
Poly bags sealing machine	2	600	1200
Miscellaneous items	LS	LS	10000
		Sub total	269700
Add: Transportation, installation, etc @ 15%			40455
		TOTAL	320155
		Say (Rs. in lacs)	3.20

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Furniture & fixtures	LS	LS	10000
Miscellaneous items	LS	LS	10000
		TOTAL	20000
		Say (Rs. in lacs)	0.20

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

Particulars	Amount (Rs lacs)
Travelling expenses	0.20
Fees	0.20
Interest during implementation	0.25
Miscellaneous expenses	0.10
TOTAL	0.75

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

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

	Period (months)	Amount (Rs lacs)		
		Yr 1	Yr 2	Yr 3
Raw Materials & Consumables	1	0.89	1.07	1.25
Salary	1	0.40	0.40	0.41
Finished Goods	0.5	0.67	0.76	0.86
Receivables	0.5	0.75	0.90	1.05
Total		2.71	3.14	3.57
Working Capital Margin in Year 1 (40%)	1.08			

5.0 MEANS OF FINANCE

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

Particulars	Percent	Amount (Rs lacs)
EQUITY		
A. Equity from Promoters	40%	4.11
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	6.16
TOTAL	100%	10.27

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production capacity (sets of auto control cables/ annum)	60000	60000	60000	60000	60000
Capacity utilisation	50%	60%	70%	70%	70%
Production/annum at capacity utilisation	30000	36000	42000	42000	42000
Average price (Rs/set)	60	60	60	60	60

Total income/annum	18.00	21.60	25.20	25.20	25.20
B. OPERATING EXPENSES					
Raw Materials & Consumables	10.69	12.83	14.97	14.97	14.97
Power	0.21	0.25	0.29	0.29	0.29
Salary	4.80	4.85	4.90	4.95	4.99
Repair & Maintenance	0.08	0.09	0.10	0.11	0.12
Selling Expenses	0.18	0.22	0.25	0.25	0.25
Miscellaneous Expenses	0.09	0.11	0.13	0.13	0.13
Total Operating Expenses	16.06	18.35	20.64	20.70	20.76
Less: operating expenses capitalised	1.08	0.00	0.00	0.00	0.00
Operating profit	3.03	3.25	4.56	4.50	4.44
C. FINANCIAL EXPENSES					
Depreciation	0.41	0.41	0.41	0.41	0.41
Interest on Term Loan	0.49	0.41	0.29	0.18	0.06
Interest on Working Capital Loan	0.26	0.30	0.34	0.34	0.34
Net Profit	1.87	2.13	3.52	3.57	3.63
Net cash accruals	2.28	2.54	3.92	3.98	4.04
Principal Repayment	0.36	1.45	1.45	1.45	1.45

6.1 Estimation of Production Capacity: Production of sets of auto control cables at installed capacity is estimated as below.

Rated Plant Capacity (No. of auto controls cables in single shift per annum)	720000
No. of sets (12 nos/set)	60000

6.2 Raw Materials & Consumables: Expenses on raw materials & consumables at installed capacity is estimated as below.

Particulars	kg/dozen	Quantity required (kg)	Rate (Rs)	Amount (Rs)
SS wire	0.36	21600	80	1728000
Zinc alloy	0.03	1800	120	216000
			Sub total	1944000
Add: Consumables, packing materials, etc @ 10%				194400
Expenses on raw materials & consumables at installed capacity (Rs)				2138400

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

Connected load (kw)	5
Avg. load factor	70%
Hrs/day	8
Days/annum	300
Rate per unit (Rs)	5
Expenses on power at installed capacity (Rs)	42000

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

Particulars of Employees	Numbers	Salary/Month (Rs)	Cost/annum (Rs)
Manager (Self)	Self	-	-
Skilled workers	3	8000	288000
Semi skilled workers	2	5000	120000
Helpers	2	3000	72000
Expenses on salary in the 1st year (Rs)			480000

6.5 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 @ 10% every subsequent year.

Particulars	Cost (Rs)	Rate	Amount (Rs lacs)
Building & Civil works	5.04	1%	0.05
Machinery & Equipment	3.20	1%	0.03
Misc. Fixed Assets	0.20	1%	0.00
Expenses on repair & maintenance in the 1st year (Rs)			0.08

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

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

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

Description	Cost (Rs)	Rate	Amount/annum (Rs lacs)
Building & Civil works	5.04	3.34%	0.17
Machinery & Equipment	3.20	7.07%	0.23
Misc. Fixed Assets	0.20	6.23%	0.01
TOTAL	8.44		0.41

6.9 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 8% per annum. 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	6.16	5.80	4.35	2.90	1.45
	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	6.16	5.68	4.23	2.78	1.33
Month 2	Opening balance	6.16	5.68	4.23	2.78	1.33
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.16	5.56	4.11	2.66	1.21
Month 3	Opening balance	6.16	5.56	4.11	2.66	1.21
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.16	5.44	3.99	2.54	1.09
Month 4	Opening balance	6.16	5.44	3.99	2.54	1.09
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01

	Closing balance	6.16	5.32	3.87	2.42	0.97
Month 5	Opening balance	6.16	5.32	3.87	2.42	0.97
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.16	5.20	3.75	2.30	0.85
Month 6	Opening balance	6.16	5.20	3.75	2.30	0.85
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.02	0.01
	Closing balance	6.16	5.08	3.63	2.18	0.73
Month 7	Opening balance	6.16	5.08	3.63	2.18	0.73
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.16	4.95	3.50	2.05	0.60
Month 8	Opening balance	6.16	4.95	3.50	2.05	0.60
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.16	4.83	3.38	1.93	0.48
Month 9	Opening balance	6.16	4.83	3.38	1.93	0.48
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.16	4.71	3.26	1.81	0.36
Month 10	Opening balance	6.16	4.71	3.26	1.81	0.36
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.04	4.59	3.14	1.69	0.24
Month 11	Opening balance	6.04	4.59	3.14	1.69	0.24
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	5.92	4.47	3.02	1.57	0.12
Month 12	Opening balance	5.92	4.47	3.02	1.57	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	5.80	4.35	2.90	1.45	0.00
Principal Repayment		0.36	1.45	1.45	1.45	1.45
Interest		0.49	0.41	0.29	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)	1.87	2.13	3.52	3.57	3.63	
Depreciation	0.41	0.41	0.41	0.41	0.41	
Interest	0.49	0.41	0.29	0.18	0.06	
Total	2.77	2.95	4.22	4.16	4.10	18.19
Interest	0.49	0.41	0.29	0.18	0.06	
Loan repayment	0.36	1.45	1.45	1.45	1.45	
Total	0.85	1.86	1.74	1.63	1.51	7.60
DSCR	3.24	1.59	2.42	2.55	2.71	

Average DSCR = 2.39

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	18.00	21.60	25.20
B. Variable cost			
Raw Materials & Consumables	10.69	12.83	14.97
Power	0.21	0.25	0.29
Selling Expenses	0.18	0.22	0.25
Miscellaneous Expenses	0.09	0.11	0.13
Interest on Working Capital Loan	0.26	0.30	0.34
Total variable cost	11.43	13.71	15.98
C. Contribution (A-B)	6.57	7.89	9.22
D. Fixed & Semi-fixed Costs			
Salary	4.80	4.85	4.90
Repair & Maintenance	0.08	0.09	0.10
Interest on Term Loan	0.49	0.41	0.29
Depreciation	0.41	0.41	0.41
Total fixed cost	5.78	5.76	5.70
E. BREAK EVEN POINT	88.04%	72.97%	61.85%
F. BEP at operating capacity	44.02%	43.78%	43.29%
G. Cash BEP	40.92%	40.68%	40.20%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	8.44	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	2.71	0.43	0.43	0.00	0.00
Total (A)	8.44	2.71	0.43	0.43	0.00	0.00
CASH INFLOW						
Profit After Tax		1.87	2.13	3.52	3.57	3.63
Add: Depreciation		0.41	0.41	0.41	0.41	0.41
Add: Interest		0.49	0.41	0.29	0.18	0.06
Add: Salvage Value						
Total (B)	0.00	2.77	2.95	4.22	4.16	4.10
NET FLOW (B-A)	-8.44	0.06	2.52	3.79	4.16	4.10

IRR = 17%

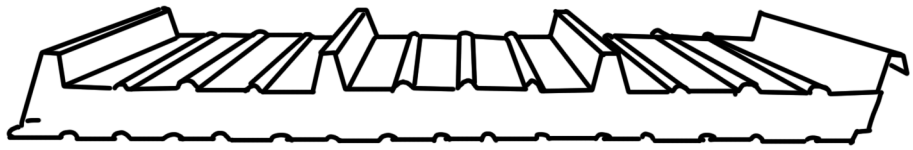
MACHINERY SUPPLIERS

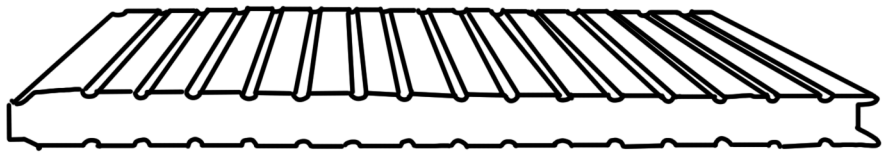
(a) Upkar Engineering Works
No. 19/174, Sarai Rohilla, Old Rohtak Road, New Delhi - 110 035, Delhi, India

(b) Sant Engineering Industries
No. 580, Main Faiz Road, Street No.17, Karol Bagh, New Delhi - 110005, Delhi, India

(c) Akash Industries
Plot No. 915, Gali No. 5, Krishna Vihar Industrial Area, Sewa Dham, Mandoli Road, Ghaziabad - 201 001, Uttar Pradesh, India

PUF PANEL & PREFAB SRUCTURE





1.0 INTRODUCTION

Polyurethane Foam (PUF) is a closed cell plastic capable of being moulded into boards and blocks that can be used as construction material, which is both low on maintenance and durable. PUF leads to energy saving and reduced heating/cooling loads. These are normally available in PPGI sandwiched options of varying length. PUF applications can be found in cold rooms, refrigerated vehicles, Green buildings, warehousing and storage applications and low cost housing.

As per the requirement, Sandwiched PUF panels of different thickness and length can be manufactured with consistent chemical and physical properties according to relevant national/international standards. These PUF Panels are used in insulated buildings as Wall, Floor, and Roof Panels. The pre-engineered PUF Panels helps in reducing on site waste and ensure the quality of installation, greatly reducing the risk of air leakages, cold bridging and inconsistent insulation.

PUF is base component for any of the applications, be it cold storage, doors, mobile vans or residential / office use. Though there are number of insulation solutions PUF is preferred over others because of its superior insulation characteristics. When PUF is sandwiched between two powder coated GI sheets, it gives mechanical strength also. That is why PUF panels are very good proposition for walls as well as roofs. There is extensive use of PUF panels in medical industry, be it in operation theatres or pharmaceutical plants.

Pre-Engineered Building (PEB) based PUF insulated structures are widely used in defence housing, warehousing etc. There is scope to customize all specific requirements with the proper technology.

The PUF Panels are generally used in the following:

- PUF Insulated Shelters/ Barracks
- High Altitude Habitat
- Ultra Light Weight Structures
- Ground+1 PEB Structures with PUF Insulation
- Bullet Proof Shelters and Permanent Defence (PD)
- Aircraft Hangers
- Industrial Buildings and sheds
- Low Cost Row Housing / Re-habilitation Colony.

Prefab technology involves use of factory-manufactured components in buildings. In large construction projects, various modules of the structure are cast off-site in factories and then assembled on the site. In the process, prefab materials such as wall and terrace blocks, wall panels, steel frames and plaster boards are used along with innovations such as the dry-wall technique. Pre-engineered building is very easy and quick to build. They can be easily constructed even in the area with space constraints as assembling of various building components do not require much space. As pre-engineered metal building is made up of metal, it is corrosion resistant, has good solidity and longer durability compared to standard buildings. They are planned, designed and almost pre-built at the factory itself. The building components just have to be assembled once they are transported to the desired location. They are pre-drilled, pre-cut, pre-welded and just need to be bolted together. This can often be done quickly and with a

minimum of professional assistance. Pre engineered steel buildings provide the planner to have innovative designs and have them successfully implemented as they can be constructed at places which have space constraints because they use assembling process for construction.

Pre-fabricated metal buildings have become a popular alternative to conventional buildings. This type of construction can be used for small storage buildings in a backyard of large industrial buildings. It also takes much less time to build these structures, compared to traditional buildings. With fewer components, the time it takes to complete a pre-engineered building is cut in half, compared to the time it takes to build a traditional structure. They require less maintenance than traditional buildings such as wood structures.

Some of the uses of Prefab structures are given below:

- Prefabricated Buildings
- Porta Cabins
- Security Guard Cabins
- Portable Toilets
- Labour Camps
- Cold Storages
- Portable Departmental Stores
- Pre Engineering Buildings
- Warehouse
- Factory

This project profile is for setting up of a PUF Panel and Prefab Structure manufacturing unit with installed capacity of 7500 sq mtr and 1500 MT per annum respectively.

2.0 MARKET POTENTIAL

The project is suitable in the North Eastern Region due to the growing construction works which is yet to be properly tapped. The boost of government spending and increased demand for housing as well as construction activity continues unabated in this part of the Country. North East is one of the few markets where the public sector spending in infrastructure and housing is significant along with the real estate activity happening in the private sector. Prefab construction in this region till now had been restricted to constructing small units like project site offices, cold storages, exhibition halls, portable cabins, kiosks, workshops and warehouses. But now with the country witnessing an infrastructure boom, even flyover construction and the Metro are applying the prefab construction techniques for the simple reason that normal construction methods cannot be used due to safety issues at these sites and work can be finished faster and with ease.

Some of the growth areas in the economy of the region which can lead to demand of prefabricated structures are as hereunder:

- The exhibition industry is in a modernization mode and growing at a rapid pace. New trade shows are being held, new exhibition centres have been constructed and the market is opening up to foreign investors. The exhibition market witnessed significant growth in the last 15 years. Several new exhibition venues came up during this period in several cities.

- Education is one of the largest service sector industries characterized by a unique set of attributes. The formal education space is regulated and has a dominant share in the overall education market. Many corporate houses have / are planning to set up their own chain of pre-schools. Pre schools are viewed as attractive investment opportunities due to the growth potential.

- The Indian aviation industry is one of the fastest-growing aviation industries in the world with private airlines accounting for more than 75 per cent of the sector of the domestic aviation market. Over the past year investment in airport infrastructure in the region is growing.

- The Warehousing sector is growing at a rate of 35-40 per cent every year. The growth potential for this sector is huge with approximately significant nos of Govt initiated logistics parks are likely to come up.

- The residential segment leads the growth trajectory-nearly 75-80% of the total real estate space. Rapid urbanization, increase in number of households, rising income levels and easy availability of housing finance are among the main reasons cited for this trend.

Prefab structures and puf panels have their own positive aspect which is one of the major factors that ensures demand for the products. Some of these are:

- Reduced construction time: Structures are typically delivered in just a few weeks after

approval of drawings. Foundation and anchor bolts are cast parallel with finished, ready for the site bolting.

- Lower costs: Due to the systems approach, there is a significant saving in design, manufacturing and on site erection cost.

- Flexibility of expansion: Structures can be easily expanded in length by adding additional bays. Also expansion in width and height is possible by pre designing for future expansion.

- Large clear spans: Structures can be supplied to around 80M clear spans.

- Quality control: As structures are manufactured completely in the factory under controlled conditions the quality is assured.

- Low maintenance: Structures are supplied with high quality paint systems for cladding and steel to suit ambient conditions at the site, which results in long durability and low maintenance coats.

- Energy efficient roofing and wall systems: Structures can be supplied with polyurethane insulated panels or fiberglass blankets insulation to achieve required "U" values.

- Architectural versatility: Structures can be supplied with various types of fascias, canopies, and curved eaves and are designed to receive pre cast concrete wall panels, curtain walls, block walls and other wall systems.

- Single source responsibility: As the complete building package is supplied by a single vendor, compatibility of all the building components and accessories assured. This is one of the major benefits of the pre engineered building systems etc.

3.0 PROCESS DETAILS

(i) PUF Panel: Puf Panels are produced by the standard production process as per the set standard conforming to the requirement of the industry. The metal sheet is first profiled as per requirement of roof or wall or as per customer specification. Then the profiled sheet is cut to size in length and breadth with side 10 mm bent. The bed of the press is made ready for the given length and breadth and of desired thickness using spacer. After that the profiled sheets are kept in place in the adjusted area of the press platform that travels inside the press on either side along with the cam lock at cam stations. The platform is rolled in and the press is raised to close. There is small orifice at the length side of press through which polyurethane liquid is injected as per set programme. In both the panel of upper and lower the panel head in press for appx 20 mins and then moved out and removed from the platform so that new set of profiled sheets are put along with cam locks. On removing from the press the panels are put on even surface and allowed to cool and ready for shipment. This process will go on and can be varied in sizes for length, width or the thickness.

(ii) Prefab Structure: The PFB production process primarily consists of FOUR major parallel processing lines, as under:

- Built-up members for Primary frame
- Cold forming for Secondary framing
- Profiling for Roof and Wall sheeting
- Accessories & Bracings like Gutters, down take pipes, ridge Vents, Skylights, clips etc.

The production & shipment of these components for a PFB structure uses following processes:

- Plate cutting using Shear/Plasma/Multi-torch for optimized use of plate area.
- H-beam welding on automatic welding machines using SAW or MIG welding process
- Fabrication for fitments like end plates, stiffeners and connections cleats.
- Cleaning the surface for painting
- Slitting HR coils for cold forming operations to make Z and C sections with punching
- Cutting and threading sag rods and bracing rods
- Fabrication of Diagonal bracing angles or pipes
- Profiling the Galvalume/Zincalume sheets for roofing and wall cladding
- Manufacturing Gutters, down take pipes in press bend
- Procuring and assigning required matching fasteners for connections
- Organizing some bought out accessories
- Quality control tests & inspection; and matching with project wise Bill of Quantities as given by the engineering department.
- Dispatching to project sites as per sequence of erection.

4.0 COST OF THE PROJECT

The estimated project cost is given below.

Particulars	Amount (Rs lacs)
Land & Site Development	0.00
Building & Civil Works	20.30
Plant & Machinery	292.05
Misc. Fixed Assets	26.28
Preliminary & Pre-operative Expenses	14.39
Contingencies & Escalation @ 3%	10.16
Working Capital Margin	73.17
TOTAL	436.34

4.1 Land & Site Development: No cost has been considered for land & site development. It is assumed that the [Project will be set up in existing land].

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Factory building (Open shed with CGI sheet roof, concrete floor)	400	3500	1400000
Store (Brick wall, CGI sheet roof, concrete floor)	40	6000	240000
Labor quarters	30	3500	105000
Weigh bridge platform	LS	LS	100000
		Sub total	1845000
Add: Electrification, sanitation, etc @ 10%			184500
		TOTAL	2029500
		Say (Rs. in lacs)	20.30

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Double head decoiler	1	1900000	1900000
Cut to length machine	1	3900000	3900000
Ribbing profile machine	1	2500000	2500000
Compressor	1	180000	180000
Air drier	1	70000	70000
Carriage system	1	1230000	1230000
Hydraulic panel	1	4870000	4870000
Polyurethane Foaming machine	1	4830000	4830000
Welding machine	20	65000	1300000
Gas cutting set	3	26000	78000
Drill machine (big)	2	110000	220000
Drill machine (small)	2	92000	184000
Pipe cutting machine	6	14500	87000
Grinding machine (big)	6	17600	105600
Grinding machine (medium)	4	13900	55600
Grinding machine (small)	2	8400	16800
Sheet rolling machine	1	1710000	1710000
aluminium profile cutter	1	275000	275000
Hand drill	2	5600	11200
Magnetic drill	6	57000	342000
Hand held sheet cutting machine	2	6500	13000
Angle cutting machine	1	872500	872500

Thread cutting machine	1	645000	645000
		Sub total	25395700
Add: Installation, transportation, taxes, etc @ 15%			3809355
		TOTAL	29205055
		Say (Rs. in lacs)	292.05

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Installation of Transformer	1	1000000	1000000
250 kva DG set	1	889000	889000
Fire fighting equipment	LS	LS	100000
Workshop equipment	LS	LS	200000
Laboratory equipment	LS	LS	100000
Furniture & fixtures	LS	LS	50000
Miscellaneous items	LS	LS	50000
		Sub total	2389000
Add: Installation, transportation, etc @ 10%			238900
		TOTAL	2627900
		Say (Rs. in lacs)	26.28

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

Particulars	Amount (Rs lacs)
Travelling expenses	1.00
Professional & other fees	1.00
Interest during implementation	11.89
Miscellaneous expenses	0.50
TOTAL	14.39

4.6 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

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

	Period (Days)	Amount (Rs lacs)		
		Year 1	Year 2	Year 3
Raw Materials	30	66.54	83.17	99.81
Power & fuel	30	0.60	0.75	0.90
Salary	30	3.55	3.57	3.59
Finished Goods/in process	30	72.17	89.29	106.40
Receivables	15	40.07	50.09	60.10
Total		182.93	226.86	270.80

Working Capital Margin in Year 1 (40%)	73.17

5.0 MEANS OF FINANCE

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

Particulars	Percent	Amount (Rs lacs)
EQUITY		
A. Equity from Promoters	40%	174.54
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	261.81
TOTAL	100%	436.34

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Capacity utilisation	40%	50%	60%	60%	60%	60%	60%
Income from sales	975.00	1218.75	1462.50	1462.50	1462.50	1462.50	1462.50
B. OPERATING EXPENSES							
Raw Materials	809.55	1011.94	1214.33	1214.33	1214.33	1214.33	1214.33
Power & Fuel	7.30	9.12	10.94	10.94	10.94	10.94	10.94
Salary	43.20	43.42	43.63	43.85	44.07	44.29	44.51
Repair & Maintenance	3.39	3.56	3.73	3.92	4.12	4.32	4.54
Selling Expenses	9.75	12.19	14.63	14.63	14.63	14.63	14.63
Miscellaneous Expenses	4.88	6.09	7.31	7.31	7.31	7.31	7.31
Total Operating Expenses	878.06	1086.31	1294.57	1294.98	1295.39	1295.82	1296.26
Less working expenses capitalised	73.17	0.00	0.00	0.00	0.00	0.00	0.00
Operating profit	170.11	132.44	167.93	167.52	167.11	166.68	166.24
C. FINANCIAL EXPENSES							
Depreciation	17.76	17.76	17.76	17.76	17.76	17.76	17.76
Interest on Term Loan	35.34	32.64	26.75	20.86	14.97	9.08	3.19
Interest on WC Loan	17.56	21.78	26.00	26.00	26.00	26.00	26.00
Net Profit	99.45	60.26	97.42	102.90	108.38	113.84	119.29
Net cash accruals	117.21	78.02	115.18	120.66	126.14	131.60	137.06
Principal Repayment	0.00	43.63	43.63	43.63	43.63	43.63	43.63

6.1 Income from Sales: Income from sales at installed capacity is estimated as below.

Product	Unit	Installed Capacity (MT)	Sale price (Rs/unit)	Amount (Rs)
Puf panel	Sqm	75000	1750	131250000
Prefab structure	kg	1500000	75	112500000
Income from sales at installed capacity (Rs)				243750000

6.2 Raw Materials: Expenses on raw materials at installed capacity is estimated as below.

Particulars	Unit	Qty required/unit	Rate (Rs)	Amount (Rs)
Puf panel				-
Polyol	litres	1.09	210	229
ISO	litres	1.31	210	275
PPGI	sqm	2.00	430	860
Clamp lock	sqm	1.67	80	134
Expenses on raw materials per unit Puf panel (Rs)				1498
Add: Scaling loss @ 5%				75
Expenses on raw materials at installed capacity for Puf panel				117936000
Pre fab structures				-
Pipe	kg	0.88	54	48
Flat	kg	0.07	50	4
Plate	kg	0.05	52	3
Expenses on raw materials per unit Pre fab structures (Rs)				54
Add: Scaling loss @ 5%				3
Expenses on raw materials at installed capacity for Pre fab structures				84451500
Expenses on raw materials at installed capacity (Rs)				202387500

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

A. Expenses on power

Connected load	250
Avg load factor	70%
Proportion running on power	80%
Hrs/day	8
Days/annum	300
Annual power consumption	336000
Rate (Rs/unit)	5
Expenses on power per annum at 100% capacity (Rs)	1680000

B: Estimate of Diesel

Proportion running on fuel (diesel)	20%
Hrs/annum	480
Diesel consumption (litres/hr)	6
Diesel Price per litre	50
Expenses on diesel per annum at 100% capacity (Rs)	144000
Expenses on power & fuel at 100% capacity (Rs)	1824000

6.4 Salary: Expenses on salary in the 1st year is 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	1	50000	600000
Supervisors	3	30000	1080000
Accounts Officer	1	25000	300000
Technicians/machine operators	10	12000	1440000
Sales staff	3	5000	180000
Unskilled workers/helpers	15	4000	720000
Expenses on salary in the 1st year (Rs)			4320000

6.5 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 @ 5% every subsequent year.

Particulars	Cost (Rs)	Rate	Amount (Rs lacs)
Building & Civil Works	20.30	1%	0.20
Plant & Machinery	292.05	1%	2.92
Misc. Fixed Assets	26.28	1%	0.26
Expenses on repair & maintenance in year 1			3.39

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

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

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

Description	Cost (Rs)	Rate	Amount/annum (Rs lacs)
Building & Civil Works	20.30	3.34%	0.68
Plant & Machinery	292.05	5.28%	15.42
Misc. Fixed Assets	26.28	6.33%	1.66
TOTAL			17.76

6.9 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 13.5%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	261.81	261.81	218.17	174.54	130.90	87.27	43.63
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest (13.5%)	2.95	2.95	2.45	1.96	1.47	0.98	0.49
	Closing balance	261.81	258.17	214.54	170.90	127.27	83.63	40.00
Month 2	Opening balance	261.81	258.17	214.54	170.90	127.27	83.63	40.00
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.90	2.41	1.92	1.43	0.94	0.45
	Closing balance	261.81	254.53	210.90	167.26	123.63	80.00	36.36
Month 3	Opening balance	261.81	254.53	210.90	167.26	123.63	80.00	36.36
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.86	2.37	1.88	1.39	0.90	0.41
	Closing balance	261.81	250.90	207.26	163.63	119.99	76.36	32.73
Month 4	Opening balance	261.81	250.90	207.26	163.63	119.99	76.36	32.73
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.82	2.33	1.84	1.35	0.86	0.37
	Closing balance	261.81	247.26	203.63	159.99	116.36	72.72	29.09
Month 5	Opening balance	261.81	247.26	203.63	159.99	116.36	72.72	29.09
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.78	2.29	1.80	1.31	0.82	0.33
	Closing balance	261.81	243.62	199.99	156.36	112.72	69.09	25.45
Month 6	Opening balance	261.81	243.62	199.99	156.36	112.72	69.09	25.45
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.74	2.25	1.76	1.27	0.78	0.29
	Closing balance	261.81	239.99	196.35	152.72	109.09	65.45	21.82
Month 7	Opening balance	261.81	239.99	196.35	152.72	109.09	65.45	21.82
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.70	2.21	1.72	1.23	0.74	0.25
	Closing balance	261.81	236.35	192.72	149.08	105.45	61.82	18.18
Month 8	Opening balance	261.81	236.35	192.72	149.08	105.45	61.82	18.18
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.66	2.17	1.68	1.19	0.70	0.20
	Closing balance	261.81	232.72	189.08	145.45	101.81	58.18	14.54
Month 9	Opening balance	261.81	232.72	189.08	145.45	101.81	58.18	14.54
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.62	2.13	1.64	1.15	0.65	0.16
	Closing balance	261.81	229.08	185.45	141.81	98.18	54.54	10.91
Month 10	Opening balance	261.81	229.08	185.45	141.81	98.18	54.54	10.91
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.58	2.09	1.60	1.10	0.61	0.12
	Closing balance	261.81	225.44	181.81	138.18	94.54	50.91	7.27
Month 11	Opening balance	261.81	225.44	181.81	138.18	94.54	50.91	7.27
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64
	Interest	2.95	2.54	2.05	1.55	1.06	0.57	0.08
	Closing balance	261.81	221.81	178.17	134.54	90.90	47.27	3.64
Month 12	Opening balance	261.81	221.81	178.17	134.54	90.90	47.27	3.64
	Repayment	0.00	3.64	3.64	3.64	3.64	3.64	3.64

	Interest	2.95	2.50	2.00	1.51	1.02	0.53	0.04
	Closing balance	261.81	218.17	174.54	130.90	87.27	43.63	0.00
Principal Repayment		0.00	43.63	43.63	43.63	43.63	43.63	43.63
Interest		35.34	32.64	26.75	20.86	14.97	9.08	3.19

6.10 Interest on Working Capital Loan: Interest rate on working capital loan has been assumed at 16%. Details of calculation are given below.

(Rs. in lacs)

Particulars	Year 1	Year 2	Year 3
Total current assets	182.93	226.86	270.80
Bank Loan (60%)	109.76	136.12	162.48
Interest @ 16%	17.56	21.78	26.00

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7	TOTAL
Net Profit	99.45	60.26	97.42	102.90	108.38	113.84	119.29	
Depreciation	17.76	17.76	17.76	17.76	17.76	17.76	17.76	
Interest	35.34	32.64	26.75	20.86	14.97	9.08	3.19	
Total	152.55	110.66	141.93	141.53	141.11	140.68	140.25	968.71
Interest	35.34	32.64	26.75	20.86	14.97	9.08	3.19	
Loan repayment	0.00	43.63	43.63	43.63	43.63	43.63	43.63	
Total	35.34	76.28	70.39	64.50	58.61	52.72	46.82	404.65
DSCR	4.32	1.45	2.02	2.19	2.41	2.67	3.00	

Average DSCR = 2.39

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	975.00	1218.75	1462.50
B. Variable cost			
Raw Materials	809.55	1011.94	1214.33
Power & Fuel	7.30	9.12	10.94
Selling Expenses	9.75	12.19	14.63
Miscellaneous Expenses	4.88	6.09	7.31
Interest on Working Capital Loan	17.56	21.78	26.00
Total variable cost	849.03	1061.12	1273.20
C. Contribution (A-B)	125.97	157.63	189.30
D. Fixed & Semi-fixed Costs			
Salary	43.20	43.42	43.63
Repair & maintenance	3.39	3.56	3.73
Interest on Term Loan	35.34	32.64	26.75
Depreciation	17.76	17.76	17.76
Total fixed cost	99.69	97.38	91.88
E. BREAK EVEN POINT	79.14%	61.77%	48.54%
F. BEP at operating capacity	31.66%	30.89%	29.12%
G. Cash BEP	26.02%	25.25%	23.49%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	338.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	182.93	43.94	43.94	0.00	0.00	0.00	0.00
Total (A)	338.62	182.93	43.94	43.94	0.00	0.00	0.00	0.00
CASH INFLOW								
Profit After Tax		99.45	60.26	97.42	102.90	108.38	113.84	119.29
Add: Depreciation		17.76	17.76	17.76	17.76	17.76	17.76	17.76
Add: Interest		35.34	32.64	26.75	20.86	14.97	9.08	3.19
Add: Salvage Value								
Total (B)	0.00	152.55	110.66	141.93	141.53	141.11	140.68	140.25
NET FLOW (B-A)	-338.62	-30.37	66.72	97.99	141.53	141.11	140.68	140.25

IRR = 16%

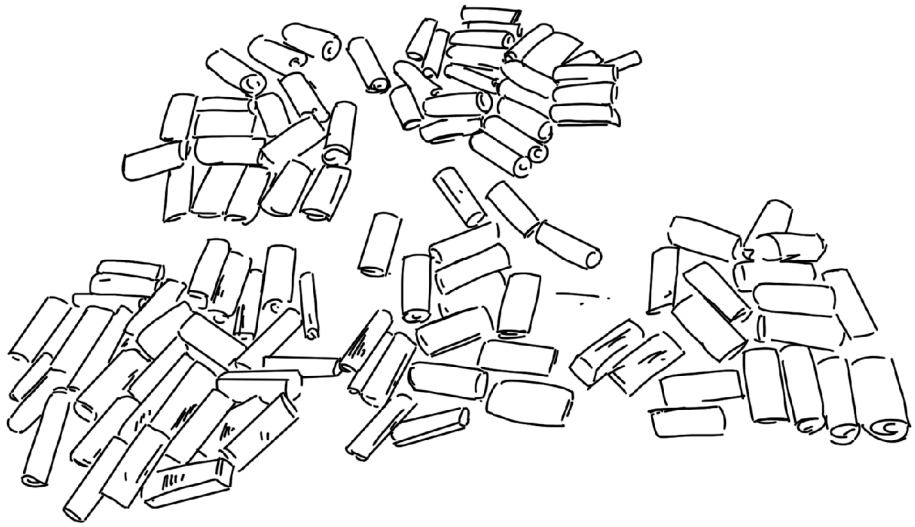
MACHINERY SUPPLIERS

(a) Mechwell Controls
135/31, Rajendra Park, Opp. Bhardwaj Hospital (Near Railway Station)
Gurgaon (Haryana), 122 001 - (India)

(b) Manorath Engineering Works
A- 2775, S. G. M. Nagar, 25 Feet Road, Faridabad - 121 001, Haryana, India

(c) Avanzaro Technologies
C - 70, Beta - 1, District G. B. Nagar, Greater Noida - 201 301, Uttar Pradesh, India

REPROCESSED PLASTIC GRANULES



1.0 INTRODUCTION

Over the years, India has made significant progress in the industrial world with healthy economic growth. Plastics, one of the fastest growing industries in India, have a vital role to play. Indian Plastic Industry is expanding at a phenomenal pace. Major international companies from various sectors such as automobiles, electronics, telecommunications, food processing, packing, healthcare etc. have set-up large manufacturing bases in India. Therefore, demand for plastics is rapidly increasing and soon India will emerge as one of the fastest growing markets in the world. The rising demand for plastic products around the world is giving a boost to the plastic industry.

The next two decades are expected to offer unprecedented opportunities for the plastic industry in India. This would necessitate industry initiatives to foster investments, grow the market, upgrade quality standards, enhance global participation, encourage Indian industry, to adopt and adapt to world class manufacturing practices.

The Indian plastic processing industry is highly fragmented and comprises 25,000 firms. Barring 10% - 15% of the firms, which can be classified as medium scale operations, all the units operate on a small-scale basis.

This project profile is for setting up of a Reprocessed Plastic Granules manufacturing unit with installed capacity of 324 MT per annum.

2.0 MARKET POTENTIAL

In India, the top 100 players account for just 20% of the industry turnover. The total number of players in the sector is more than 25,000. Despite the small size of operations of the players, they are able to operate profitably. Further, the high growth in demand ensures that the market is able to absorb the excess capacity in quick time. Thus, there is scope for setting up more small scale plastic processing units.

3.0 PROCESS DETAILS

The manufacturing process for Reprocessed Plastic Granules is described below.

(i) Waste plastic scraps are collected and sorted as per colour and then washed in washing machine.

(ii) Washed scrap is dried under hydro dryer machine.

(iii) These dry scrap materials are put in the grinder machine, so that the scraps are cut down to small pieces.

(iv) The small pieces of plastic waste are put in the mixer machine so that the moisture is removed totally.

(v) After removing moisture, these plastics are put in the extruder machine, goes through various processes inside it and results in the output as reprocessed plastic granules (dana).

4.0 COST OF THE PROJECT

The estimated project cost is given below.

Particulars	Amount (Rs lacs)
Land & Site Development	3.00
Building & Civil Works	22.61
Plant & Machinery	17.48
Misc. Fixed Assets	13.42
Preliminary & Pre-operative Expenses	5.98
Contingencies & Escalation @ 3%	1.61
Working Capital Margin	5.79
TOTAL	69.88

4.1 Land & Site Development: No cost has been considered for purchase of land. Details of expenses on site development are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Earth filling, boundary fencing, etc.	LS	LS	300000
		Say (Rs. in lacs)	3.00

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Factory building (Open shed with CGI sheet roof, concrete floor)	450	3500	1575000
Store, office, labour quarters, etc (Brick wall, CGI sheet roof, concrete floor)	80	6000	480000
		Sub total	2055000
Add: Electrification, sanitation, etc @ 10%			205500
		TOTAL	2260500
		Say (Rs. in lacs)	22.61

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Extruder	1	800000	800000
Scrap grinder	1	175000	175000
High speed mixer machine	1	150000	150000
Hydro dryer machine	1	95000	95000
Washing machine	1	200000	200000
Miscellaneous items	LS	LS	100000
		Sub total	1520000
Add: Installation, transportation, taxes, etc @ 15%			228000
		TOTAL	1748000
		Say (Rs. in lacs)	17.48

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Installation of Transformer (100 kva)	1	200000	200000
100 kva DG set	1	800000	800000
Weighing scale	1	20000	20000
Furniture & fixtures	LS	LS	100000
Miscellaneous items	LS	LS	100000
		Sub total	1220000
Add: Installation, transportation, etc @ 10%			122000
		TOTAL	1342000
		Say (Rs. in lacs)	13.42

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

Particulars	Amount (Rs lacs)
Travelling expenses	1.00
Professional & other fees	1.00
Interest during implementation	3.48
Miscellaneous expenses	0.50
TOTAL	5.98

4.6 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

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

	Period (Days)	Amount (Rs lacs)		
		Year 1	Year 2	Year 3
Raw Materials	30	3.76	4.39	5.02
Power & fuel	30	0.45	0.52	0.60
Salary	30	1.27	1.28	1.29
Finished Goods	30	5.63	6.36	7.09
Receivables	15	3.36	3.82	4.37
Total		14.47	16.38	18.36
Working Capital Margin in Year 1 (40%)	5.79			

5.0 MEANS OF FINANCE

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

Particulars	Percent	Amount (Rs lacs)
EQUITY		
A. Equity from Promoters	40%	27.95
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	41.93
TOTAL	100%	69.88

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (MT)	324.00	324.00	324.00	324.00	324.00	324.00	324.00
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production at CU (MT)	194.40	226.80	259.20	259.20	259.20	259.20	259.20
Sale price (Rs/MT)	42000	41000	41000	41000	41000	41000	41000
Income from sales/annum	81.65	92.99	106.27	106.27	106.27	106.27	106.27
B. OPERATING EXPENSES							
Raw Materials	45.80	53.44	61.07	61.07	61.07	61.07	61.07
Power & Fuel	5.47	6.38	7.30	7.30	7.30	7.30	7.30
Salary	15.48	15.56	15.64	15.71	15.79	15.87	15.95
Repair & Maintenance	0.54	0.59	0.65	0.71	0.78	0.86	0.95
Selling Expenses	0.82	0.93	1.06	1.06	1.06	1.06	1.06
Miscellaneous Expenses	0.41	0.46	0.53	0.53	0.53	0.53	0.53
Total Operating Expenses	68.52	77.36	86.25	86.39	86.54	86.70	86.86

Less working expenses capitalised	5.79	0.00	0.00	0.00	0.00	0.00	0.00
Operating profit	18.92	15.62	20.03	19.88	19.73	19.58	19.41
C. FINANCIAL EXPENSES							
Depreciation	2.53	2.53	2.53	2.53	2.53	2.53	2.53
Interest on Term Loan	5.66	5.23	4.28	3.34	2.40	1.45	0.51
Interest on WC Loan	1.39	1.57	1.76	1.76	1.76	1.76	1.76
Net Profit	9.34	6.30	11.45	12.25	13.05	13.83	14.61
Net cash accruals	11.87	8.82	13.98	14.78	15.57	16.36	17.14
Principal Repayment	0.00	6.99	6.99	6.99	6.99	6.99	6.99

6.1 Estimation of Production: Production of plastic granules at installed capacity is estimated as below.

Output of plastic granules per hr (kg)	135
Hrs/day	8
Days/annum	300
Production of plastic granules per annum at installed capacity (Kg)	324000

6.2 Raw Materials: Expenses on raw materials at installed capacity is estimated as below.

Plastic scrap (kg)	324000
Calcium carbonate @ 2% of scrap	6480
Raw material utilised (kg)	330480
Average price of raw materials (Rs/kg)	22
Expenses on raw materials (Rs)	7270560
Add: Expenses on consumables, packing materials, etc @ 5%	363528
Expenses on raw materials & consumables at installed capacity (Rs)	7634088

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

A. Expenses on power

Connected load	100
Avg load factor	70%
Proportion running on power	80%
Hrs/day	8
Days/annum	300
Annual power consumption	134400
Rate (Rs/unit)	5
Expenses on power per annum at 100% capacity (Rs)	672000

B: Estimate of Diesel

Proportion running on fuel (diesel)	20%
Hrs/ annum	480
Diesel consumption (litres/hr)	10
Diesel Price per litre	50
Expenses on diesel per annum at 100% capacity (Rs)	240000
Expenses on power & fuel at 100% capacity (Rs)	912000

6.4 Salary: Expenses on salary in the 1st year is 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	1	25000	300000
Supervisor	1	12000	144000
Accounts Officer	1	12000	144000
Technicians/machine operators	5	8000	480000
Sales staff	2	5000	120000
Unskilled workers/helpers	10	3000	360000
Expenses on salary in the 1st year (Rs)			1548000

6.5 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 @ 10% every subsequent year.

Particulars	Cost (Rs)	Rate	Amount (Rs lacs)
Building & Civil Works	22.61	1%	0.23
Plant & Machinery	17.48	1%	0.17
Misc. Fixed Assets	13.42	1%	0.13
Expenses on repair & maintenance in year 1			0.54

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

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

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

Description	Cost (Rs)	Rate	Amount/annum (Rs lacs)
Building & Civil Works	22.61	3.34%	0.76
Plant & Machinery	17.48	5.28%	0.92
Misc. Fixed Assets	13.42	6.33%	0.85
TOTAL			2.53

6.9 Interest on Term Loan & Principal Repayment: Interest rate has been assumed at 13.5%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	41.93	41.93	34.94	27.95	20.96	13.98	6.99
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest (13.5%)	0.47	0.47	0.39	0.31	0.24	0.16	0.08
	Closing balance	41.93	41.35	34.36	27.37	20.38	13.39	6.41
Month 2	Opening balance	41.93	41.35	34.36	27.37	20.38	13.39	6.41
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.47	0.39	0.31	0.23	0.15	0.07
	Closing balance	41.93	40.76	33.78	26.79	19.80	12.81	5.82
Month 3	Opening balance	41.93	40.76	33.78	26.79	19.80	12.81	5.82
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.46	0.38	0.30	0.22	0.14	0.07
	Closing balance	41.93	40.18	33.19	26.21	19.22	12.23	5.24
Month 4	Opening balance	41.93	40.18	33.19	26.21	19.22	12.23	5.24
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58

	Interest	0.47	0.45	0.37	0.29	0.22	0.14	0.06
	Closing balance	41.93	39.60	32.61	25.62	18.64	11.65	4.66
Month 5	Opening balance	41.93	39.60	32.61	25.62	18.64	11.65	4.66
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.45	0.37	0.29	0.21	0.13	0.05
	Closing balance	41.93	39.02	32.03	25.04	18.05	11.06	4.08
Month 6	Opening balance	41.93	39.02	32.03	25.04	18.05	11.06	4.08
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.44	0.36	0.28	0.20	0.12	0.05
	Closing balance	41.93	38.44	31.45	24.46	17.47	10.48	3.49
Month 7	Opening balance	41.93	38.44	31.45	24.46	17.47	10.48	3.49
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.43	0.35	0.28	0.20	0.12	0.04
	Closing balance	41.93	37.85	30.86	23.88	16.89	9.90	2.91
Month 8	Opening balance	41.93	37.85	30.86	23.88	16.89	9.90	2.91
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.43	0.35	0.27	0.19	0.11	0.03
	Closing balance	41.93	37.27	30.28	23.29	16.31	9.32	2.33
Month 9	Opening balance	41.93	37.27	30.28	23.29	16.31	9.32	2.33
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.42	0.34	0.26	0.18	0.10	0.03
	Closing balance	41.93	36.69	29.70	22.71	15.72	8.74	1.75
Month 10	Opening balance	41.93	36.69	29.70	22.71	15.72	8.74	1.75
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.41	0.33	0.26	0.18	0.10	0.02
	Closing balance	41.93	36.11	29.12	22.13	15.14	8.15	1.16
Month 11	Opening balance	41.93	36.11	29.12	22.13	15.14	8.15	1.16
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.41	0.33	0.25	0.17	0.09	0.01
	Closing balance	41.93	35.52	28.54	21.55	14.56	7.57	0.58
Month 12	Opening balance	41.93	35.52	28.54	21.55	14.56	7.57	0.58
	Repayment	0.00	0.58	0.58	0.58	0.58	0.58	0.58
	Interest	0.47	0.40	0.32	0.24	0.16	0.09	0.01
	Closing balance	41.93	34.94	27.95	20.96	13.98	6.99	0.00
Principal Repayment		0.00	6.99	6.99	6.99	6.99	6.99	6.99
Interest		5.66	5.23	4.28	3.34	2.40	1.45	0.51

6.10 Interest on Working Capital Loan: Interest rate on working capital loan has been assumed at 16%. Details of calculation are given below.

(Rs. in lacs)

Particulars	Year 1	Year 2	Year 3
Total current assets	14.47	16.38	18.36
Bank Loan (60%)	8.68	9.83	11.02
Interest @ 16%	1.39	1.57	1.76

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7	TOTAL
Profit After Tax (Net Profit)	9.34	6.30	11.45	12.25	13.05	13.83	14.61	
Depreciation	2.53	2.53	2.53	2.53	2.53	2.53	2.53	
Interest	5.66	5.23	4.28	3.34	2.40	1.45	0.51	
Total	17.53	14.05	18.26	18.12	17.97	17.81	17.65	121.40
Interest	5.66	5.23	4.28	3.34	2.40	1.45	0.51	
Loan repayment	0.00	6.99	6.99	6.99	6.99	6.99	6.99	
Total	5.66	12.22	11.27	10.33	9.39	8.44	7.50	64.81
DSCR	3.10	1.15	1.62	1.75	1.91	2.11	2.35	

Average DSCR = 1.87

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	81.65	92.99	106.27
B. Variable cost			
Raw Materials	45.80	53.44	61.07
Power & Fuel	5.47	6.38	7.30
Selling Expenses	0.82	0.93	1.06
Miscellaneous Expenses	0.41	0.46	0.53
Interest on Working Capital Loan	1.39	1.57	1.76
Total variable cost	53.89	62.79	71.73
C. Contribution (A-B)	27.76	30.20	34.55
D. Fixed & Semi-fixed Costs			
Salary	15.48	15.56	15.64
Repair & maintenance	0.54	0.59	0.65
Interest on Term Loan	5.66	5.23	4.28
Depreciation	2.53	2.53	2.53
Total fixed cost	24.20	23.90	23.09
E. BREAK EVEN POINT	87.19%	79.15%	66.85%
F. BEP at operating capacity	52.32%	55.40%	53.48%
G. Cash BEP	46.85%	49.54%	47.63%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	56.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	14.47	1.90	1.98	0.00	0.00	0.00	0.00
Total (A)	56.51	14.47	1.90	1.98	0.00	0.00	0.00	0.00
CASH INFLOW								
Profit After Tax		9.34	6.30	11.45	12.25	13.05	13.83	14.61
Add: Depreciation		2.53	2.53	2.53	2.53	2.53	2.53	2.53
Add: Interest		5.66	5.23	4.28	3.34	2.40	1.45	0.51
Add: Salvage Value								
Total (B)	0.00	17.53	14.05	18.26	18.12	17.97	17.81	17.65
NET FLOW (B-A)	-56.51	3.06	12.15	16.28	18.12	17.97	17.81	17.65

IRR = 15%

MACHINERY SUPPLIERS

(a) Sant Engineering Industries
No. 580, Main Faiz Road, Street No.17, Karol Bagh, New Delhi - 110005, Delhi, India

(b) Hindustan Plastic And Machine Corporation
5, Category II, D. S. I. D. C. Industrial Area Nangloi, New Delhi - 110 041, Delhi, India

(c) Disha Machinery & Projects Pvt. Ltd.
A-303, Plot No. 2, Sector - 3, Sansad Vihar, Dwarka, New Delhi - 110 075, Delhi, India

DISPOSABLE PLASTIC CUP

1.0 INTRODUCTION

Disposable Plastic Cups are widely used in hotel, homes and restaurants for drinking tea, coffee, beer, juices, soft drinks etc. They are available in the market in various sizes, thickness and volumes catering to different needs of the client. These products are conveniently used for serving eatables during family functions etc. They are fast replacing conventional cups, containers etc., and enjoy significant advantage over conventional cups like attractive look, low weight, ease of transportation, low permeability. With rapidly changing life style and food habits of urban class, the demand for disposable cups etc., are increasing at a rapid rate. Further they avoid the drudgery of cleaning as against conventional glass container or ceramic cup. Because of these features, organisations like Airlines, Railways, etc., have switched over to use of disposable cups for serving coffee, tea etc. However, the major customer of disposable cups continues to be ice cream industry.

This project profile is for setting up of a disposable cups and glasses making unit, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;

Disposable Cups - 30.00 Lakhs Nos.
Disposable Glass - 30.00 Lakhs Nos.

2.0 MARKET POTENTIAL

Disposable Cups and Glasses have good demand potential both in urban as well as in rural markets. 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, people 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, cups and glasses. 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 manufacturing process involves, feeding of thermoplastic sheet in the thermophorming machine in the form of a continuous roll. The conveyor chains carry the sheet through the heater assembly to the forming table. The heated sheet is punched to form the shape of the mould. The cups thus formed are stocked and the punched waster sheet is wound on scrap sheet winder. To get printed products, the sheets are printed before forming into cups and glasses. As the raw material wastage is very high the scrap needs to be recycled. The scrap can be ground and extruded in sheet extruder.

4.0. COST OF THE PROJECT

The estimated project cost is given below: **(Rs. in lacs)**

Particulars	Amount (Rs)
Land & Site development	**Own Land/On Lease**
Building & Civil works	**6.60**
Plant & Machinery	**28.00**
Misc. Fixed assets	**3.14**
Preliminary & pre-operative expenses	**1.87**
Contingencies & escalation @ 3%	**1.13**
Working capital	**0.87**
TOTAL	**41.60**

4.1 Land & Site Development: Total Land: 3,000 Sq. Ft. ; Covered Area: 2,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sq. Ft.)	Rate (Rs)	Amount (Rs)
Factory Shed, Storage Go-down and Office	2000	275	550000
		Sub total	**550000**
Add: Electrification, water supply and sanitation @ 20%			110000
		TOTAL	**660000**
		Say (Rs. in lacs)	**6.60**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Automatic thermoforming Machine	1	2450000
Scrap Grinder Machine with Motor	1	
Compact Sheet Line Extruder	1	
Dies for Cup and Glass	2	
Air Compressor (2 HP)	1	
Chilling Plant (3 Ton)	1	
DG Set 30 KV	1	
Workshop Equipment	LS	50000
	Sub total	**2500000**
Add: Installation, transportation, etc @ 10%		250000
	TOTAL	**2800000**
	Say (Rs. in lacs)	**28.00**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Electric Transformer	1	225000	225000
Furniture & fixtures including Cutting Tables etc	LS	--	25000
Miscellaneous items	LS	--	35000
		Sub total	**285000**
Add: Installation, transportation, etc @ 10%			28500
		TOTAL	**313500**
		Say (Rs. in lacs)	**3.14**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	18000
Professional & other fees	50000
Interest during implementation	88670
Miscellaneous expenses	30000
TOTAL	186670
Say (Rs. in lacs)	**1.87**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.10	0.11	0.13
Power & Utility	30	0.19	0.22	0.25
Salary	30	0.55	0.56	0.56
Finished Goods	15	0.51	0.55	0.59
Receivables	15	0.81	0.95	1.08
Total		**2.17**	**2.39**	**2.61**

Working capital margin in Year 1 (40%)	**0.87**

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**16.64**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**24.96**
TOTAL	**100%**	**41.60**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Nos./ annum)	6000000	6000000	6000000	6000000	6000000	6000000	6000000
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/ annum at capacity utilisation	**3600000**	**4200000**	**4800000**	**4800000**	**4800000**	**4800000**	**4800000**
Total income/annum	**19.80**	**23.10**	**26.40**	**26.40**	**26.40**	**26.40**	**26.40**
B. OPERATING EXPENSES							
Raw materials	2.39	2.79	3.19	3.19	3.19	3.19	3.19
Power & Utility	2.31	2.69	3.08	3.08	3.08	3.08	3.08
Salary	6.72	6.75	6.79	6.82	6.86	6.89	6.92
Repair & Maintenance	0.67	0.69	0.70	0.71	0.73	0.74	0.76
Other Expenses	0.40	0.46	0.53	0.53	0.53	0.53	0.53
Total Operating Expenses	**12.49**	**13.39**	**14.29**	**14.33**	**14.38**	**14.43**	**14.48**

Operating profit	**7.31**	**9.71**	**12.11**	**12.07**	**12.02**	**11.97**	**11.92**
C. FINANCIAL EXPENSES							
Depreciation	1.90	1.90	1.90	1.90	1.90	1.90	1.90
Interest on Term Loan	2.00	1.84	1.51	1.18	0.85	0.51	0.18
Interest on Working Capital Loan	0.10	0.11	0.13	0.13	0.13	0.13	0.13
Net Profit	**3.31**	**5.86**	**8.58**	**8.86**	**9.15**	**9.43**	**9.72**
Net cash accruals	**5.21**	**7.75**	**10.48**	**10.76**	**11.05**	**11.33**	**11.61**
Principal Repayment	0.00	4.16	4.16	4.16	4.16	4.16	4.16

6.1 Production capacity and Sales Realisation: Total production of Disposable Cups and Glasses at 100% capacity utilization is estimated as below.

Products	Quantity
Disposable Plastic Cups	3000000
Disposable Plastic Glass	3000000
Total production per annum at 100% capacity (In Nos.)	**6000000**

Particulars	Quantity	Average Rate per Unit	Amount
Disposable Plastic Cups	3000000	0.50	1500000
Disposable Plastic Glass	3000000	0.60	1800000
Total Sale Turnover per annum at 100% capacity (In Rs.)			3300000

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Quantity	Average Rate per Unit	Amount
High Impact Polystyrene (HPIS)	15 MT	25000	375000
Packaging Material	LS	--	24000
Expenses on raw material at 100% capacity (Rs)			399000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 30)	--	22.38	22.38
General Lighting	20	0.10	2.00
Total power requirement/ day (Kw)			24.38

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	58512
Rate per unit (Rs)	3.50
Expenses on power (Rs)	204792

Estimate of Diesel required for Generator

No of working hours per day	2
Diesel consumption (litres per hours)	6
No. of days/annum	300
Annual requirement (in litres)	3600
Diesel Price per litre	50
Expenses on diesel (Rs)	180000
Expenses on power & utility at 100% capacity (Rs)	**384792**

6.4 Salary: Total 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)
Supervising Manager	1	8000	96000
Accountant cum Store Keeper	1	6000	72000
Sales Persons	2	6000	144000
Machine Operator/Skilled Worker	2	5000	120000
Semi skilled workers	2	4000	96000
Unskilled workers	4	3000	144000
Expenses on salary in the 1st year (Rs)			**672000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	6.60	1.00%	0.07
Plant & Machinery	28	2.00%	0.56
Misc. Fixed assets	3.14	1.50%	0.05
Expenses on repair & maintenance in year 1			**0.67**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	6.60	3.34%	0.22
Plant & Machinery	28.00	5.28%	1.48
Misc. Fixed assets	3.14	6.33%	0.20
TOTAL			**1.90**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	24.96	24.96	20.80	16.64	12.48	8.32	4.16
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest (8%)	0.17	0.17	0.14	0.11	0.08	0.06	0.03

	Closing balance	**24.96**	**24.61**	**20.45**	**16.29**	**12.13**	**7.97**	**3.81**
Month 2	Opening balance	24.96	24.61	20.45	16.29	12.13	7.97	3.81
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.16	0.14	0.11	0.08	0.05	0.03
	Closing balance	**24.96**	**24.27**	**20.11**	**15.95**	**11.79**	**7.63**	**3.47**
Month 3	Opening balance	24.96	24.27	20.11	15.95	11.79	7.63	3.47
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.16	0.13	0.11	0.08	0.05	0.02
	Closing balance	**24.96**	**23.92**	**19.76**	**15.60**	**11.44**	**7.28**	**3.12**
Month 4	Opening balance	24.96	23.92	19.76	15.60	11.44	7.28	3.12
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.16	0.13	0.10	0.08	0.05	0.02
	Closing balance	**24.96**	**23.57**	**19.41**	**15.25**	**11.09**	**6.93**	**2.77**
Month 5	Opening balance	24.96	23.57	19.41	15.25	11.09	6.93	2.77
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.16	0.13	0.10	0.07	0.05	0.02
	Closing balance	**24.96**	**23.23**	**19.07**	**14.91**	**10.75**	**6.59**	**2.43**
Month 6	Opening balance	24.96	23.23	19.07	14.91	10.75	6.59	2.43
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.15	0.13	0.10	0.07	0.04	0.02
	Closing balance	**24.96**	**22.88**	**18.72**	**14.56**	**10.40**	**6.24**	**2.08**
Month 7	Opening balance	24.96	22.88	18.72	14.56	10.40	6.24	2.08
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.15	0.12	0.10	0.07	0.04	0.01
	Closing balance	**24.96**	**22.53**	**18.37**	**14.21**	**10.05**	**5.89**	**1.73**
Month 8	Opening balance	24.96	22.53	18.37	14.21	10.05	5.89	1.73
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.15	0.12	0.09	0.07	0.04	0.01
	Closing balance	**24.96**	**22.19**	**18.03**	**13.87**	**9.71**	**5.55**	**1.39**
Month 9	Opening balance	24.96	22.19	18.03	13.87	9.71	5.55	1.39
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.15	0.12	0.09	0.06	0.04	0.01
	Closing balance	**24.96**	**21.84**	**17.68**	**13.52**	**9.36**	**5.20**	**1.04**
Month 10	Opening balance	24.96	21.84	17.68	13.52	9.36	5.20	1.04
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.15	0.12	0.09	0.06	0.03	0.01
	Closing balance	**24.96**	**21.49**	**17.33**	**13.17**	**9.01**	**4.85**	**0.69**
Month 11	Opening balance	24.96	21.49	17.33	13.17	9.01	4.85	0.69
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.14	0.12	0.09	0.06	0.03	0.00
	Closing balance	**24.96**	**21.15**	**16.99**	**12.83**	**8.67**	**4.51**	**0.35**
Month 12	Opening balance	24.96	21.15	16.99	12.83	8.67	4.51	0.35
	Repayment	0.00	0.35	0.35	0.35	0.35	0.35	0.35
	Interest	0.17	0.14	0.11	0.09	0.06	0.03	0.00
	Closing balance	**24.96**	**20.80**	**16.64**	**12.48**	**8.32**	**4.16**	**0.00**
Principal Repayment		**0.00**	**4.16**	**4.16**	**4.16**	**4.16**	**4.16**	**4.16**
Interest		**2.00**	**1.84**	**1.51**	**1.18**	**0.85**	**0.51**	**0.18**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	3.31	5.86	8.58	8.86	9.15	9.43	9.72
Depreciation	1.90	1.90	1.90	1.90	1.90	1.90	1.90
Interest	2.00	1.84	1.51	1.18	0.85	0.51	0.18
Total	**7.20**	**9.60**	**11.99**	**11.94**	**11.89**	**11.84**	**11.79**
Interest	2.00	1.84	1.51	1.18	0.85	0.51	0.18
Loan repayment	0.00	4.16	4.16	4.16	4.16	4.16	4.16
Total	**2.00**	**6.00**	**5.67**	**5.34**	**5.01**	**4.67**	**4.34**
DSCR	**3.61**	**1.60**	**2.11**	**2.24**	**2.38**	**2.53**	**2.72**

Average DSCR = 2.31

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**19.80**	**23.10**	**26.40**
B. Variable cost			
Raw materials	2.39	2.79	3.19
Power & Utility	2.31	2.69	3.08
Other expenses	0.40	0.46	0.53
Interest on Working Capital Loan	0.10	0.11	0.13
Total variable cost	**5.20**	**6.06**	**6.92**
C. Contribution (A-B)	**14.60**	**17.04**	**19.48**
D. Fixed & Semi-fixed Costs			
Salary	6.72	6.75	6.79
Repair & maintenance	0.67	0.69	0.70
Interest on Term Loan	2.00	1.84	1.51
Depreciation	1.90	1.90	1.90
Total fixed cost	**11.29**	**11.18**	**10.90**
E. BREAK EVEN POINT	**77.32%**	**65.63%**	**55.95%**
F. BEP at operating capacity	**46.39%**	**45.94%**	**44.76%**
G. Cash BEP	**38.60%**	**38.15%**	**36.96%**

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	38.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	2.17	0.22	0.22	0.00	0.00	0.00	0.00
Total (A)	**38.87**	**2.17**	**0.22**	**0.22**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		3.31	5.86	8.58	8.86	9.15	9.43	9.72
Add: Depreciation		1.90	1.90	1.90	1.90	1.90	1.90	1.90
Add: Interest		2.00	1.84	1.51	1.18	0.85	0.51	0.18
Add: Salvage Value								
Total (B)	**0.00**	**7.20**	**9.60**	**11.99**	**11.94**	**11.89**	**11.84**	**11.79**

NET FLOW (B-A)	**-38.87**	**5.04**	**9.37**	**11.77**	**11.94**	**11.89**	**11.84**	**11.79**

IRR = 22%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Klockner Windsor India Ltd.	E-6, U. Z. Road, Thane Industrial estate, Thane, Maharashtra Pin- 400 604
2.	M/s Wonderpack Industries P Ltd.	72, Ist floor, Shivalaya Mansion, Hamington Road, Mumbai, Maharashtra, Pin-400 008
3.	M/s Isimat India Screen Printing Machinery Pvt. Ltd.	29, Apurva Industrial Estate, Makvana Road, Andheri Kurla Road, Andheri (East), Mumbai, Maharashtra,
4.	M/s Solex Machines	C, 1/510, GIDC, Gundlav, Dist- Valsad, Gujarat, Pin- 396 035

BLOW MOULDED PLASTIC PRODUCTS

1.0 INTRODUCTION

Blow moulding is used for manufacturing a wide range of products for domestic as well as industrial purpose. Plastic bottles and containers used for storing liquids such as water, diesel, chemicals, edible oil etc (medium capacity containers) have been some of the most accepted storage products due to their high impact strength, light weight, aesthetics and cost-effectiveness. Plastic, with its versatility, allows for multiple designs, shapes, colours, production capacities, has been a delight to the blow moulding industry. Blow Moulding has been one of the most sought after projects by entrepreneurs who intend to start a business with low investments in the plastic industry. The plastic blow moulded containers are made from HDPE, LDPE, PP etc. These raw materials are available in the market through authorised dealers of the manufacturing companies.

This project profile is for production of blow moulded plastic products, based on 300 working days per annum and 8 working hours per day. The proposed product mix and the installed production capacity of the unit per annum is as follows;

Buckets	-	30,000 Nos.
Jugs	-	60,000 Nos.
Mugs	-	1, 50,000 Nos.

2.0 MARKET POTENTIAL

Plastic containers are replacing conventional metal containers and glass containers because of their comparatively better properties, ease of handling and transportation. Usage of blow moulded Plastic products has grown due to new product designs and new mould designs with the expertise of mould makers in the country. Considering the uses of jug, mug, bucket and jerry can in urban and rural areas, there exist a substantial demand for the products in the market.

3.0 PROCESS DETAILS

The main process steps involved are:

i) Plastic material in the form of granules is subjected to heat and pressure in an extruder.

II) Semi-molten plastic in extruder passed through the nozzle known as parison. Adjustments have to be made in the machine to vary the wall thickness of the parison.

III) Suitable parison is then inserted in a female mould and air is blown into parison to force the moltan plastic against the sides of the mould.

IV) The material is then cooled before removal from the mould.

V) The article is then trimmed to remove flashes.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site development	**Own Land/On Lease**
Building & Civil works	**6.60**
Plant & Machinery	**14.30**
Misc. Fixed assets	**3.47**
Preliminary & pre-operative expenses	**1.43**
Contingencies & escalation @ 3%	**0.73**
Working capital	**1.07**
TOTAL	**27.60**

4.1 Land & Site Development: Total Land: 3,000 Sq. Ft. ; Covered Area: 2,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sq. Ft.)	Rate (Rs)	Amount (Rs)
Factory Shed, Storage Go-down and Office	2000	275	550000
		Sub total	**550000**
Add: Electrification, water supply and sanitation @ 20%			110000
		TOTAL	**660000**
		Say (Rs. in lacs)	**6.60**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Semi automatic extrusion blow moulding machinery with 10 HP Motor a) 50mm screw extruder with 10 HP Motor, b) Cross head dies (Single, double and triple) and Spacer c) Mould Closing & opening with hydraulic system with 5 HP motor	1	1252000
Compressor with 5 HP Motor	1	
Water Pump with 1 HP	1	
Moulds, Dies and Tools etc.	1	
DG Set 30 KVA	1	
Misc. Equipment	LS	25000
	Sub total	**1277000**
Add: Installation, transportation, etc @ 10%		127700
	TOTAL	**1429700**
	Say (Rs. in lacs)	**14.30**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Commercial Gas Cylinders	5	3000	15000
Electric Transformer	1	225000	225000
Furniture & fixtures etc	LS	--	25000
Miscellaneous items including office equipment	LS	--	50000
		Sub total	**315000**
Add: Installation, transportation, etc @ 10%			31500
		TOTAL	**346500**
		Say (Rs. in lacs)	**3.47**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	11000
Professional & other fees	50000
Interest during implementation	61924
Miscellaneous expenses	20000
TOTAL	142924
Say (Rs. in lacs)	**1.43**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.32	0.37	0.43
Power & Utility	30	0.19	0.22	0.25
Salary	30	0.55	0.56	0.56
Finished Goods	15	0.73	0.80	0.87
Receivables	15	0.89	1.04	1.18
Total		**2.68**	**2.99**	**3.29**
Working capital margin in Year 1 (40%)	**1.07**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**11.04**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**16.56**
TOTAL	**100%**	**27.60**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Nos./annum)	240000	240000	240000	240000	240000	240000	240000
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/annum at capacity utilisation	**144000**	**168000**	**192000**	**192000**	**192000**	**192000**	**192000**
Total income/annum	**21.60**	**25.20**	**28.80**	**28.80**	**28.80**	**28.80**	**28.80**
B. OPERATING EXPENSES							
Raw materials	7.79	9.09	10.39	10.39	10.39	10.39	10.39
Power & Utility	2.31	2.69	3.08	3.08	3.08	3.08	3.08

Salary	6.72	6.75	6.79	6.82	6.86	6.89	6.92
Repair & Maintenance	0.40	0.41	0.42	0.43	0.44	0.45	0.45
Other Expenses	0.43	0.50	0.58	0.58	0.58	0.58	0.58
Total Operating Expenses	**17.66**	**19.46**	**21.25**	**21.30**	**21.34**	**21.38**	**21.43**
Operating profit	**3.94**	**5.74**	**7.55**	**7.50**	**7.46**	**7.42**	**7.37**
C. FINANCIAL EXPENSES							
Depreciation	1.19	1.19	1.19	1.19	1.19	1.19	1.19
Interest on Term Loan	1.32	1.22	1.00	0.78	0.56	0.34	0.12
Interest on Working Capital Loan	0.13	0.14	0.16	0.16	0.16	0.16	0.16
Net Profit	**1.29**	**3.18**	**5.19**	**5.37**	**5.55**	**5.72**	**5.90**
Net cash accruals	**2.49**	**4.38**	**6.39**	**6.56**	**6.74**	**6.92**	**7.10**
Principal Repayment	0.00	2.76	2.76	2.76	2.76	2.76	2.76

6.1 Production capacity and Sales Realisation: Total production of Blow Moulded Products at 100% capacity utilization is estimated as below.

Products	Quantity
Bucket	30000 Nos.
Jug	60000 Nos.
Mug	150000 Nos.
Total production per annum at 100% capacity (In Nos.)	**240000 Nos.**

Particulars	Quantity	Average Rate per Unit	Amount
Bucket	30000 Nos.	40	1200000
Jug	60000 Nos.	20	1200000
Mug	150000 Nos.	8	1200000
Total Sale Turnover per annum at 100% capacity (In Rs.)			3600000

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Quantity	Average Rate per Unit	Amount
HDPE	6 MT	72000	432000
PVC	12 MT	45000	540000
Consumables like Colours and Pigments	LS	--	72000
LPG Gas	3 MT	45000	135000
Labelling, Packaging Material	LS	--	120000
Expenses on raw material at 100% capacity (Rs)			1299000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 30)	--	22.38	22.38
General Lighting	20	0.10	2.00
		Total power requirement/ day (Kw)	24.38

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	58512
Rate per unit (Rs)	3.50
Expenses on power (Rs)	204792
Estimate of Diesel required for Generator	
No of working hours per day	2
Diesel consumption (litres per hours)	6
No. of days/annum	300
Annual requirement (in litres)	3600
Diesel Price per litre	50
Expenses on diesel (Rs)	180000
Expenses on power & utility at 100% capacity (Rs)	**384792**

6.4 Salary: Total 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)
Production Manager	1	8000	96000
Accountant cum Store Keeper	1	6000	72000
Sales Persons	2	6000	144000
Machine Operators/Skilled Workers	2	5000	120000
Semi skilled workers	2	4000	96000
Unskilled workers	4	3000	144000
Expenses on salary in the 1st year (Rs)			**672000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	6.60	1.00%	0.07
Plant & Machinery	14.3	2.00%	0.29
Misc. Fixed assets	3.47	1.50%	0.05
Expenses on repair & maintenance in year 1			**0.40**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	6.60	3.34%	0.22
Plant & Machinery	14.30	5.28%	0.76
Misc. Fixed assets	3.47	6.33%	0.22
TOTAL			**1.19**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	16.56	16.56	13.80	11.04	8.28	5.52	2.76
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest (8%)	0.11	0.11	0.09	0.07	0.06	0.04	0.02
	Closing balance	**16.56**	**16.33**	**13.57**	**10.81**	**8.05**	**5.29**	**2.53**
Month 2	Opening balance	16.56	16.33	13.57	10.81	8.05	5.29	2.53
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.11	0.09	0.07	0.05	0.04	0.02
	Closing balance	**16.56**	**16.10**	**13.34**	**10.58**	**7.82**	**5.06**	**2.30**
Month 3	Opening balance	16.56	16.10	13.34	10.58	7.82	5.06	2.30
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.11	0.09	0.07	0.05	0.03	0.02
	Closing balance	**16.56**	**15.87**	**13.11**	**10.35**	**7.59**	**4.83**	**2.07**
Month 4	Opening balance	16.56	15.87	13.11	10.35	7.59	4.83	2.07
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**16.56**	**15.64**	**12.88**	**10.12**	**7.36**	**4.60**	**1.84**
Month 5	Opening balance	16.56	15.64	12.88	10.12	7.36	4.60	1.84
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.10	0.09	0.07	0.05	0.03	0.01
	Closing balance	**16.56**	**15.41**	**12.65**	**9.89**	**7.13**	**4.37**	**1.61**
Month 6	Opening balance	16.56	15.41	12.65	9.89	7.13	4.37	1.61
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.10	0.08	0.07	0.05	0.03	0.01
	Closing balance	**16.56**	**15.18**	**12.42**	**9.66**	**6.90**	**4.14**	**1.38**
Month 7	Opening balance	16.56	15.18	12.42	9.66	6.90	4.14	1.38
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.10	0.08	0.06	0.05	0.03	0.01
	Closing balance	**16.56**	**14.95**	**12.19**	**9.43**	**6.67**	**3.91**	**1.15**
Month 8	Opening balance	16.56	14.95	12.19	9.43	6.67	3.91	1.15
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.10	0.08	0.06	0.04	0.03	0.01
	Closing balance	**16.56**	**14.72**	**11.96**	**9.20**	**6.44**	**3.68**	**0.92**
Month 9	Opening balance	16.56	14.72	11.96	9.20	6.44	3.68	0.92
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.10	0.08	0.06	0.04	0.02	0.01
	Closing balance	**16.56**	**14.49**	**11.73**	**8.97**	**6.21**	**3.45**	**0.69**
Month 10	Opening balance	16.56	14.49	11.73	8.97	6.21	3.45	0.69
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	**16.56**	**14.26**	**11.50**	**8.74**	**5.98**	**3.22**	**0.46**
Month 11	Opening balance	16.56	14.26	11.50	8.74	5.98	3.22	0.46
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23
	Interest	0.11	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	**16.56**	**14.03**	**11.27**	**8.51**	**5.75**	**2.99**	**0.23**
Month 12	Opening balance	16.56	14.03	11.27	8.51	5.75	2.99	0.23
	Repayment	0.00	0.23	0.23	0.23	0.23	0.23	0.23

	Interest	0.11	0.09	0.08	0.06	0.04	0.02	0.00
	Closing balance	**16.56**	**13.80**	**11.04**	**8.28**	**5.52**	**2.76**	**0.00**
Principal Repayment		**0.00**	**2.76**	**2.76**	**2.76**	**2.76**	**2.76**	**2.76**
Interest		**1.32**	**1.22**	**1.00**	**0.78**	**0.56**	**0.34**	**0.12**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5
Profit After Tax (Net Profit)	1.29	3.18	5.19	5.37	5.55
Depreciation	1.19	1.19	1.19	1.19	1.19
Interest	1.32	1.22	1.00	0.78	0.56
Total	**3.81**	**5.60**	**7.39**	**7.35**	**7.30**
Interest	1.32	1.22	1.00	0.78	0.56
Loan repayment	0.00	2.76	2.76	2.76	2.76
Total	**1.32**	**3.98**	**3.76**	**3.54**	**3.32**
DSCR	**2.88**	**1.41**	**1.96**	**2.07**	**2.20**

Average DSCR = 2.10

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**21.60**	**25.20**	**28.80**
B. Variable cost			
Raw materials	7.79	9.09	10.39
Power & Utility	2.31	2.69	3.08
Other expenses	0.43	0.50	0.58
Interest on Working Capital Loan	0.13	0.14	0.16
Total variable cost	**10.66**	**12.43**	**14.20**
C. Contribution (A-B)	**10.94**	**12.77**	**14.60**
D. Fixed & Semi-fixed Costs			
Salary	6.72	6.75	6.79
Repair & maintenance	0.40	0.41	0.42
Interest on Term Loan	1.32	1.22	1.00
Depreciation	1.19	1.19	1.19
Total fixed cost	**9.64**	**9.58**	**9.41**
E. BREAK EVEN POINT	**88.17%**	**75.07%**	**64.44%**
F. BEP at operating capacity	**52.90%**	**52.55%**	**51.55%**
G. Cash BEP	**46.35%**	**46.00%**	**45.00%**

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

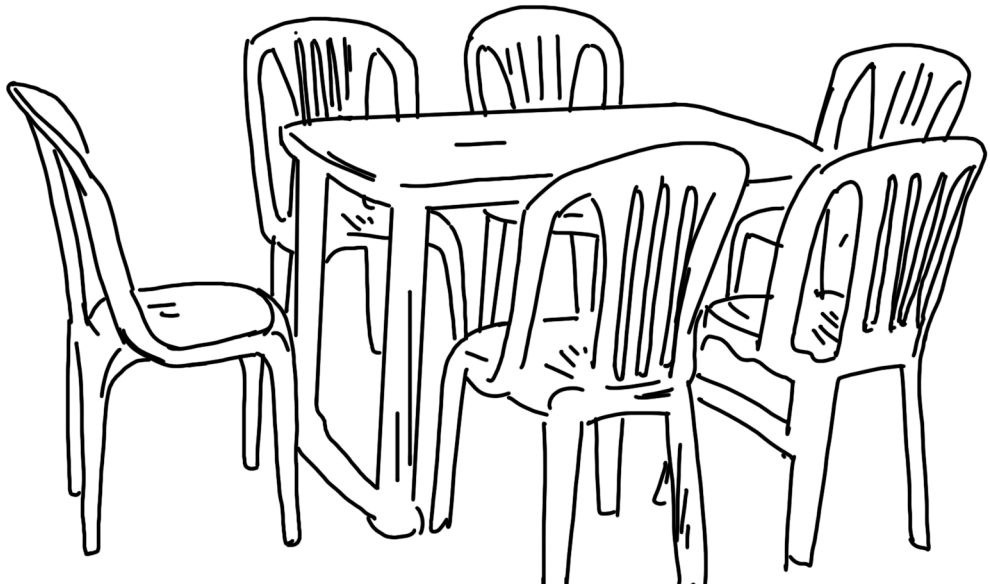
Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	25.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	2.68	0.31	0.31	0.00	0.00	0.00	0.00
Total (A)	**25.10**	**2.68**	**0.31**	**0.31**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								

Profit After Tax		1.29	3.18	5.19	5.37	5.55	5.72	5.90
Add: Depreciation		1.19	1.19	1.19	1.19	1.19	1.19	1.19
Add: Interest		1.32	1.22	1.00	0.78	0.56	0.34	0.12
Add: Salvage Value								
Total (B)	**0.00**	**3.81**	**5.60**	**7.39**	**7.35**	**7.30**	**7.26**	**7.22**
NET FLOW (B-A)	**-25.10**	**1.14**	**5.29**	**7.08**	**7.35**	**7.30**	**7.26**	**7.22**

IRR = 19%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Ahura Industrial Engineers	18, Sidhpura Industrial Estate, Tarun Compound, S V Road, Goregaon, Andheri (East), Maharashtra , Pin- 400 602
2.	M/s Boolani Engineering Corporation	402, Prabhadevi Industrial Estate, Savarkar Road, Mumbai, Maharashtra, Pin-400 018
3.	M/s Brimco Plastic Machinery Corporation.	Plot 55, Govt. Kandivili Industrial estate, Kandivili (West), Mumbai, Maharashtra, Pin-400 067
4.	M/s Universal machinery Services	Tarun Compound, SV Road, Goregaon, Andheri (East), Mumbai, Maharashtra, Pin-400 062.

PLASTIC MOULDED FURNITURE



1.0 INTRODUCTION

The Indian plastic industry is expanding at a phenomenal pace. Now-a-days plastic moulded furniture's are manufactured using different polymers in place of traditional materials like wood, metal etc. The furniture's are manufactured using Injection Moulding technique. Injection Moulded furniture's are easy to handle, durable and can be processed in single step manufacturing process only.

This project profile is for production of Plastic Moulded Furniture's, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;
Plastic Moulded Furniture's-100 MT

2.0 MARKET POTENTIAL

Demand for plastic furniture's are increasing day by day because these are available in attractive colours, design and are also cheaper and durable than the wooden furniture's. Due to these reasons, plastic furniture's are rapidly replacing wooden or metal furniture's.

3.0 PROCESS DETAILS

Injection moulding is a process of forming an article by forcing molten plastic material under pressure into a mould where it is cooled, solidified and subsequently released by opening the two halves of the mould. Polypropylene (PP) is the most popularly used raw material for injection moulded furniture. Apart from PP, some additives and stabilizers are also required.

The PP granules are fed via a regulated hopper into a homogeneous molten mass by application of heat and shearing action of a continuously rotating extruded screw which also pushes the plastic melt forward. The melt gets collected at the forward end of the extruder cylinder and is pushed into the mould cavity by the screw which now acts as a hydraulic piston.

The mould is kept at a pre-specified temperature and once injected, the plastic melt is held under high pressure to ensure that the material reaches all ends of the mould. In furniture moulding, moulds used have very large depth. A locking force of an order of 1500 tonnes or so is essential to reduce the wastage. The mould is opened after the plastic melt has solidified sufficiently and the moulded item is ejected by means of ejector pins or plates. During the cooling cycle in the mould, the extruder screw prepares another batch of plastic melt, ready to be injected and thus the cycle goes on continuously.

The moulded articles usually don't require any finishing operation, except for removal of excess material, if any. Otherwise, after visual inspection, they are kept for curing for about 40-50 hours and then dispatched.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site development	**Own Land/On Lease**
Building & Civil works	**16.50**
Plant & Machinery	**27.89**
Misc. Fixed assets	**5.23**
Preliminary & pre-operative expenses	**2.29**
Contingencies & escalation @ 3%	**1.49**
Working capital	**4.20**
TOTAL	**57.59**

4.1 Land & Site Development: Total Land: 10,000 Sq. Ft. ; Covered Area: 5,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sq. Ft.)	Rate (Rs)	Amount (Rs)
Factory Shed, Storage Go-down and Office	5000	275	1375000
		Sub total	**1375000**
Add: Electrification, water supply and sanitation @ 20%			275000
		TOTAL	**1650000**
		Say (Rs. in lacs)	**16.50**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Automatic Injection Moulding Machine with accessories	1	2430000
Scrap Grinder Machine with Motor	1	
Dry Colour Mixer	1	
Mould Lifting Equipment	1	
Water Cooling Arrangement	1	
Mould of Various Shapes/Sizes	6	
Weighing Machine	1	
DG Set 40 KVA	1	
Workshop Equipment	LS	55000
	Sub total	**2485000**
Add: Installation, transportation, etc @ 10%		248500
	TOTAL	**2788500**
	Say (Rs. in lacs)	**27.89**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Electric Transformer	1	350000	350000
Furniture & fixtures and Office Equipments	LS	--	100000
Miscellaneous items	LS	--	25000
		Sub total	**475000**
Add: Installation, transportation, etc @ 10%			47500
		TOTAL	**522500**
		Say (Rs. in lacs)	**5.23**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	17000
Professional & other fees	50000
Interest during implementation	132220
Miscellaneous expenses	30000
TOTAL	229220
Say (Rs. in lacs)	**2.29**

4.7 Working capital Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	2.60	3.03	3.47
Power & Utility	30	0.22	0.26	0.29
Salary	30	0.77	0.77	0.78
Finished Goods	15	3.20	3.67	4.13
Receivables	15	3.70	4.32	4.93
Total		**10.49**	**12.04**	**13.60**
Working capital margin in Year 1 (40%)	**4.20**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**23.04**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**34.55**
TOTAL	**100%**	**57.59**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Ton/annum)	100	100	100	100	100	100	100
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/annum at capacity utilisation	**60**	**70**	**80**	**80**	**80**	**80**	**80**
Total income/annum	**90.00**	**105.00**	**120.00**	**120.00**	**120.00**	**120.00**	**120.00**
B. OPERATING EXPENSES							
Raw materials	63.24	73.78	84.32	84.32	84.32	84.32	84.32
Power & Utility	2.68	3.13	3.58	3.58	3.58	3.58	3.58
Salary	9.36	9.41	9.45	9.50	9.55	9.60	9.64
Repair & Maintenance	0.80	0.82	0.83	0.85	0.87	0.88	0.90

Other Expenses	1.80	2.10	2.40	2.40	2.40	2.40	2.40
Total Operating Expenses	**77.89**	**89.24**	**100.59**	**100.65**	**100.72**	**100.78**	**100.85**
Operating profit	**12.11**	**15.76**	**19.41**	**19.35**	**19.28**	**19.22**	**19.15**
C. FINANCIAL EXPENSES							
Depreciation	2.35	2.35	2.35	2.35	2.35	2.35	2.35
Interest on Term Loan	2.76	2.55	2.09	1.63	1.17	0.71	0.25
Interest on Working Capital Loan	0.50	0.58	0.65	0.65	0.65	0.65	0.65
Net Profit	**6.49**	**10.28**	**14.31**	**14.71**	**15.11**	**15.50**	**15.90**
Net cash accruals	**8.85**	**12.63**	**16.67**	**17.06**	**17.46**	**17.86**	**18.25**
Principal Repayment	0.00	5.76	5.76	5.76	5.76	5.76	5.76

6.1 Production capacity and Sales Realisation: Total production of Moulded Furniture's at 100% capacity utilization is estimated as below.

Products	Quantity
Plastic Moulded Furniture's	100 MT
Total production per annum at 100% capacity	**100 MT**

Particulars	Quantity	Average Rate per Unit	Amount
Plastic Moulded Furniture's	100 MT	150000	15000000
Total Sale Turnover per annum at 100% capacity (In Rs.)			15000000

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Quantity	Average Rate per Unit	Amount
PP (Injection Moulded Grade)	125 MT	80000	10000000
Pigments, Colours etc.	LS	--	300000
Packaging Materials	LS	--	240000
Expenses on raw material at 100% capacity (Rs)			10540000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 40)	--	29.84	29.84
General Lighting	20	0.10	2.00
Total power requirement/ day (Kw)			31.84

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	76416
Rate per unit (Rs)	3.50
Expenses on power (Rs)	267456
Estimate of Diesel required for Generator	
No of working hours per day	2

Diesel consumption (litres per hours)	6
No. of days/annum	300
Annual requirement (in litres)	3600
Diesel Price per litre	50
Expenses on diesel (Rs)	180000
Expenses on power & utility at 100% capacity (Rs)	**447456**

6.4 Salary: Total 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)
Production Manager	1	10000	120000
Accountant cum Store Keeper	1	7000	84000
Sales Persons	3	7000	252000
Technicians/Machine Operators/Skilled Workers	3	5000	180000
Semi skilled workers	4	4000	192000
Unskilled workers	3	3000	108000
Expenses on salary in the 1st year (Rs)			**936000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	16.50	1.00%	0.17
Plant & Machinery	27.89	2.00%	0.56
Misc. Fixed assets	5.23	1.50%	0.08
Expenses on repair & maintenance in year 1			**0.80**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	16.50	3.34%	0.55
Plant & Machinery	27.89	5.28%	1.47
Misc. Fixed assets	5.23	6.33%	0.33
TOTAL			**2.35**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	34.55	34.55	28.80	23.04	17.28	11.52	5.76
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest (8%)	0.23	0.23	0.19	0.15	0.12	0.08	0.04
	Closing balance	**34.55**	**34.07**	**28.32**	**22.56**	**16.80**	**11.04**	**5.28**
Month 2	Opening balance	34.55	34.07	28.32	22.56	16.80	11.04	5.28

	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.23	0.19	0.15	0.11	0.07	0.04
	Closing balance	**34.55**	**33.59**	**27.84**	**22.08**	**16.32**	**10.56**	**4.80**
Month 3	Opening balance	34.55	33.59	27.84	22.08	16.32	10.56	4.80
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.22	0.19	0.15	0.11	0.07	0.03
	Closing balance	**34.55**	**33.11**	**27.36**	**21.60**	**15.84**	**10.08**	**4.32**
Month 4	Opening balance	34.55	33.11	27.36	21.60	15.84	10.08	4.32
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.22	0.18	0.14	0.11	0.07	0.03
	Closing balance	**34.55**	**32.63**	**26.88**	**21.12**	**15.36**	**9.60**	**3.84**
Month 5	Opening balance	34.55	32.63	26.88	21.12	15.36	9.60	3.84
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.22	0.18	0.14	0.10	0.06	0.03
	Closing balance	**34.55**	**32.15**	**26.40**	**20.64**	**14.88**	**9.12**	**3.36**
Month 6	Opening balance	34.55	32.15	26.40	20.64	14.88	9.12	3.36
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.21	0.18	0.14	0.10	0.06	0.02
	Closing balance	**34.55**	**31.68**	**25.92**	**20.16**	**14.40**	**8.64**	**2.88**
Month 7	Opening balance	34.55	31.68	25.92	20.16	14.40	8.64	2.88
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.21	0.17	0.13	0.10	0.06	0.02
	Closing balance	**34.55**	**31.20**	**25.44**	**19.68**	**13.92**	**8.16**	**2.40**
Month 8	Opening balance	34.55	31.20	25.44	19.68	13.92	8.16	2.40
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.21	0.17	0.13	0.09	0.05	0.02
	Closing balance	**34.55**	**30.72**	**24.96**	**19.20**	**13.44**	**7.68**	**1.92**
Month 9	Opening balance	34.55	30.72	24.96	19.20	13.44	7.68	1.92
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.20	0.17	0.13	0.09	0.05	0.01
	Closing balance	**34.55**	**30.24**	**24.48**	**18.72**	**12.96**	**7.20**	**1.44**
Month 10	Opening balance	34.55	30.24	24.48	18.72	12.96	7.20	1.44
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.20	0.16	0.12	0.09	0.05	0.01
	Closing balance	**34.55**	**29.76**	**24.00**	**18.24**	**12.48**	**6.72**	**0.96**
Month 11	Opening balance	34.55	29.76	24.00	18.24	12.48	6.72	0.96
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.20	0.16	0.12	0.08	0.04	0.01
	Closing balance	**34.55**	**29.28**	**23.52**	**17.76**	**12.00**	**6.24**	**0.48**
Month 12	Opening balance	34.55	29.28	23.52	17.76	12.00	6.24	0.48
	Repayment	0.00	0.48	0.48	0.48	0.48	0.48	0.48
	Interest	0.23	0.20	0.16	0.12	0.08	0.04	0.00
	Closing balance	**34.55**	**28.80**	**23.04**	**17.28**	**11.52**	**5.76**	**0.00**
Principal Repayment		**0.00**	**5.76**	**5.76**	**5.76**	**5.76**	**5.76**	**5.76**
Interest		**2.76**	**2.55**	**2.09**	**1.63**	**1.17**	**0.71**	**0.25**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	6.49	10.28	14.31	14.71	15.11	15.50	15.90
Depreciation	2.35	2.35	2.35	2.35	2.35	2.35	2.35
Interest	2.76	2.55	2.09	1.63	1.17	0.71	0.25
Total	**11.61**	**15.19**	**18.76**	**18.70**	**18.63**	**18.57**	**18.50**
Interest	2.76	2.55	2.09	1.63	1.17	0.71	0.25
Loan repayment	0.00	5.76	5.76	5.76	5.76	5.76	5.76
Total	**2.76**	**8.31**	**7.85**	**7.39**	**6.93**	**6.47**	**6.01**
DSCR	**4.20**	**1.83**	**2.39**	**2.53**	**2.69**	**2.87**	**3.08**

Average DSCR = 2.62

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**90.00**	**105.00**	**120.00**
B. Variable cost			
Raw materials	63.24	73.78	84.32
Power & Utility	2.68	3.13	3.58
Other expenses	1.80	2.10	2.40
Interest on Working Capital Loan	0.50	0.58	0.65
Total variable cost	**68.23**	**79.59**	**90.95**
C. Contribution (A-B)	**21.77**	**25.41**	**29.05**
D. Fixed & Semi-fixed Costs			
Salary	9.36	9.41	9.45
Repair & maintenance	0.80	0.82	0.83
Interest on Term Loan	2.76	2.55	2.09
Depreciation	2.35	2.35	2.35
Total fixed cost	**15.28**	**15.13**	**14.73**
E. BREAK EVEN POINT	**70.18%**	**59.55%**	**50.72%**
F. BEP at operating capacity	**42.11%**	**41.69%**	**40.58%**
G. Cash BEP	**35.62%**	**35.20%**	**34.10%**

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

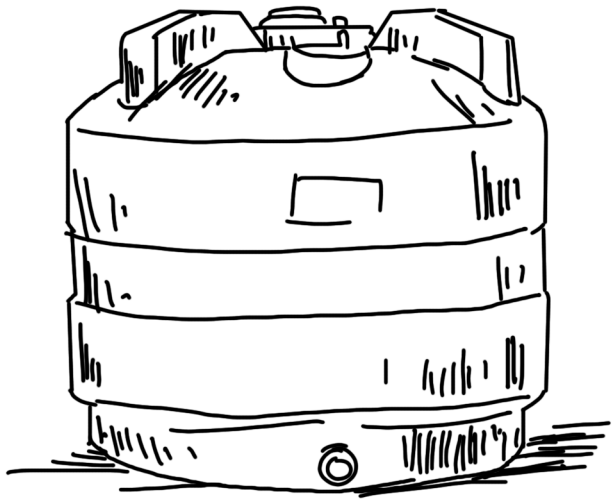
Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	51.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	10.49	1.56	1.56	0.00	0.00	0.00	0.00
Total (A)	**51.10**	**10.49**	**1.56**	**1.56**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		6.49	10.28	14.31	14.71	15.11	15.50	15.90
Add: Depreciation		2.35	2.35	2.35	2.35	2.35	2.35	2.35
Add: Interest		2.76	2.55	2.09	1.63	1.17	0.71	0.25
Add: Salvage Value								

Total (B)	**0.00**	**11.61**	**15.19**	**18.76**	**18.70**	**18.63**	**18.57**	**18.50**
NET FLOW (B-A)	**-51.10**	**1.12**	**13.63**	**17.20**	**18.70**	**18.63**	**18.57**	**18.50**

IRR = 24%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Anu Engineering Works	235/260, 1st Main, Vinayak Nagar, Kamakshipalya Industrial Area, Mumbai, Maharashtra, Pin- 560 079.
2.	M/s Ace Automation	228/1, M. G. R. Street, Sivanandapyram, Saravanampatti, Coimbatore, Pin- 641035
3.	M/s G S Azad Indstry.	A-31, Naraina Industrial Area Phase I, New Delhi, Pin-110 028

PLASTIC WATER STORAGE TANK



1.0 INTRODUCTION

Plastic water Storage Tanks are made from Linear Low Density Polyethylene/Low Density Polyethylene/ High Density Polyethylene. These tanks are light in weight, for which can be installed them at the place of choice. Plastic Water Storage Tanks are the most cost effective way to store water for residential and commercial installations. These Water tanks are available in various shapes and sizes.

This project profile is for production of Plastic Water Storage Tanks, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;

Water Tanks of 500 Litrs Size - 2000 Nos.

Water Tanks of 1000 Litres Size -1000 Nos.

2.0 MARKET POTENTIAL

The demand of plastic water storage tanks is increasing day by day. They are not only installed in the individual houses and flats but are fitted in factories, group housing colonies and multi-story buildings as well. In the North-Eastern region of India, people face several problems due to scarcity of fresh drinking water. For drinking water, neither ground water supply nor any water supply scheme is adequate and the people of the region mostly depend on harvesting rain water, which can be stored. Moreover, stream water which is not perennial can also be stored. Thus cheap means of storing water is essential and for which this plastic water tank market is growing throughout entire north-east by leaps and bound. Besides, due to increase in the house building activities the demand for plastic water storage tanks is likely to increase in the coming years. Hence there is good scope for establishing a few units for the manufacture of water storage tanks by Roto Moulding process.

3.0 PROCESS DETAILS

In rotational moulding process a mould tool is produced from sheet steel or cast aluminium to the shape and dimensions of the finished product, plus a shrinkage allowance. The actual moulding process is as follows:

LOADING
↓
BALANCING/FILLING
↓
HEATING
↓
SINTERING
↓
WATER COOLING
↓
UNLOADING

Loading: The metal mould is filled with a predetermined quantity of polymer powder, closed, clamped and then passed into an oven chamber. A two part mould consisting of two hemispheres and is charged with predetermined weight of the material. The mould is claimed in pieces, the entire mould is made of conducive metals. When one or both the ends of the pieces are open, heat insulating. The mould tool is mounted on the arm which is then rotated to the next position.

Balancing/Filling: Where a mould has been newly mounted, it now needs to be balanced. Weights are added to ensure that the mould is spun smoothly during the heating and cooling phases. Once balanced, a carefully predetermined weight of resin powder is loaded into the mould, which is then closed. The arm is rotated into the next position.

Heating: The mould is spun slowly around two axes while being heated inside a large oven where they are heated and simultaneously rotated around two axis in planes normal to each other. The material is allowed to fuse into a homogeneous layer on the walls of the cavities. The slow rate of spin means that the powder tends to sit in a pool at the lowest point of the mould. As the powder begins to melt it adheres to the hot walls of the mould, coating it as it passes through the pool of powder. When all the powder has adhered to the inner surface of the mould, the arm is rotated to the next position.

Sintering: Still being spun around two axes, the mould is air-cooled to allow the part to form sufficiently to enable it to withstand the more aggressive cooling of the next phase without warping. The arm is moved to the next position.

Water Cooling: Still being spun, the mould is sprayed with water to provide rapid cooling while keeping the mould in rotation. This also encourages a slight shrinkage of the part, making it easier to remove from the mould. The raw material solidifies into the shapes of the mould. Once gets cold, the spinning stops and the arm is moved to the next position.

Unloading: The still-warm part is removed from the mould. A jig may be inserted to minimise shrinkage, if necessary. Another mould can be loaded onto the arm if required or the existing one reused. The arm moves to the balancing / filling position and the cycle begins again.

4.0.COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site development	**Own Land/ On Lease**
Building & Civil works	**16.50**
Plant & Machinery	**36.53**
Misc. Fixed assets	**6.16**
Preliminary & pre-operative expenses	**2.48**
Contingencies & escalation @ 3%	**1.78**
Working capital	**1.55**
TOTAL	**65.00**

4.1 Land & Site Development: Total Land: 10,000 Sq. Ft. ; Covered Area: 5,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sq. Ft.)	Rate (Rs)	Amount (Rs)
Factory Shed, Storage Go-down and Office	5000	275	1375000
		Sub total	**1375000**
Add: Electrification, water supply and sanitation @ 20%			275000
		TOTAL	**1650000**
		Say (Rs. in lacs)	**16.50**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Roto Moulding Machine Size 13" X 7" complete with 15 HP, 5 HP and 2 nos. of 3 HP Motors, 19 nos. of burners, two reduction gear boxes, Rotary Shaft and Connecting Rulers.	1	3216000
Thermoforming Machine	1	
80 Kg/hour Pulveriser Machine for Reprocessing	1	
80 Kg/hr Extruder Machine for Reprocessing	1	
Hoist Chain Pully Stand	1	
Scrap Grinder Machine with Motor	1	
Scrap Cutter	1	
Spray Compressor	1	
Gas Fired Heating System	1	
Inert Gas System	1	
Mould of Various Shapes/Sizes	12	
Weighing Machine	1	
DG Set 40 KVA	1	
Workshop Equipment	LS	55000
	Sub total	**3271000**
Add: Installation, transportation, etc @ 10%		327100
	TOTAL	**3653100**
	Say (Rs. in lacs)	**36.53**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Foundation for Rotational Moulding Machine	1	45000	45000
Commercial Gas Cylinders	10	3000	30000
Electric Transformer	1	350000	350000
Furniture & fixtures including Cutting Tables etc	LS	--	100000
Miscellaneous items	LS	--	35000
		Sub total	**560000**
Add: Installation, transportation, etc @ 10%			56000
		TOTAL	**616000**
		Say (Rs. in lacs)	**6.16**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	17000
Professional & other fees	50000
Interest during implementation	151382
Miscellaneous expenses	30000
TOTAL	248382
Say (Rs. in lacs)	**2.48**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.49	0.57	0.65
Power & Utility	30	0.22	0.26	0.29
Salary	30	0.70	0.70	0.71
Finished Goods	15	1.02	1.12	1.23
Receivables	15	1.44	1.68	1.92
Total		**3.86**	**4.33**	**4.80**
Working capital margin in Year 1 (40%)	**1.55**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**26.00**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**39.00**
TOTAL	**100%**	**65.00**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Nos/annum)	3000	3000	3000	3000	3000	3000	3000
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/ annum at capacity utilisation	**1800**	**2100**	**2400**	**2400**	**2400**	**2400**	**2400**
Total income/annum	**35.10**	**40.95**	**46.80**	**46.80**	**46.80**	**46.80**	**46.80**
B. OPERATING EXPENSES							
Raw materials	11.82	13.79	15.76	15.76	15.76	15.76	15.76
Power & Utility	2.68	3.13	3.58	3.58	3.58	3.58	3.58
Salary	8.52	8.56	8.61	8.65	8.69	8.74	8.78
Repair & Maintenance	0.99	1.01	1.03	1.05	1.07	1.09	1.11
Other Expenses	0.70	0.82	0.94	0.94	0.94	0.94	0.94
Total Operating Expenses	**24.71**	**27.31**	**29.91**	**29.97**	**30.04**	**30.10**	**30.17**
Operating profit	**10.39**	**13.64**	**16.89**	**16.83**	**16.76**	**16.70**	**16.63**
C. FINANCIAL EXPENSES							
Depreciation	2.87	2.87	2.87	2.87	2.87	2.87	2.87
Interest on Term Loan	3.12	2.88	2.36	1.84	1.32	0.80	0.28
Interest on Working Capital Loan	0.19	0.21	0.23	0.23	0.23	0.23	0.23
Net Profit	**4.21**	**7.68**	**11.43**	**11.89**	**12.34**	**12.80**	**13.25**
Net cash accruals	**7.08**	**10.55**	**14.30**	**14.76**	**15.21**	**15.67**	**16.12**
Principal Repayment	0.00	6.50	6.50	6.50	6.50	6.50	6.50

6.1 Production capacity and Sales Realisation: Total production of **Plastic Water Storage Tanks** at 100% capacity utilization is estimated as below.

Products	Quantity
500 Litres Water Tanks	2000 Nos.
1000 Litres Water Tanks	1000 Nos.
Total production per annum at 100% capacity (In Nos.)	**3000 Nos.**

Particulars	Quantity	Average Rate per Unit	Amount
500 Litres Water Tanks	2000 Nos.	1450	2900000
1000 Litres Water Tanks	1000 Nos.	2950	2950000
Total Sale Turnover per annum at 100% capacity (In Rs.)			5850000

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Quantity	Average Rate per Unit	Amount
LLDPE	170 MT	10000	1700000
LPG Gas	6 MT	45000	270000
Expenses on raw material at 100% capacity (Rs)			1970000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 40)	--	29.84	29.84
General Lighting	20	0.10	2.00
Total power requirement/ day (Kw)			31.84

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	76416
Rate per unit (Rs)	3.50
Expenses on power (Rs)	267456

Estimate of Diesel required for Generator

No of working hours per day	2
Diesel consumption (litres per hours)	6
No. of days/annum	300
Annual requirement (in litres)	3600
Diesel Price per litre	50
Expenses on diesel (Rs)	180000
Expenses on power & utility at 100% capacity (Rs)	**447456**

6.4 Salary: Total 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)
Production Manager	1	10000	120000
Accountant cum Store Keeper	1	7000	84000
Sales Persons	2	7000	168000
Technicians/Machine Operators/Skilled Workers	3	5000	180000
Semi skilled workers	4	4000	192000
Unskilled workers	3	3000	108000
Expenses on salary in the 1st year (Rs)			**852000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	16.50	1.00%	0.17
Plant & Machinery	36.53	2.00%	0.73
Misc. Fixed assets	6.16	1.50%	0.09
Expenses on repair & maintenance in year 1			**0.99**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	16.50	3.34%	0.55
Plant & Machinery	36.53	5.28%	1.93
Misc. Fixed assets	6.16	6.33%	0.39
TOTAL			**2.87**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	39.00	39.00	32.50	26.00	19.50	13.00	6.50
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest (8%)	0.26	0.26	0.22	0.17	0.13	0.09	0.04
	Closing balance	**39.00**	**38.46**	**31.96**	**25.46**	**18.96**	**12.46**	**5.96**
Month 2	Opening balance	39.00	38.46	31.96	25.46	18.96	12.46	5.96
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.26	0.21	0.17	0.13	0.08	0.04
	Closing balance	**39.00**	**37.91**	**31.41**	**24.91**	**18.42**	**11.92**	**5.42**
Month 3	Opening balance	39.00	37.91	31.41	24.91	18.42	11.92	5.42
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.25	0.21	0.17	0.12	0.08	0.04
	Closing balance	**39.00**	**37.37**	**30.87**	**24.37**	**17.87**	**11.37**	**4.87**
Month 4	Opening balance	39.00	37.37	30.87	24.37	17.87	11.37	4.87
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54

	Interest	0.26	0.25	0.21	0.16	0.12	0.08	0.03
	Closing balance	**39.00**	**36.83**	**30.33**	**23.83**	**17.33**	**10.83**	**4.33**
Month 5	Opening balance	39.00	36.83	30.33	23.83	17.33	10.83	4.33
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.25	0.20	0.16	0.12	0.07	0.03
	Closing balance	**39.00**	**36.29**	**29.79**	**23.29**	**16.79**	**10.29**	**3.79**
Month 6	Opening balance	39.00	36.29	29.79	23.29	16.79	10.29	3.79
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.24	0.20	0.16	0.11	0.07	0.03
	Closing balance	**39.00**	**35.75**	**29.25**	**22.75**	**16.25**	**9.75**	**3.25**
Month 7	Opening balance	39.00	35.75	29.25	22.75	16.25	9.75	3.25
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.24	0.19	0.15	0.11	0.06	0.02
	Closing balance	**39.00**	**35.21**	**28.71**	**22.21**	**15.71**	**9.21**	**2.71**
Month 8	Opening balance	39.00	35.21	28.71	22.21	15.71	9.21	2.71
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.23	0.19	0.15	0.10	0.06	0.02
	Closing balance	**39.00**	**34.66**	**28.16**	**21.67**	**15.17**	**8.67**	**2.17**
Month 9	Opening balance	39.00	34.66	28.16	21.67	15.17	8.67	2.17
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.23	0.19	0.14	0.10	0.06	0.01
	Closing balance	**39.00**	**34.12**	**27.62**	**21.12**	**14.62**	**8.12**	**1.62**
Month 10	Opening balance	39.00	34.12	27.62	21.12	14.62	8.12	1.62
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.23	0.18	0.14	0.10	0.05	0.01
	Closing balance	**39.00**	**33.58**	**27.08**	**20.58**	**14.08**	**7.58**	**1.08**
Month 11	Opening balance	39.00	33.58	27.08	20.58	14.08	7.58	1.08
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.22	0.18	0.14	0.09	0.05	0.01
	Closing balance	**39.00**	**33.04**	**26.54**	**20.04**	**13.54**	**7.04**	**0.54**
Month 12	Opening balance	39.00	33.04	26.54	20.04	13.54	7.04	0.54
	Repayment	0.00	0.54	0.54	0.54	0.54	0.54	0.54
	Interest	0.26	0.22	0.18	0.13	0.09	0.05	0.00
	Closing balance	**39.00**	**32.50**	**26.00**	**19.50**	**13.00**	**6.50**	**0.00**
Principal Repayment		**0.00**	**6.50**	**6.50**	**6.50**	**6.50**	**6.50**	**6.50**
Interest		**3.12**	**2.88**	**2.36**	**1.84**	**1.32**	**0.80**	**0.28**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	4.21	7.68	11.43	11.89	12.34	12.80	13.25
Depreciation	2.87	2.87	2.87	2.87	2.87	2.87	2.87
Interest	3.12	2.88	2.36	1.84	1.32	0.80	0.28
Total	**10.20**	**13.43**	**16.66**	**16.60**	**16.53**	**16.47**	**16.40**
Interest	3.12	2.88	2.36	1.84	1.32	0.80	0.28
Loan repayment	0.00	6.50	6.50	6.50	6.50	6.50	6.50
Total	**3.12**	**9.38**	**8.86**	**8.34**	**7.82**	**7.30**	**6.78**
DSCR	**3.27**	**1.43**	**1.88**	**1.99**	**2.11**	**2.26**	**2.42**

Average DSCR = 2.06

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**35.10**	**40.95**	**46.80**
B. Variable cost			
Raw materials	11.82	13.79	15.76
Power & Utility	2.68	3.13	3.58
Other expenses	0.70	0.82	0.94
Interest on Working Capital Loan	0.19	0.21	0.23
Total variable cost	**15.39**	**17.95**	**20.51**
C. Contribution (A-B)	**19.71**	**23.00**	**26.29**
D. Fixed & Semi-fixed Costs			
Salary	8.52	8.56	8.61
Repair & maintenance	0.99	1.01	1.03
Interest on Term Loan	3.12	2.88	2.36
Depreciation	2.87	2.87	2.87
Total fixed cost	**15.50**	**15.32**	**14.86**
E. BREAK EVEN POINT	**78.64%**	**66.61%**	**56.53%**
F. BEP at operating capacity	**47.18%**	**46.63%**	**45.23%**
G. Cash BEP	**38.45%**	**37.90%**	**36.49%**

9.0 INTERNAL RATE OF RETURN (IRR)

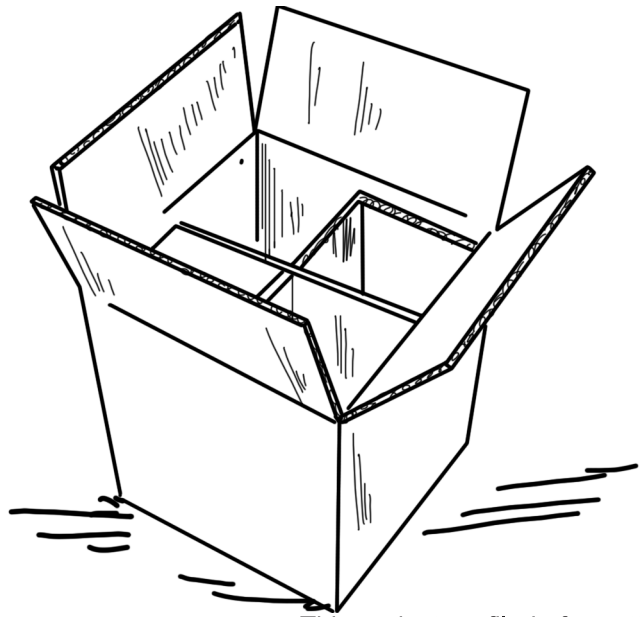
(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	60.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	3.86	0.47	0.47	0.00	0.00	0.00	0.00
Total (A)	**60.97**	**3.86**	**0.47**	**0.47**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		4.21	7.68	11.43	11.89	12.34	12.80	13.25
Add: Depreciation		2.87	2.87	2.87	2.87	2.87	2.87	2.87
Add: Interest		3.12	2.88	2.36	1.84	1.32	0.80	0.28
Add: Salvage Value								
Total (B)	**0.00**	**10.20**	**13.43**	**16.66**	**16.60**	**16.53**	**16.47**	**16.40**
NET FLOW (B-A)	**-60.97**	**6.33**	**12.96**	**16.19**	**16.60**	**16.53**	**16.47**	**16.40**

IRR = 19%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s National Plastics	Plot No. 84, G I D C, Odhav, Ahmedabad, Gujarat, Pin-382 415
2.	M/s Jai Industrial Works	22-26 A, Industrial Estate, 22, Godam, Jaipur.
3.	M/s Batliboi and Co. Ltd	P.B. No. 479, V.B. Gandhi Road, Fort, Mumbai, Maharashtra, Pin-400 023
4.	M/s Fixopan Machine Pvt. Ltd.	71, Nehru Place, New Delhi, Pin-110019.

CORRUGATED BOX



1.0 INTRODUCTION

Corrugated Box is the most popular shipping container, now-a-days. The box is manufactured from corrugated board, which consists of 3 or more layers of kraft paper. The middle fluted layer is pasted with two flat parallel sheets of paper. The boxes find their number of applications in the packaging of chemicals & drugs, tobacco, engineering goods, canned & bottled goods, food products, lamps, electrical appliances, glasswares etc. Corrugated boxes have replaced wooden boxes & crates in many applications. Today, about 80% of all shipments in the world are being made in fibre board boxes.

Corrugated fibre board consists of a flat layer of paper sheet (liner) glued on one or both sides of a corrugated paper (medium). The corrugated board is made by passing two layers of paper (usually kraft) through corrugating machine. One layer of paper becomes corrugated after being passed through the heated rolls and other is brought into contact with it after the former having glued at tips. The corrugating 'medium' is generally made from a 0.009" thick (9 caliper) or 0.23 mm. The glue frequently used is starch or silicate of soda adhesive. When only one liner is used, the product is known as "Single face" or "two ply" board. This board is flexible in one direction. When the corrugated medium is combined on both sides with flat sheets, it is known as double faced or "3-ply board".

This project profile is for setting up of a corrugated box manufactuirng unit with single face fibreboards having installed capacity of 900 tonnes per annum, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

Packaging industry has witnessed a substantial turnaround in India during the past years considering the changes in the lifestyle as well as development of the economy. It is among the high growth industries and a high degree of potential exists for almost all user segments, which are expanding appreciably. Corrugated boxes market in India was estimated at ~INR 108 Billion in FY 2012. Market size of corrugated boxes has grown at a CAGR of ~12% over the period FY 2008-12. Market size of the corrugated box industry is estimated to grow at a CAGR of ~14% over the period FY 2012-15 to reach ~INR 159 Billion by FY 2014.

India's per capita consumption of corrugated boxes is just 1.5 kg while the global average is close to 15 kg and the US average 80 kg. According to a study, about 95 per cent of all products are packed in corrugated boxes in the US, an indication of the vast potential in the business.

3.0 PROCESS DETAILS

The process of manufacture of corrugated fibreboard & boxes comprises of two sections viz. corrugated board making and box making section.

Manufacture of corrugated board: Corrugated board is made of a corrugated paper sheet of paper glued to the facings of flat-paper, usually kraft. A corrugating machine is employed for the corrugation of flat sheet and preparation of corrugated flexible 2 ply board. The machine is called as single-face corrugating machine. One layer of paper becomes corrugated after passing through the heated fluted rolls and the other is brought in contact with the former having been glued at the tips. These two sheets get pasted together and are wound in rolls. The resulting roll is known as single face or 2-ply corrugated board.

By cutting this roll with board cutter machine, glueing the corrugated side on pasting machine & then placing 3rd ply of paper over it, double face or 3-ply corrugated board is produced. Similarly, board to board can be pasted to form thicker boards i.e. 5-ply, 7-ply and 9-ply boards.

Manufacture of boxes: The corrugated board produced as above is dried (for drying of glue) and may now be processed further to produce-corrugated boxes.

The size of a box is always given in terms of the inside dimensions, with the longer dimension (length) of the opening given first followed by width and depth. The most economical box for a given cubic contents has the proportions of 2:1:2 (L:W:D). However, other proportions may also be used. For manufacturing boxes of any particular dimensions, it is first decided as to how the blanks for the boxes should be cut to minimise the wastage.

The various steps involved in the fabrication of corrugated fibre board boxes are: Slitting & creasing; slotting; flap or corner cutting and stitching or gluing. Cutting and creasing are simultaneously carried out over a rotary cutting & creasing machine. The trimmed and creased sheet is slotted and flapped out on an eccentric slotter. Finally, it is either stitched using stiching machine or glued/taped manually. The boxes are shiped in the form of flat tube, which is set up and closed by the packer.

Printing: There are different methods of printing the corrugated boxes. Some of the small scale manufacturers are printing the boxes after fabrication, by the technique of screen printing. However, printing can be done in a printer slotter machine. In this machine, the blanks are printed using soft rubber dies and the body score or vertical score and slots are introduced in the board.

Printing can also be performed on the paper sheet, before making corrugated sheet/board. The layer of paper, which will come outside of the box, is printed on flexographic machine.

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 & Site Development	5.60
Building & civil works	30.03
Plant & Machinery	41.75
Misc. Fixed assets	11.00
Preliminary & pre-operative expenses	7.38
Contingencies & escalation @ 3%	2.65
Working capital margin	6.47
TOTAL	104.88

4.1 Land & Site Development: No cost has been considered for land. Expenses on site development are estimated as below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Internal roads	100	400	40000
Boundary wall	140 rm	3000	420000
Site levelling, Gate, etc.	LS	LS	100000
		TOTAL	560000
		Say (Rs. in lacs)	5.60

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Workshed (Open shed, CGI sheet roof, concrete floor)	300	3500	1050000
Store room (Brick wall, CGI sheet roof, concrete floor)	150	6000	900000
Labour quarters (Brick wall, CGI sheet roof, concrete floor)	80	6000	480000
Administrative Room (Brick wall, CGI sheet roof, concrete floor)	50	6000	300000
		Sub total	2730000
Add: Electrification, water supply and sanitation @ 10%			273000
		TOTAL	3003000
		Say (Rs. in lacs)	30.03

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Single face corrugating machine	1	400000	400000
Reel to sheet cutting machine	1	200000	200000
Creasing and cutting machine	1	250000	250000
Eccentric slotter	1	250000	250000
Partition slotter	1	80000	80000
Stitching machine	2	50000	100000
Vertical Bending machine	1	200000	200000
Single slotting machine	1	30000	30000
Multi color offset printing machine	1	1500000	1500000
Screen printing equipment	1	100000	100000
Grammage tester	1	10000	10000
Bursting Strength factor tester	1	50000	50000
Puncture Resistance tester	1	60000	60000
Compression Strength Tester	1	300000	300000
Miscellaneous items	LS	LS	100000
		Sub total	3630000
Add: Installation, transportation, taxes, etc @ 15%			544500
		TOTAL	4174500
		Say (Rs. in lacs)	41.75

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Installation of tube-well	1	150000	150000
Transformer & power connection	1	300000	300000
40 KVA DG Set	1	300000	300000
Weighing machine	2	50000	100000
Fire fighting equipment	LS	LS	50000
Furniture & fixtures	LS	LS	50000
Miscellaneous items	LS	LS	50000
		Sub total	1000000
Add: Installation, transportation, taxes etc @ 10%			100000
		TOTAL	1100000
		Say (Rs. in lacs)	11.00

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

(Rs. in lacs)

Particulars	Amount (Rs)
Travelling expenses	1.00
Professional & other fees	1.00
Interest during implementation	4.88
Miscellaneous expenses	0.50
TOTAL	7.38

4.6 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of the cost of site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.7 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	15	4.27	5.13	5.98
Power & fuel	30	0.17	0.20	0.24
Salary	30	0.77	0.77	0.78
Finished Goods	15	4.87	5.75	6.65
Receivables	15	6.10	6.66	7.77
Total		16.18	18.51	21.41
Working Capital Margin in Year 1 (40%)	6.47			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount (Rs)
EQUITY		
A. Equity from Promoters	40%	41.95
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	62.93
TOTAL	100%	104.88

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Installed capacity (MT)	900	900	900	900	900	900	900
Capacity utilisation	50%	60%	70%	70%	70%	70%	70%
Production at cap. utilisation	450	540	630	630	630	630	630
Sale price (Rs/MT)	33000	30000	30000	30000	30000	30000	30000
Income from sales/annum	148.50	162.00	189.00	189.00	189.00	189.00	189.00
B. OPERATING EXPENSES							
Raw Materials & Consumables	103.95	124.74	145.53	145.53	145.53	145.53	145.53
Power & fuel	2.06	2.48	2.89	2.89	2.89	2.89	2.89
Salary	9.36	9.41	9.45	9.50	9.55	9.60	9.64
Repair & Maintenance	0.83	0.91	1.00	1.10	1.21	1.33	1.47

Selling & administrative expenses	1.49	1.62	1.89	1.89	1.89	1.89	1.89
Miscellaneous Expenses	0.74	0.81	0.95	0.95	0.95	0.95	0.95
Total Operating Expenses	118.43	139.96	161.71	161.86	162.02	162.18	162.37
Less: working expenses capitalised	6.47	0.00	0.00	0.00	0.00	0.00	0.00
Operating profit	36.54	22.04	27.29	27.14	26.98	26.82	26.63
C. FINANCIAL EXPENSES							
Depreciation	3.90	3.90	3.90	3.90	3.90	3.90	3.90
Interest on Term Loan	8.47	7.53	6.17	4.81	3.45	2.10	0.74
Interest on WC Loan	1.55	1.78	2.06	2.06	2.06	2.06	2.06
Net Profit	22.62	8.82	15.16	16.37	17.57	18.76	19.94
Net cash accruals	26.52	12.73	19.06	20.27	21.47	22.67	23.84
Principal Repayment	2.52	10.07	10.07	10.07	10.07	10.07	10.07

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

Installed production capacity (Tonnes)	900
Scaling loss	5%
Total consumption of raw materials & consumables (Tonnes)	945
Avg price (Rs/tonne)	22000
Expenses on raw materials & consumables at installed capacity (Rs)	20790000

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

A. Expenses on power

Connected load (kw)	40
Avg load factor	70%
Proportion running on power (%)	80%
Hrs/day	8
Days/annum	300
Annual power consumption	53760
Rate (Rs/unit)	5
Expenses on power (Rs)	268800

B: Estimate of Diesel required for Generator

Proportion running on diesel (%)	20%
Hrs/annum	480
Consumption (litres/hr)	6
Price (Rs/litre)	50
Expenses on diesel (Rs)	144000
Expenses on power & fuel at installed capacity (Rs)	412800

6.3 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)
Plant Manager	1	10000	120000
Supervisor	1	8000	96000
Technicians/machine operators	4	6000	288000
Sales staff/administrative staff	3	4000	144000

Unskilled workers/helpers	8	3000	288000
Expenses on salary in the 1st year (Rs)			936000

6.4 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 @ 10% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	30.58	1%	0.31
Plant & Machinery	41.75	1%	0.42
Misc. Fixed assets	11.00	1%	0.11
Expenses on repair & maintenance in year 1			0.83

6.5 Selling & Administrative Expenses: Selling expenses have been assumed at 1% of sales.

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

6.7 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)
Building & Civil Works	30.03	3.34%	1.00
Plant & Machinery	41.75	5.28%	2.20
Misc. Fixed Assets	11.00	6.33%	0.70
TOTAL			3.90

6.8 Interest on Working Capital Loan: Interest rate on working capital loan has been assumed at 16%. The details of calculation are given below.

(Rs. in lacs)

Particulars	Year 1	Year 2	Year 3
Total current assets	16.18	18.51	21.41
Bank Loan (60%)	9.71	11.11	12.84
Interest @ 16%	1.55	1.78	2.06

6.9 Interest on term loan & principal repayment: Interest rate on term loan has been assumed at 13.5%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 12 months with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	62.93	60.41	50.34	40.27	30.21	20.14	10.07
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84
	Interest (13.5%)	0.71	0.68	0.57	0.45	0.34	0.23	0.11
	Closing balance	62.93	59.57	49.50	39.44	29.37	19.30	9.23
Month 2	Opening balance	62.93	59.57	49.50	39.44	29.37	19.30	9.23
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.71	0.67	0.56	0.44	0.33	0.22	0.10
	Closing balance	62.93	58.73	48.67	38.60	28.53	18.46	8.39
Month 3	Opening balance	62.93	58.73	48.67	38.60	28.53	18.46	8.39
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84

	Interest	0.71	0.66	0.55	0.43	0.32	0.21	0.09
	Closing balance	62.93	57.89	47.83	37.76	27.69	17.62	7.55
Month 4	Opening balance	62.93	57.89	47.83	37.76	27.69	17.62	7.55
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.71	0.65	0.54	0.42	0.31	0.20	0.08
	Closing balance	62.93	57.06	46.99	36.92	26.85	16.78	6.71
Month 5	Opening balance	62.93	57.06	46.99	36.92	26.85	16.78	6.71
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.71	0.64	0.53	0.42	0.30	0.19	0.08
	Closing balance	62.93	56.22	46.15	36.08	26.01	15.94	5.87
Month 6	Opening balance	62.93	56.22	46.15	36.08	26.01	15.94	5.87
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.71	0.63	0.52	0.41	0.29	0.18	0.07
	Closing balance	62.93	55.38	45.31	35.24	25.17	15.10	5.03
Month 7	Opening balance	62.93	55.38	45.31	35.24	25.17	15.10	5.03
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.71	0.62	0.51	0.40	0.28	0.17	0.06
	Closing balance	62.93	54.54	44.47	34.40	24.33	14.26	4.20
Month 8	Opening balance	62.93	54.54	44.47	34.40	24.33	14.26	4.20
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.71	0.61	0.50	0.39	0.27	0.16	0.05
	Closing balance	62.93	53.70	43.63	33.56	23.49	13.42	3.36
Month 9	Opening balance	62.93	53.70	43.63	33.56	23.49	13.42	3.36
	Repayment	0.00	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.71	0.60	0.49	0.38	0.26	0.15	0.04
	Closing balance	62.93	52.86	42.79	32.72	22.65	12.59	2.52
Month 10	Opening balance	62.93	52.86	42.79	32.72	22.65	12.59	2.52
	Repayment	0.84	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.71	0.59	0.48	0.37	0.25	0.14	0.03
	Closing balance	62.09	52.02	41.95	31.88	21.82	11.75	1.68
Month 11	Opening balance	62.09	52.02	41.95	31.88	21.82	11.75	1.68
	Repayment	0.84	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.70	0.59	0.47	0.36	0.25	0.13	0.02
	Closing balance	61.25	51.18	41.11	31.05	20.98	10.91	0.84
Month 12	Opening balance	61.25	51.18	41.11	31.05	20.98	10.91	0.84
	Repayment	0.84	0.84	0.84	0.84	0.84	0.84	0.84
	Interest	0.69	0.58	0.46	0.35	0.24	0.12	0.01
	Closing balance	60.41	50.34	40.27	30.21	20.14	10.07	0.00
Principal Repayment		2.52	10.07	10.07	10.07	10.07	10.07	10.07
Interest		8.47	7.53	6.17	4.81	3.45	2.10	0.74

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7	TOTAL
Profit After Tax (Net Profit)	22.62	8.82	15.16	16.37	17.57	18.76	19.94	
Depreciation	3.90	3.90	3.90	3.90	3.90	3.90	3.90	
Interest	8.47	7.53	6.17	4.81	3.45	2.10	0.74	
Total	34.99	20.26	25.23	25.09	24.93	24.76	24.58	179.84
Interest	8.47	7.53	6.17	4.81	3.45	2.10	0.74	
Loan repayment	2.52	10.07	10.07	10.07	10.07	10.07	10.07	
Total	10.98	17.60	16.24	14.88	13.52	12.16	10.80	96.20
DSCR	3.19	1.15	1.55	1.69	1.84	2.04	2.27	

Average DSCR = 1.87

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	148.50	162.00	189.00
B. Variable cost			
Raw Materials & Consumables	103.95	124.74	145.53
Power & fuel	2.06	2.48	2.89
Selling & administrative expenses	1.49	1.62	1.89
Miscellaneous expenses	0.74	0.81	0.95
Interest on Working Capital Loan	1.55	1.78	2.06
Total variable cost	109.79	131.42	153.31
C. Contribution (A-B)	38.71	30.58	35.69
D. Fixed & Semi-fixed Costs			
Salary	9.36	9.41	9.45
Repair & maintenance	0.83	0.91	1.00
Interest on Term Loan	8.47	7.53	6.17
Depreciation	3.90	3.90	3.90
Total fixed cost	22.56	21.75	20.53
E. BREAK EVEN POINT	58.28%	71.15%	57.53%
F. BEP at operating capacity	29.14%	42.69%	40.27%
G. Cash BEP	24.10%	35.03%	32.61%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	88.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	16.18	2.33	2.90	0.00	0.00	0.00	0.00
Total (A)	88.38	16.18	2.33	2.90	0.00	0.00	0.00	0.00
CASH INFLOW								
Profit After Tax		22.62	8.82	15.16	16.37	17.57	18.76	19.94
Add: Depreciation		3.90	3.90	3.90	3.90	3.90	3.90	3.90
Add: Interest		8.47	7.53	6.17	4.81	3.45	2.10	0.74
Add: Salvage Value								
Total (B)	0.00	34.99	20.26	25.23	25.09	24.93	24.76	24.58
NET FLOW (B-A)	-88.38	18.81	17.93	22.34	25.09	24.93	24.76	24.58

IRR = 16%

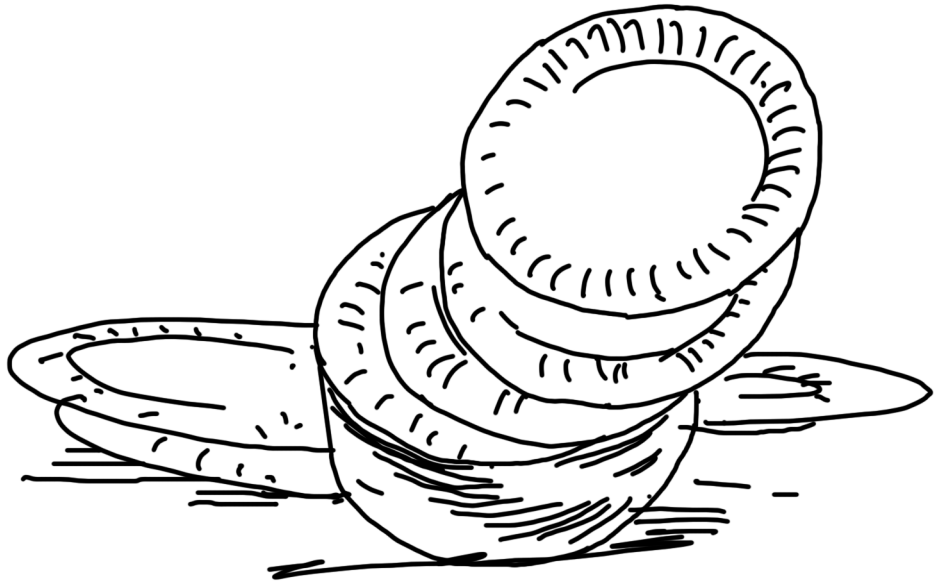
MACHINERY SUPPLIERS

(a) B.R.D Manufacturing Company
1, Raja Gopi Mohan Street, Near Manicktola Market, Kolkata - 700 006, West Bengal, India

(b) Easy Packaging Machinery
5/1, Chawlpatty Road, Beliaghata, Kolkata - 700 085, West Bengal, India

(c) B. N. Engineering Works
No. 131, Keshab Chandra Sen Street, Near Amherst Street, Kolkata - 700 009, West Bengal, India

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
EQUITY		
A. Equity from Promoters	40%	4.21
B. Subsidy from Central/State Govt.	-	
DEBT		
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
A. INCOME					
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
B. OPERATING EXPENSES					
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
C. FINANCIAL EXPENSES					
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%

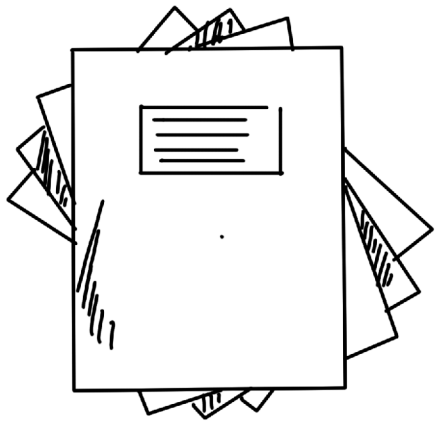
MACHINERY SUPPLIERS

(a) M.B. Engineering Works
Howrah- Amta Road, Near Japani Gate, P. O. Balitikuri, Howrah - 711113, West Bengal, India

(b) Ace Automation Engineers
C - 164, Mayapuri Industrial Area, Phase - 2, Delhi - 110064, Delhi, India

(c) Khalsa Engineering Works
A - 75, Gali No. - 9, Koyale Wali Gali, Samay Pur, Delhi - 110042, Delhi, India

FILE COVER AND FILE BOARD



1.0 INTRODUCTION

File Cover/File Board making units comes under traditional industry and is one of the oldest industry related to printing and stationary. With the increasing need to classify and preserve documents in proper form as well as transfer of papers from one desk to another especially in government offices, the demand for stationery is constantly increasing. Most stationery items are not manufactured in the north east although one or two tiny units manufacturing file board and file cover do exist.

This project profile is for setting up of a File Cover and File Boards making unit, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;

File Cover - 60,000 Nos.
File Board - 60,000 Nos.

2.0 MARKET POTENTIAL

There are numerous offices and institutions of varying sizes in the north eastern region. Small business establishments also need file cover and file board for preserving official documents. There is increasing demand for File Cover and File Boards from such establishments.

3.0 PROCESS DETAILS

The main process steps involved in making file covers, file boards are –
i) Cutting boards and paper to required size
ii) Printing of file cover sheet
iii) Greasing and binding
iv) Attaching clips and hooks
v) Packaging in bundles

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Rented**
Building & Civil works	**Rented**
Plant & Machinery	**1.54**
Misc. Fixed assets	**0.61**
Preliminary & pre-operative expenses	**0.49**
Contingencies & escalation @ 3%	**0.06**
Working capital	**0.26**
TOTAL	**2.97**

4.1 Land & Site Development: Nil. Covered Area: 750 Sq. Ft.

4.2 Building & Civil Works: Nil.

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Foot Operated Board Cutter	1	120000
Vertical bending Machine	1	
Platform Size Printing Machine	1	
Gumming Machine	1	
Corner Cutting machine	1	
Miscellaneous items	LS	20000
	Sub total	**140000**
Add: Installation, transportation, etc @ 10%		14000
	TOTAL	**154000**
	Say (Rs. in lacs)	**1.54**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Electrification	LS	--	10000
Furniture & fixtures	LS	--	25000
Miscellaneous items	LS	--	20000
		Sub total	**55000**
Add: Installation, transportation, etc @ 10%			5500
		TOTAL	**60500**
		Say (Rs. in lacs)	**0.61**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	15000
Interest during implementation	4290
Miscellaneous expenses	20000
TOTAL	49290
Say (Rs. in lacs)	**0.49**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.07	0.08	0.09
Power & utility	30	0.01	0.01	0.01
Salary	30	0.19	0.19	0.19
Finished Goods	15	0.18	0.20	0.21
Receivables	15	0.21	0.24	0.28
Total		**0.66**	**0.72**	**0.79**
Working capital margin in Year 1 (40%)	**0.26**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**1.19**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**1.78**
TOTAL	**100%**	**2.97**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production Capacity (Nos./annum)	120000	120000	120000	120000	120000
Capacity utilisation	60%	70%	80%	80%	80%
Production/annum at capacity utilisation	**72000**	**84000**	**96000**	**96000**	**96000**
Total income/annum	**5.04**	**5.88**	**6.72**	**6.72**	**6.72**
B. OPERATING EXPENSES					
Raw Materials	1.71	1.99	2.28	2.28	2.28
Power & Utility	0.14	0.16	0.18	0.18	0.18
Salary	2.28	2.29	2.30	2.31	2.33
Repair & Maintenance	0.04	0.04	0.04	0.04	0.04
Other Expenses	0.25	0.29	0.34	0.34	0.34
Total Operating Expenses	**4.42**	**4.78**	**5.14**	**5.15**	**5.17**
Operating profit	**0.62**	**1.10**	**1.58**	**1.57**	**1.55**
C. FINANCIAL EXPENSES					
Depreciation	0.12	0.12	0.12	0.12	0.12
Interest on Term Loan	0.14	0.11	0.08	0.05	0.02
Interest on Working Capital Loan	0.03	0.03	0.04	0.04	0.04
Net Profit	**0.33**	**0.83**	**1.34**	**1.36**	**1.38**
Net cash accruals	**0.45**	**0.95**	**1.46**	**1.48**	**1.50**
Principal Repayment	0.20	0.40	0.40	0.40	0.40

6.1 Production capacity and Sales Realisation: Total production of File Cover and File Boards at 100% capacity utilization is estimated as below.

File Cover	60000 Nos.
File Board	60000 Nos.
Total production per annum at 100% capacity (in Nos.)	**120000 Nos.**

Products	Qnty (In Nos.)	Average Rate Per Unit (Rs.)	Amount (Rs)
File Cover	60000	9	540000
File Board	60000	5	300000
Total Sale Turnover per annum at 100% capacity			**840000**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Mill Board (In Ton)	3.8 Ton	30200	114760
Card Board	10000 Nos.	5	50000
Consumables like Gum, Clips, Hooks and others	LS	LS	120000
Expenses on raw material per annum at 100% capacity			**284760**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery	--	1.50	1.50
General Lighting	5	0.10	0.50
Total power requirement/ day (Kw)			2.00

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	4800
Rate per unit (Rs)	3.50
Expenses on power (Rs)	16800
Expenses on other Utility (Rs)	6000
Expenses on power & utility at 100% capacity (Rs)	**22800**

6.4 Salary: Total 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	1	5000	60000
Skilled Workers	2	4000	96000
Unskilled workers	2	3000	72000
Expenses on salary in the 1st year (Rs)			**228000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	0.00	1.00%	0.00
Plant & Machinery	1.54	2.00%	0.03
Misc. Fixed assets	0.61	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.04**

6.6 Other Expenses: Other expenses have been assumed at 5% of sales realisation.

6.7 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)
Building & Civil works	0.00	3.34%	0.00
Plant & Machinery	1.54	5.28%	0.08
Misc. Fixed assets	0.61	6.33%	0.04
TOTAL			**0.12**

6.8 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 6 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	1.78	1.58	1.19	0.79	0.40
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest (8%)	0.01	0.01	0.01	0.01	0.00
	Closing balance	**1.78**	**1.55**	**1.15**	**0.76**	**0.36**
Month 2	Opening balance	1.78	1.55	1.15	0.76	0.36
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.01	0.00
	Closing balance	**1.78**	**1.52**	**1.12**	**0.72**	**0.33**
Month 3	Opening balance	1.78	1.52	1.12	0.72	0.33
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.78**	**1.48**	**1.09**	**0.69**	**0.30**
Month 4	Opening balance	1.78	1.48	1.09	0.69	0.30
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.78**	**1.45**	**1.05**	**0.66**	**0.26**
Month 5	Opening balance	1.78	1.45	1.05	0.66	0.26
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.78**	**1.42**	**1.02**	**0.63**	**0.23**
Month 6	Opening balance	1.78	1.42	1.02	0.63	0.23
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.78**	**1.38**	**0.99**	**0.59**	**0.20**
Month 7	Opening balance	1.78	1.38	0.99	0.59	0.20
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.75**	**1.35**	**0.96**	**0.56**	**0.16**
Month 8	Opening balance	1.75	1.35	0.96	0.56	0.16
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.71**	**1.32**	**0.92**	**0.53**	**0.13**
Month 9	Opening balance	1.71	1.32	0.92	0.53	0.13
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.68**	**1.28**	**0.89**	**0.49**	**0.10**
Month 10	Opening balance	1.68	1.28	0.89	0.49	0.10

	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.65**	**1.25**	**0.86**	**0.46**	**0.07**
Month 11	Opening balance	1.65	1.25	0.86	0.46	0.07
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.61**	**1.22**	**0.82**	**0.43**	**0.03**
Month 12	Opening balance	1.61	1.22	0.82	0.43	0.03
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.58**	**1.19**	**0.79**	**0.40**	**0.00**
Principal Repayment		**0.20**	**0.40**	**0.40**	**0.40**	**0.40**
Interest		**0.14**	**0.11**	**0.08**	**0.05**	**0.02**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5
Profit After Tax (Net Profit)	0.33	0.83	1.34	1.36	1.38
Depreciation	0.12	0.12	0.12	0.12	0.12
Interest	0.14	0.11	0.08	0.05	0.02
Total	**0.59**	**1.07**	**1.54**	**1.53**	**1.52**
Interest	0.14	0.11	0.08	0.05	0.02
Loan repayment	0.20	0.40	0.40	0.40	0.40
Total	**0.34**	**0.51**	**0.48**	**0.44**	**0.41**
DSCR	**1.76**	**2.10**	**3.24**	**3.44**	**3.68**

Average DSCR = 2.87

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**5.04**	**5.88**	**6.72**
B. Variable cost			
Raw Materials	1.71	1.99	2.28
Power & Utility	0.14	0.16	0.18
Other expenses	0.25	0.29	0.34
Interest on Working Capital Loan	0.03	0.03	0.04
Total variable cost	**2.13**	**2.48**	**2.83**
C. Contribution (A-B)	**2.91**	**3.40**	**3.89**
D. Fixed & Semi-fixed Costs			
Salary	2.28	2.29	2.30
Repair & maintenance	0.04	0.04	0.04
Interest on Term Loan	0.14	0.11	0.08
Depreciation	0.12	0.12	0.12
Total fixed cost	**2.58**	**2.56**	**2.54**
E. BREAK EVEN POINT	**88.58%**	**75.44%**	**65.48%**
F. BEP at operating capacity	**53.15%**	**52.81%**	**52.38%**
G. Cash BEP	**50.68%**	**50.34%**	**49.92%**

9.0 INTERNAL RATE OF RETURN (IRR)

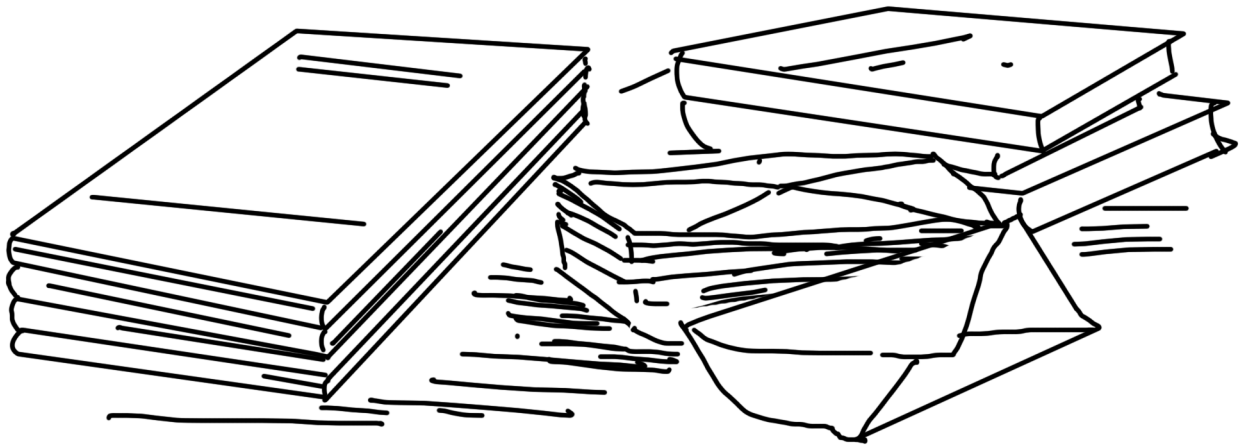
(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	2.21	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	0.66	0.06	0.06	0.00	0.00
Total (A)	**2.21**	**0.66**	**0.06**	**0.06**	**0.00**	**0.00**
CASH INFLOW						
Profit After Tax		0.33	0.83	1.34	1.36	1.38
Add: Depreciation		0.12	0.12	0.12	0.12	0.12
Add: Interest		0.14	0.11	0.08	0.05	0.02
Add: Salvage Value						
Total (B)	**0.00**	**0.59**	**1.07**	**1.54**	**1.53**	**1.52**
NET FLOW (B-A)	**-2.21**	**-0.07**	**1.00**	**1.48**	**1.53**	**1.52**

IRR = 41%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Nagpal Industries	Bartan Market, Sadar Bazar, Delhi, Pin- 110 006
2.	M/s Indo-European Trading Co Pvt. Ltd.	9, Dalal Street, Fort, Mumbai, Maharashtra.
3.	M/s Shri Krishna Engineering Works	Brahmaputra Kinkabawali Wadi, Near Vanker Road, Siang, Surat.

EXERCISE BOOK, PAPER ENVELOP AND REGISTER



1.0 INTRODUCTION

Stationery items like note books, exercise books, log books, paper envelops etc are always in demand for students as well as for offices. The demand for note books is more in the months of June to August in every year due to new admission season. Similarly, registers are essential in every office, institutions, organisations, etc. The sizes of the products are normally decided as per the local market demands.

This project profile is for setting up of Exercise Book, Paper Envelop and Register making unit, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;

Exercise Book	-	84,000 Nos.
Paper Envelop	-	2,40,000 Nos.
Register	-	84,000 Nos.

2.0 MARKET POTENTIAL

There is increasing demand for note books as stationery items in view of rapid growth in educational institutions. The product finds placement in all “A”, and “B” class outlets, self service, departmental stores and supermarkets. The product has a lot of market potential if reasonably priced. Keeping in view of above factors the demand of this product is likely to increase in the coming years.

3.0 PROCESS DETAILS

The manufacturing process of note books, registers, etc is quite simple. In this process, first of all white papers are ruled with the help of ruling machine as per the local requirement. The ruled paper sheets are folded into the required size of note book (92/192 pages) and then after binding it with grey boards, labels and covers are pasted on it. These labels can also be printed by the entrepreneur in his own unit and various multi colour attractive covers can be purchased from the market. After pasting the covers, cutting is done to give them the finishing touch. The same procedure is followed for making the registers also.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Rented**
Building & Civil works	**Rented**
Plant & Machinery	**1.27**
Misc. Fixed assets	**0.61**
Preliminary & pre-operative expenses	**0.49**
Contingencies & escalation @ 3%	**0.06**
Working capital	**0.38**
TOTAL	**2.80**

4.1 Land & Site Development: Nil. Covered Area: 750 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Disk rulling machine - 36" with motor	1	95000
Paper cutting machine - 32" with motor	1	
Stitching machine with motor 0.5 HP	1	
Perforating machine - manual 18"	1	
Press - manual - 15 x 20"	1	
Miscellaneous items	LS	20000
	Sub total	**115000**
Add: Installation, transportation, etc @ 10%		11500
	TOTAL	**126500**
	Say (Rs. in lacs)	**1.27**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Electrification	1	10000	10000
Furniture & fixtures	LS	--	25000
Miscellaneous items	LS	--	20000
		Sub total	**55000**
Add: Installation, transportation, etc @ 10%			5500
		TOTAL	**60500**
		Say (Rs. in lacs)	**0.61**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	15000
Interest during implementation	3740
Miscellaneous expenses	20000
TOTAL	48740
Say (Rs. in lacs)	**0.49**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.17	0.19	0.22
Power & utility	30	0.01	0.01	0.01
Salary	30	0.19	0.19	0.19
Finished Goods	15	0.28	0.31	0.34
Receivables	15	0.30	0.35	0.40
Total		**0.94**	**1.05**	**1.17**
Working capital margin in Year 1 (40%)	**0.38**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**1.12**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**1.68**
TOTAL	**100%**	**2.80**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production Capacity (Nos./annum)	168000	168000	168000	168000	168000
Capacity utilisation	60%	70%	80%	80%	80%
Production/annum at capacity utilisation	**100800**	**117600**	**134400**	**134400**	**134400**
Total income/annum	**7.27**	**8.48**	**9.70**	**9.70**	**9.70**
B. OPERATING EXPENSES					
Raw Materials	4.02	4.69	5.36	5.36	5.36
Power & Utility	0.14	0.16	0.18	0.18	0.18
Salary	2.28	2.29	2.30	2.31	2.33
Repair & Maintenance	0.03	0.04	0.04	0.04	0.04
Other Expenses	0.36	0.42	0.48	0.48	0.48
Total Operating Expenses	**6.83**	**7.60**	**8.36**	**8.37**	**8.39**
Operating profit	**0.44**	**0.89**	**1.33**	**1.32**	**1.31**
C. FINANCIAL EXPENSES					
Depreciation	0.11	0.11	0.11	0.11	0.11
Interest on Term Loan	0.13	0.11	0.08	0.05	0.02
Interest on Working Capital Loan	0.05	0.05	0.06	0.06	0.06
Net Profit	**0.16**	**0.63**	**1.10**	**1.11**	**1.13**
Net cash accruals	**0.26**	**0.73**	**1.20**	**1.22**	**1.24**
Principal Repayment	0.19	0.37	0.37	0.37	0.37

6.1 Production capacity and Sales Realisation: Total annual output of **Exercise Book, Envelop and Registers** at 100% capacity utilization is estimated as below.

Exercise Note Book	84000 Nos.
Envelop	240000 Nos.
Register	84000 Nos.
Total production per annum at 100% capacity	**168000 Nos.**

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Exercise Note Book	84000 Nos.	5	420000
Envelop (Rs. 50 Per 100)	240000 Nos.	50	120000
Register	84000 Nos.	8	672000
Total Sale Turnover per annum at 100% capacity			**1212000**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
White Sheets	2100 Reams	275	577500
Grey Board Sheets	22000	2	44000
Consumables like Printing ink, level cover sheets, gum, binding cloth thread, stitching-ware, consumables, etc	LS	--	48000
Expenses on raw material per annum at 100% capacity			**669500**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery	--	1.50	1.50
General Lighting	5	0.10	0.50
Total power requirement/ day (Kw)			2.00

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	4800
Rate per unit (Rs)	3.50
Expenses on power (Rs)	16800
Expenses on other Utility (Rs)	6000
Expenses on power & utility at 100% capacity (Rs)	**22800**

6.4 Salary: Total 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	1	5000	60000
Skilled Workers	2	4000	96000
Unskilled workers	2	3000	72000
Expenses on salary in the 1st year (Rs)			**228000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	0.00	1.00%	0.00
Plant & Machinery	1.27	2.00%	0.03
Misc. Fixed assets	0.61	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.03**

6.6 Other Expenses: Other expenses have been assumed at 5% of sales realisation.

6.7 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)
Building & Civil works	0.00	3.34%	0.00
Plant & Machinery	1.27	5.28%	0.07
Misc. Fixed assets	0.61	6.33%	0.04
TOTAL			**0.11**

6.8 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 6 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	1.68	1.49	1.12	0.75	0.37
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest (8%)	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.68**	**1.46**	**1.09**	**0.71**	**0.34**
Month 2	Opening balance	1.68	1.46	1.09	0.71	0.34
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.68**	**1.43**	**1.06**	**0.68**	**0.31**
Month 3	Opening balance	1.68	1.43	1.06	0.68	0.31
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00

	Closing balance	**1.68**	**1.40**	**1.03**	**0.65**	**0.28**
Month 4	Opening balance	1.68	1.40	1.03	0.65	0.28
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.68**	**1.37**	**0.99**	**0.62**	**0.25**
Month 5	Opening balance	1.68	1.37	0.99	0.62	0.25
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.68**	**1.34**	**0.96**	**0.59**	**0.22**
Month 6	Opening balance	1.68	1.34	0.96	0.59	0.22
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.68**	**1.30**	**0.93**	**0.56**	**0.19**
Month 7	Opening balance	1.68	1.30	0.93	0.56	0.19
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.65**	**1.27**	**0.90**	**0.53**	**0.16**
Month 8	Opening balance	1.65	1.27	0.90	0.53	0.16
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.62**	**1.24**	**0.87**	**0.50**	**0.12**
Month 9	Opening balance	1.62	1.24	0.87	0.50	0.12
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.58**	**1.21**	**0.84**	**0.47**	**0.09**
Month 10	Opening balance	1.58	1.21	0.84	0.47	0.09
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.55**	**1.18**	**0.81**	**0.43**	**0.06**
Month 11	Opening balance	1.55	1.18	0.81	0.43	0.06
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.52**	**1.15**	**0.78**	**0.40**	**0.03**
Month 12	Opening balance	1.52	1.15	0.78	0.40	0.03
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.49**	**1.12**	**0.75**	**0.37**	**0.00**
Principal Repayment		**0.19**	**0.37**	**0.37**	**0.37**	**0.37**
Interest		**0.13**	**0.11**	**0.08**	**0.05**	**0.02**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5
Profit After Tax (Net Profit)	0.16	0.63	1.10	1.11	1.13
Depreciation	0.11	0.11	0.11	0.11	0.11
Interest	0.13	0.11	0.08	0.05	0.02
Total	**0.39**	**0.84**	**1.28**	**1.27**	**1.25**
Interest	0.13	0.11	0.08	0.05	0.02

Loan repayment	0.19	0.37	0.37	0.37	0.37
Total	**0.32**	**0.48**	**0.45**	**0.42**	**0.39**
DSCR	**1.24**	**1.75**	**2.85**	**3.02**	**3.22**

Average DSCR = 2.45

8.0 BREAK EVEN POINT (BEP) **(Rs. in lacs)**

Year	1	2	3
A. Net sales	**7.27**	**8.48**	**9.70**
B. Variable cost			
Raw Materials	4.02	4.69	5.36
Power & Utility	0.14	0.16	0.18
Other expenses	0.36	0.42	0.48
Interest on Working Capital Loan	0.05	0.05	0.06
Total variable cost	**4.56**	**5.32**	**6.08**
C. Contribution (A-B)	**2.71**	**3.16**	**3.62**
D. Fixed & Semi-fixed Costs			
Salary	2.28	2.29	2.30
Repair & maintenance	0.03	0.04	0.04
Interest on Term Loan	0.13	0.11	0.08
Depreciation	0.11	0.11	0.11
Total fixed cost	**2.55**	**2.54**	**2.52**
E. BREAK EVEN POINT	**94.15%**	**80.22%**	**69.67%**
F. BEP at operating capacity	**56.49%**	**56.16%**	**55.74%**
G. Cash BEP	**54.16%**	**53.83%**	**53.41%**

9.0 INTERNAL RATE OF RETURN (IRR)

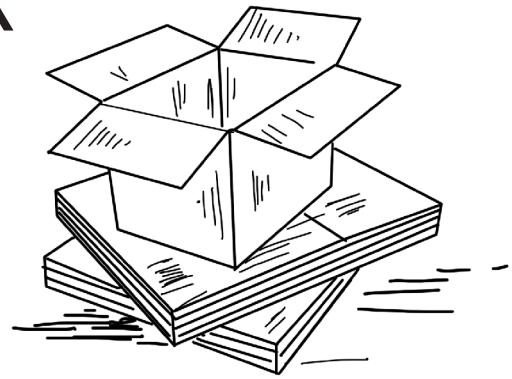
(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	1.93	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	0.94	0.11	0.11	0.00	0.00
Total (A)	**1.93**	**0.94**	**0.11**	**0.11**	**0.00**	**0.00**
CASH INFLOW						
Profit After Tax		0.16	0.63	1.10	1.11	1.13
Add: Depreciation		0.11	0.11	0.11	0.11	0.11
Add: Interest		0.13	0.11	0.08	0.05	0.02
Add: Salvage Value						
Total (B)	**0.00**	**0.39**	**0.84**	**1.28**	**1.27**	**1.25**
NET FLOW (B-A)	**-1.93**	**-0.55**	**0.72**	**1.17**	**1.27**	**1.25**

IRR = 32%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	**M/s SUMACO MACHINERY COMPANY**	2434/1-23, Cheel Mandi, Amritsar - 143001, Punjab.
2.	**M/s LINE O MATIC GRAPHIC INDUSTRIES**	D/62, DIAMOND PARK, GIDC, NARODA, OPP. TOYOTA SHOWROOM, N.H. NO. 8, NARODA, Ahmedabad - 382330, Gujarat

CARD BOARD BOX



1.0 INTRODUCTION

Card Board Boxes of various shapes and sizes are used in packaging of consumer goods like Cosmetics, electrical equipment electrical appliances, auto parts etc. These boxes are also used in packing readymade garments, shirts, trousers, sarees etc. The demand for clothing materials have increased multifold. Over 50% of the paper produced in the country is used for packaging purposes. With the industrial development in the country, the economic conditions of the people have increased substantially and likewise demand for consumer items also increased. For packing these material multi coloured card board boxes are required in large quantities. The entrepreneur can easily set up a card board manufacturing unit.

This project profile is for production of Card Board Boxes with production capacity of 1,20,000 Boxes Per annum, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

There is good demand for card board boxes in the country. Each and every town in India requires lakhs of card board boxes for packing of different materials like glass ware, garments, toys, furniture etc. These boxes are generally made of duplex board, mill board, grey board, etc. All most at every town /district level there is requirement for such boxes. There would be no problem in marketing these card board boxes.

3.0 PROCESS DETAILS

The first step in making Cardboard boxes is the cutting of cardboard as per the required shape & size and then they are creased as per the design with the help of creasing machine. Then the creased sides/edges are pasted or stapled. After that, paper or printed label is glued as per requirement and then are laminated after which they are supplied to market.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Rented**
Building & Civil works	**Rented**
Plant & Machinery	**1.45**
Misc. Fixed assets	**0.66**
Preliminary & pre-operative expenses	**0.31**
Contingencies & escalation @ 3%	**0.06**
Working capital	**0.39**
TOTAL	**2.87**

4.1 Land & Site Development: Nil. Covered Area: 1,200 Sq. Ft.

4.2 Building & Civil Works: Nil.

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Paper Creasing Machine with Motor	1	22000	22000
Paper Cutting Machine with Motor	1	55000	55000
Wire Stitching Machine	1	25000	25000
Dies	1	10000	10000
Miscellaneous Tools and Equipment	LS	--	20000
		Sub total	**132000**
Add: Installation, transportation, etc @ 10%			13200
		TOTAL	**145200**
		Say (Rs. in lacs)	**1.45**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Electrification	LS	--	15000
Furniture & fixtures	LS	--	25000
Miscellaneous items	LS	--	20000
		Sub total	**60000**
Add: Installation, transportation, etc @ 10%			6000
		TOTAL	**66000**
		Say (Rs. in lacs)	**0.66**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	12000
Interest during implementation	4224
Miscellaneous expenses	5000
TOTAL	31224
Say (Rs. in lacs)	**0.31**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.14	0.17	0.19
Power & Utility	30	0.03	0.03	0.03
Salary	30	0.23	0.23	0.23
Finished Goods	15	0.28	0.31	0.33
Receivables	15	0.30	0.35	0.39
Total		**0.97**	**1.08**	**1.18**
Working capital margin in Year 1 (40%)	**0.39**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**1.15**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**1.72**
TOTAL	**100%**	**2.87**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production Capacity (Nos./annum)	120000	120000	120000	120000	120000
Capacity utilisation	60%	70%	80%	80%	80%
Production/annum at capacity utilisation	**72000**	**84000**	**96000**	**96000**	**96000**
Total income/annum	**7.20**	**8.40**	**9.60**	**9.60**	**9.60**
B. OPERATING EXPENSES					
Raw Materials	3.51	4.10	4.68	4.68	4.68
Power & Utility	0.31	0.36	0.41	0.41	0.41
Salary	2.76	2.77	2.79	2.80	2.82
Repair & Maintenance	0.04	0.04	0.04	0.04	0.04
Other Expenses	0.14	0.17	0.19	0.19	0.19
Total Operating Expenses	**6.76**	**7.44**	**8.11**	**8.13**	**8.14**
Operating profit	**0.44**	**0.96**	**1.49**	**1.47**	**1.46**
C. FINANCIAL EXPENSES					
Depreciation	0.12	0.12	0.12	0.12	0.12
Interest on Term Loan	0.13	0.11	0.08	0.05	0.02
Interest on Working Capital Loan	0.05	0.05	0.06	0.06	0.06
Net Profit	**0.18**	**0.73**	**1.29**	**1.31**	**1.32**
Net cash accruals	**0.30**	**0.85**	**1.41**	**1.42**	**1.44**
Principal Repayment	0.19	0.38	0.38	0.38	0.38

6.1 Production capacity and Sales Realisation: Total production of **Cardboard Boxes** at 100% capacity utilization is estimated as below.

Card Board Boxes	120000 Nos.
Total production per annum at 100% capacity	**120000 Nos.**

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Card Board Boxes	120000 Nos.	10	1200000
Total Sales Turnover per annum at 100% capacity			**1200000**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qnty (In Nos.)	Average Rate Per Unit (Rs.)	Amount (Rs)
Paper Board Sheet	30000	12.5	375000
Colour Paper for Labelling	LS	--	150000
Consumables like Adhesive, Wire etc.	LS	--	60000
Expenses on raw material at 100% capacity (Rs)			**585000**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery (Total HP of 5)	--	3.73	3.73
General Lighting	10	0.10	1.00
Total power requirement/day (Kw)			4.73

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	11352
Rate per unit (Rs)	3.50
Expenses on power (Rs)	39732
Expenses on other Utility (Rs)	12000
Expenses on power & utility at 100% capacity (Rs)	**51732**

6.4 Salary: Total 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	1	5000	60000
Skilled Workers	3	4000	144000
Unskilled workers	2	3000	72000
Expenses on salary in the 1st year (Rs)			**276000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	0.00	1.00%	0.00
Plant & Machinery	1.45	2.00%	0.03
Misc. Fixed assets	0.66	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.04**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	0.00	3.34%	0.00
Plant & Machinery	1.45	5.28%	0.08
Misc. Fixed assets	0.66	6.33%	0.04
TOTAL			**0.12**

6.8 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 6 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	1.72	1.53	1.15	0.77	0.38
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest (8%)	0.01	0.01	0.01	0.01	0.00
	Closing balance	**1.72**	**1.50**	**1.12**	**0.73**	**0.35**
Month 2	Opening balance	1.72	1.50	1.12	0.73	0.35
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.72**	**1.47**	**1.09**	**0.70**	**0.32**
Month 3	Opening balance	1.72	1.47	1.09	0.70	0.32
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.72**	**1.44**	**1.05**	**0.67**	**0.29**
Month 4	Opening balance	1.72	1.44	1.05	0.67	0.29
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.72**	**1.40**	**1.02**	**0.64**	**0.26**
Month 5	Opening balance	1.72	1.40	1.02	0.64	0.26
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.72**	**1.37**	**0.99**	**0.61**	**0.22**
Month 6	Opening balance	1.72	1.37	0.99	0.61	0.22
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.72**	**1.34**	**0.96**	**0.57**	**0.19**
Month 7	Opening balance	1.72	1.34	0.96	0.57	0.19
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.69**	**1.31**	**0.93**	**0.54**	**0.16**
Month 8	Opening balance	1.69	1.31	0.93	0.54	0.16
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.66**	**1.28**	**0.89**	**0.51**	**0.13**
Month 9	Opening balance	1.66	1.28	0.89	0.51	0.13
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.63**	**1.25**	**0.86**	**0.48**	**0.10**

Month 10	Opening balance	1.63	1.25	0.86	0.48	0.10
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.60**	**1.21**	**0.83**	**0.45**	**0.06**
Month 11	Opening balance	1.60	1.21	0.83	0.45	0.06
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.56**	**1.18**	**0.80**	**0.42**	**0.03**
Month 12	Opening balance	1.56	1.18	0.80	0.42	0.03
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.53**	**1.15**	**0.77**	**0.38**	**0.00**
Principal Repayment		**0.19**	**0.38**	**0.38**	**0.38**	**0.38**
Interest		**0.13**	**0.11**	**0.08**	**0.05**	**0.02**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5
Profit After Tax (Net Profit)	0.18	0.73	1.29	1.31	1.32
Depreciation	0.12	0.12	0.12	0.12	0.12
Interest	0.13	0.11	0.08	0.05	0.02
Total	**0.44**	**0.96**	**1.49**	**1.47**	**1.46**
Interest	0.13	0.11	0.08	0.05	0.02
Loan repayment	0.19	0.38	0.38	0.38	0.38
Total	**0.33**	**0.49**	**0.46**	**0.43**	**0.40**
DSCR	**1.34**	**1.96**	**3.22**	**3.42**	**3.64**

Average DSCR = 2.76

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**7.20**	**8.40**	**9.60**
B. Variable cost			
Raw Materials	3.51	4.10	4.68
Power & Utility	0.31	0.36	0.41
Other expenses	0.14	0.17	0.19
Interest on Working Capital Loan	0.05	0.05	0.06
Total variable cost	**4.01**	**4.68**	**5.34**
C. Contribution (A-B)	**3.19**	**3.72**	**4.26**
D. Fixed & Semi-fixed Costs			
Salary	2.76	2.77	2.79
Repair & maintenance	0.04	0.04	0.04
Interest on Term Loan	0.13	0.11	0.08
Depreciation	0.12	0.12	0.12
Total fixed cost	**3.05**	**3.04**	**3.02**
E. BREAK EVEN POINT	**95.70%**	**81.66%**	**71.04%**
F. BEP at operating capacity	**57.42%**	**57.16%**	**56.83%**
G. Cash BEP	**55.20%**	**54.94%**	**54.61%**

9.0 INTERNAL RATE OF RETURN (IRR)

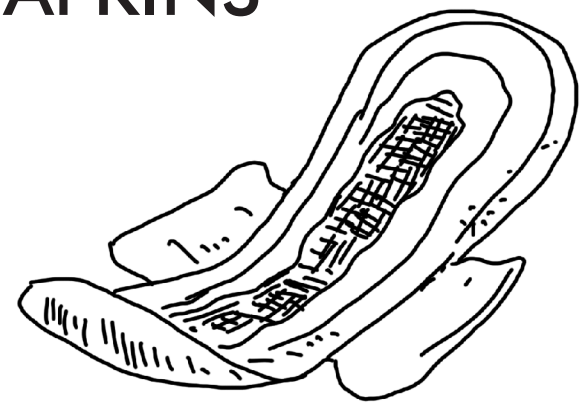
(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	2.17	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	0.97	0.11	0.11	0.00	0.00
Total (A)	**2.17**	**0.97**	**0.11**	**0.11**	**0.00**	**0.00**
CASH INFLOW						
Profit After Tax		0.18	0.73	1.29	1.31	1.32
Add: Depreciation		0.12	0.12	0.12	0.12	0.12
Add: Interest		0.13	0.11	0.08	0.05	0.02
Add: Salvage Value						
Total (B)	**0.00**	**0.44**	**0.96**	**1.49**	**1.47**	**1.46**
NET FLOW (B-A)	**-2.17**	**-0.53**	**0.85**	**1.38**	**1.47**	**1.46**

IRR = 34%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s B.R.D Manufacturing Company	1, Raja Gopi Mohan Street, Near Manicktola Market, Kolkata, Pin- 700 006, West Bengal.
2.	M/s Neelkanth Machinery Company	Plot No. 44, Sector - 4, Industrial Area, Faridabad Pin- 121 004, Haryana.
3.	M/s Associated Industrial Corporation	No. 269 - C / 271-A, East Mohan Nagar, 100 Feet Road, Amritsar Pin- 143 001, Punjab.

SANITARY NAPKINS



1.0 INTRODUCTION

Throughout the centuries, a plethora of cultural and social taboos has been associated with menstruating girls and women, as well as menstrual health. In many parts of the world, women are still not allowed to leave the confines of their homes while menstruating. Deemed “impure” and “unclean,” they are not allowed to venture freely outside their homes. Thus, girls and women are deprived of opportunities in schools, workplaces and social settings.

In addition, this lack of control over their lives puts women at loss when it comes to gaining information on cost-effective, affordable menstrual health products. Such women often resort to horrific means such as repeatedly using the same unsterilized cloth during menstruation instead of sanitary napkins. Due to these unhygienic preventative methods, women are prey to a host of illnesses and fatalities. For example, out of every 10,000 women in India, 2000 women die during childbirth due to unhygienic menstrual practices.

Although, there is a well-developed sanitary napkin industry in India, with major players such as Proctor & Gamble and Johnsons & Johnsons, these sanitary napkins are often unaffordable to the millions of Indian women living in low-income and under-privileged communities. This is primarily due to the cost of the sanitary napkins resulting from the use of expensive machinery and huge profit margins by these brand name companies. According to a study report undertaken by AC Nielsen, only 12% of India's 355 million menstruating women use sanitary napkins. The biggest barrier to using a sanitary napkin is affordability. Around 70% of women in India say their family cannot afford to buy them.

This project profile is for setting up of sanitary napkin manufacturing unit with a cost-effective machine that can produce and market biodegradable sanitary napkins locally. This semi-automatic and portable machine can be accommodated in a small space of about 12 sqm. It works on single-phase electricity and has a production capacity of 2 napkins per minute. The machine incorporates pinewood fiber, a raw material, which goes through a 3 step process: (a) defibration, (b) core formation and then (c) sealing with soft touch sensitive heat control. This last step ensures the final shape of the napkins.

The installed capacity of the unit is 11.52 lacs napkins per annum by using 4 machinery sets with 300 working days and 8 working hours.

2.0 MARKET POTENTIAL

According to market research agency Nielsen, India's sanitary napkin market is largely untapped and is growing at a rate of 24% annually and usage is close to 20% of potential customers.

Most large brands such as 'Whisper' from P&G and 'Stayfree' from J&J have a strong presence in urban areas, leaving the field open for the entry of new players with low-cost solutions targeting semi-urban and rural areas.

3.0 PROCESS DETAILS

De-fibration of wood pulp is done on the defibration machine. The de fibred wood pulp is measured on a weighing scale and the wood pulp is filled on a core block and pressed by core forming machine. After this, pressed cores are wrapped by non – woven fabric and sealed using napkin finishing machine (sealing machine). Then position sticker is pasted on the napkin and then packed.

4.0 COST OF THE PROJECT

The estimated project cost is given below.

Particulars	Amount (Rs lacs)
Land and Site Development	-
Building & Civil Works	4.42
Machinery & Equipment	3.35
Misc. Fixed Assets	0.30
Preliminary & Pre-operative Expenses	0.33
Contingencies & Escalation @ 3%	0.24
Working Capital	1.55
TOTAL	10.19

4.1 Land & Site Development: No cost has been considered for land & site development. It is assumed that the unit will be set up in own land.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Work Shed (Brick wall, CGI sheet roof, concrete floor)	40	6000	267600
Store room (Brick wall, CGI sheet roof, concrete floor)	25	6000	133800
		Sub total	401400
Add: Electrification, etc @ 10%			40140
		TOTAL	441540
		Say (Rs. in lacs)	4.42

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Defibering M/c	4	20200	80800
Soft touch sealing Machine	4	28000	112000
Core forming M/c	4	5500	22000
Core dies	20	625	12500
Ultra Violet Treatment Unit	4	10400	41600
Miscellaneous items	LS	LS	10000
		Sub total	278900
Add: Transportation, installation, training, taxes, etc @ 20%			55780
		TOTAL	334680
		Say (Rs. in lacs)	3.35

4.7 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	10000
		TOTAL	30000
		Say (Rs. in lacs)	0.30

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

Particulars	Amount (Rs lacs)
Travelling expenses	0.20
Professional & other fees	0.10
Interest during implementation	0.23
Miscellaneous expenses	0.10
TOTAL	0.33

4.9 Contingencies & Escalation: Contingencies & escalation has been assumed at 3% of the building & civil works, machinery & equipment and miscellaneous fixed assets.

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

	Period (Days)	Amount (Rs lacs)		
		Yr 1	Yr 2	Yr 3
Raw materials & consumables	30	0.72	0.86	1.00
Power	30	0.01	0.01	0.01
Salary	30	0.24	0.24	0.24
Finished Goods	15	0.39	0.44	0.50
Receivables	7	0.21	0.25	0.29
Total		1.55	1.80	2.04
Working capital margin in Yr 1 (100%)	1.55			

5.0 MEANS OF FINANCE

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

Particulars	Percent	Amount (Rs lacs)
EQUITY		
A. Equity from Promoters	40%	4.07
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/FIs	60%	6.11
TOTAL	100%	10.19

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production capacity (No. of packets/annum)	144000	144000	144000	144000	144000
Capacity utilisation	50%	60%	70%	70%	70%
Production/annum at capacity utilisation	72000	86400	100800	100800	100800
Price (Rs/packet)	15	15	15	15	15
Total income/annum	10.80	12.96	15.12	15.12	15.12
B. OPERATING EXPENSES					
Raw Materials & Consumables	6.33	7.60	8.86	8.86	8.86
Power	0.07	0.08	0.09	0.09	0.09
Salary	2.88	2.89	2.91	2.92	2.94
Repair & Maintenance	0.08	0.09	0.10	0.11	0.12
Miscellaneous Expenses	0.11	0.13	0.15	0.15	0.15
Total Operating Expenses	9.46	10.79	12.11	12.13	12.16
Less: working expenses capitalised	1.55	0.00	0.00	0.00	0.00
Operating profit	2.89	2.17	3.01	2.99	2.96
C. FINANCIAL EXPENSES					
Depreciation	0.40	0.40	0.40	0.40	0.40
Interest on Term Loan	0.49	0.41	0.29	0.18	0.06
Net Profit	2.00	1.36	2.31	2.40	2.49
Net cash accruals	2.40	1.77	2.72	2.81	2.90
Principal Repayment	0.36	1.44	1.44	1.44	1.44

6.1 Production Capacity: Total production of sanitary napkin packets at installed capacity is estimated as below.

Rated machine capacity (No. of napkins/minute)	2
Working hrs/day	8
No. of machines	4
Days/annum	300
Total production	1152000
No. of napkins per packet	8
Total packets at installed capacity	144000

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

Particulars	Unit	Rate/napkin	Quantity required	Price (Rs/unit)	Amount (Rs)
Wood Pulp	kg	0.010	11600	55.00	638000
Top Layer	metre	0.153	176000	2.00	352000
Back Layer	grams	0.243	280000	0.20	56000
Release Paper	sheets	0.010	12000	2.00	24000
Gum	kg	0.001	800	110.00	88000
Packing Covers	nos	0.125	144000	0.75	108000
Expenses on raw materials & consumables at installed capacity (Rs)					1266000

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

Particulars	Quantity	Power (Kw)	Total (Kw)
General Lighting	7	0.10	0.67
Machinery	16	0.50	8.00
Total power requirement/day (Kw)			8.67
No. of days/annum			300
Rate per unit (Rs)			5.00
Expenses on power per annum at installed capacity (Rs)			13004

6.4 Salary: Expenses on salary in the 1st year is 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)	Self	-	-
Machine operators/ helpers	12	2000	288000
Expenses on salary in the 1st year (Rs)			288000

6.5 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 @ 10% every subsequent year.

Particulars	Cost (Rs)	Rate	Amount (Rs lacs)
Building & Civil Works	4.42	1%	0.04
Machinery & Equipment	3.35	1%	0.03
Misc. Fixed Assets	0.30	1%	0.00
Expenses on repair & maintenance in the 1st year (Rs)			0.08

6.6 Miscellaneous Expenses: Miscellaneous expenses have been assumed at 1% of sales.

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

Description	Cost (Rs)	Rate	Amount/annum (Rs lacs)
Building & Civil Works	4.42	3.34%	0.15
Machinery & Equipment	3.35	7.07%	0.24
Misc. Fixed Assets	0.30	6.23%	0.02
TOTAL			0.40

6.8 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	6.11	5.75	4.31	2.88	1.44
	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	6.11	5.63	4.19	2.76	1.32
Month 2	Opening balance	6.11	5.63	4.19	2.76	1.32
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.11	5.51	4.07	2.64	1.20
Month 3	Opening balance	6.11	5.51	4.07	2.64	1.20
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.11	5.39	3.96	2.52	1.08
Month 4	Opening balance	6.11	5.39	3.96	2.52	1.08
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.11	5.27	3.84	2.40	0.96
Month 5	Opening balance	6.11	5.27	3.84	2.40	0.96
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.04	0.03	0.02	0.01
	Closing balance	6.11	5.15	3.72	2.28	0.84
Month 6	Opening balance	6.11	5.15	3.72	2.28	0.84
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.02	0.01
	Closing balance	6.11	5.03	3.60	2.16	0.72
Month 7	Opening balance	6.11	5.03	3.60	2.16	0.72
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.11	4.91	3.48	2.04	0.60
Month 8	Opening balance	6.11	4.91	3.48	2.04	0.60
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.11	4.79	3.36	1.92	0.48
Month 9	Opening balance	6.11	4.79	3.36	1.92	0.48
	Repayment	0.00	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	6.11	4.67	3.24	1.80	0.36
Month 10	Opening balance	6.11	4.67	3.24	1.80	0.36

	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	5.99	4.55	3.12	1.68	0.24
Month 11	Opening balance	5.99	4.55	3.12	1.68	0.24
	Repayment	0.12	0.12	0.12	0.12	0.12
	Interest	0.04	0.03	0.02	0.01	0.00
	Closing balance	5.87	4.43	3.00	1.56	0.12
Month 12	Opening balance	5.87	4.43	3.00	1.56	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	5.75	4.31	2.88	1.44	0.00
Principal Repayment		0.36	1.44	1.44	1.44	1.44
Interest		0.49	0.41	0.29	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)	2.00	1.36	2.31	2.40	2.49	
Depreciation	0.40	0.40	0.40	0.40	0.40	
Interest	0.49	0.41	0.29	0.18	0.06	
Total	2.89	2.17	3.01	2.99	2.96	14.02
Interest	0.49	0.41	0.29	0.18	0.06	
Loan repayment	0.36	1.44	1.44	1.44	1.44	
Total	0.85	1.85	1.73	1.62	1.50	7.54
DSCR	3.42	1.18	1.74	1.85	1.97	

Average DSCR = 1.86

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	10.80	12.96	15.12
B. Variable cost			
Raw materials & consumables	6.33	7.60	8.86
Power	0.07	0.08	0.09
Miscellaneous expenses	0.11	0.13	0.15
Total variable cost	6.50	7.80	9.10
C. Contribution (A-B)	4.30	5.16	6.02
D. Fixed & Semi-fixed Costs			
Salary	2.88	2.89	2.91
Repair & maintenance	0.08	0.09	0.10
Interest on Term Loan	0.49	0.41	0.29
Depreciation	0.40	0.40	0.40
Total fixed cost	3.85	3.79	3.70
E. BREAK EVEN POINT	89.60%	73.57%	61.54%
F. BEP at operating capacity	44.80%	44.14%	43.08%
G. Cash BEP	40.11%	39.45%	38.39%

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

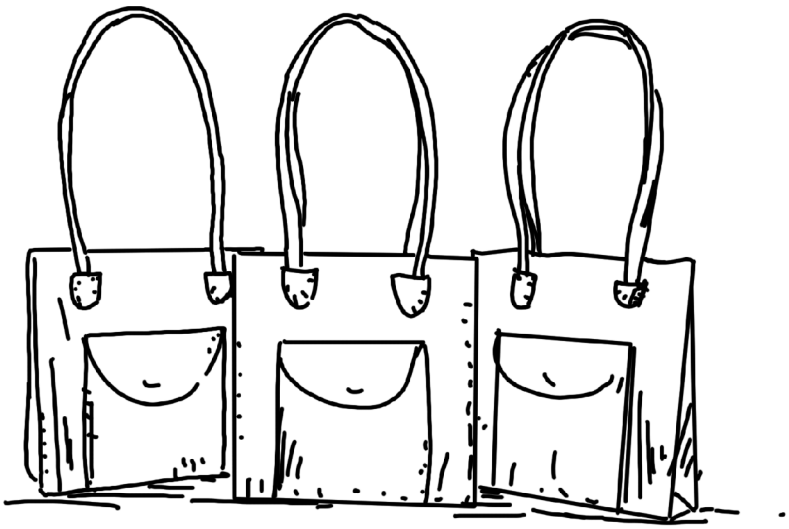
Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	8.31	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	1.55	0.24	0.24	0.00	0.00
Total (A)	8.31	1.55	0.24	0.00	0.00	0.00
CASH INFLOW						
Profit After Tax		2.00	1.36	2.31	2.40	2.49
Add: Depreciation		0.40	0.40	0.40	0.40	0.40
Add: Interest		0.49	0.41	0.29	0.18	0.06
Add: Salvage Value (10%)						0.83
Total (B)	0.00	2.89	2.17	3.01	2.99	3.79
NET FLOW (B-A)	-8.31	1.34	1.93	3.01	2.99	3.79

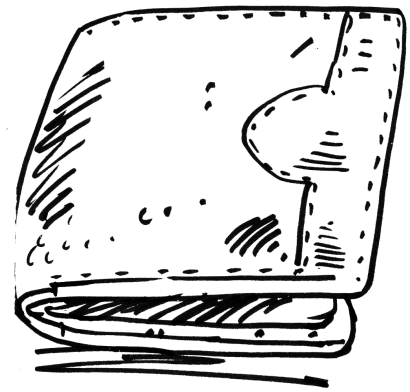
IRR = 15%

TECHNICAL CONSULTANT & MACHINERY SUPPLIER

(a) Jayaashree Industries
SF No 577, K N G Pudur Road,Somayampalayam Post
Coimbatore 641 108

ARTISTIC LEATHER GOODS





1.0 INTRODUCTION

Indian leather industry occupies a place of prominence in Indian economy since the country leads in the availability of raw materials. Leather technology in recent times is fast emerging as a lucrative career option due to massive potential for employment opportunity in the sector. The industry is labour intensive and is concentrated in the small and cottage industry sectors.

This project profile is for setting up of artistic leather goods making unit, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;

Leather Portfolio Bags	-	6000 Nos.
Ladies Purse	-	12000 Nos.
Gents Wallet	-	12000 Nos.
Travelling Bag	-	6000 Nos.

2.0 MARKET POTENTIAL

Artistic leather goods have unique features like artistic work, aesthetic look and attractive finishing. As a result, such goods have very good market demand around the globe. The scope of manufacturing portfolio bag is increasing due to the growing demand of Portfolio bags in cities mainly from travellers. Travelling bag is again one of the convenient goods used for carrying the belongings such as clothes, daily-use articles and other essentials during travelling from one place to other. Some other types of products are also used for carrying important documents and office use equipments by the executives and high profile personnel. Thus, there is an ample scope of leather goods items with easy and considerably cheaper availability of indigenous raw material and skilled manpower.

3.0 PROCESS DETAILS

Various components of the expected finished products are marked followed by cutting as per the design and pattern. The components are then skived wherever necessary. Consumables like adhesives etc is applied to the components and lining is attached. Then the components are assembled and stitched. The excess lining is trimmed and then articles are turned inside out. Accessories and fittings are attached as per requirement. The products are then processed for polishing and finishing. The products are then provided brand name, inspected and packed for supply to the market. The process flowchart is shown below;

Purchase of Tanned Leather to required size
↓
Inspection
↓
Cutting
↓
Skiving
↓
Lining
↓
Sewing
↓
Fixing Accessories
↓
Inspection
↓
Packing

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Rented**
Building & Civil works	**Rented**
Plant & Machinery	**10.35**
Misc. Fixed assets	**0.83**
Preliminary & pre-operative expenses	**0.82**
Contingencies & escalation @ 3%	**0.34**
Working capital	**1.66**
TOTAL	**14.00**

4.1 Land & Site Development: Nil.

Total Land: 3,000 Sq. Ft. ; Covered Area: 1,500 Sq. Ft.

4.2 Building & Civil Works: Nil.

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Ball Press	1	845000
Flat bed Sewing Machine single needle with motor and accessories	1	
Cylinder-bed sewing machine	1	
Board Cutting Machine	1	
Glazing Machine	1	
Skiving Machine	1	
Mini Compressor	1	
Zinc Block for design	1	
Wooden Vat for washing	1	
Miscellaneous Tools and Equipment	LS	50000
	Sub total	**895000**
Add: Installation, transportation, etc @ 10%		89500
	TOTAL	**1034500**
	Say (Rs. in lacs)	**10.35**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Electrification	LS	--	25000
Furniture & fixtures	LS	--	30000
Miscellaneous items	LS	--	20000
		Sub total	**75000**
Add: Installation, transportation, etc @ 10%			7500
		TOTAL	**82500**
		Say (Rs. in lacs)	**0.83**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	20000
Professional & other fees	30000
Interest during implementation	22340
Miscellaneous expenses	10000
TOTAL	82340
Say (Rs. in lacs)	**0.82**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	1.08	1.26	1.44
Power & utility	30	0.04	0.05	0.05
Salary	30	0.90	0.90	0.91
Finished Goods	15	1.04	1.14	1.24
Receivables	15	1.10	1.29	1.47
Total		**4.16**	**4.64**	**5.11**
Working capital margin in Year 1 (40%)	**1.66**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**5.60**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**8.40**
TOTAL	**100%**	**14.00**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
A. INCOME						
Production Capacity (Nos./annum)	36000	36000	36000	36000	36000	36000
Capacity utilisation	60%	70%	80%	80%	80%	80%
Production/annum at capacity utilisation	**21600**	**25200**	**28800**	**28800**	**28800**	**28800**
Total income/annum	**26.82**	**31.29**	**35.76**	**35.76**	**35.76**	**35.76**
B. OPERATING EXPENSES						
Raw Materials	13.18	15.37	17.57	17.57	17.57	17.57
Power & Utility	0.47	0.55	0.63	0.63	0.63	0.63
Salary (0.5% increase every subsequent year)	10.92	10.97	11.03	11.08	11.14	11.20
Repair & Maintenance (2% increase every subsequent year)	0.22	0.22	0.23	0.23	0.24	0.24
Other Expenses (2% of sales)	0.54	0.63	0.72	0.72	0.72	0.72
Total Operating Expenses	**25.32**	**27.75**	**30.17**	**30.23**	**30.29**	**30.35**

Operating profit	**1.50**	**3.54**	**5.59**	**5.53**	**5.47**	**5.41**
C. FINANCIAL EXPENSES						
Depreciation	0.60	0.60	0.60	0.60	0.60	0.60
Interest on Term Loan	0.67	0.61	0.48	0.34	0.21	0.07
Interest on Working Capital Loan	0.20	0.22	0.25	0.25	0.25	0.25
Net Profit	**0.03**	**2.11**	**4.27**	**4.34**	**4.42**	**4.49**
Net cash accruals	**0.62**	**2.71**	**4.87**	**4.94**	**5.02**	**5.09**
Principal Repayment	0.00	1.68	1.68	1.68	1.68	1.68

6.1 Production capacity and Sales Realisation: Total production of Artistic Leather Products at 100% capacity utilization is estimated as below.

Portfolio Bags	6000 Nos.
Ladies Purse	12000 Nos.
Gents Wallet	12000 Nos.
Travelling Bag	6000 Nos.
Total production per annum at 100% capacity (in Nos.)	**36000 Nos.**

Products	Qnty (In Nos.)	Average Rate Per Unit (Rs.)	Amount (Rs)
Portfolio Bags	6000 Nos.	175	1050000
Ladies Purse	12000 Nos.	60	720000
Gents Wallet	12000 Nos.	50	600000
Travelling Bag	6000 Nos.	350	2100000
Total Sale Turnover per annum at 100% capacity			**4470000**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
E I tanned leather (In Sq. Ft.)	54000 Sq. Ft.	60	720000
Lining Cloth (In Metre)	3600 Meters	70	252000
Dye and Sprit	36000 Nos.	10	360000
Thread & Adhesives	36000 Nos.	5	180000
Accessories like Zip, Button, D-Ring and Decorative Fittings	36000 Nos.	15	540000
Packaging Expense	36000 Nos.	4	144000
Expense on raw material per annum at 100% capacity			**2196000**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery (Total HP of 7)	--	5.22	5.22
General Lighting	20	0.10	2.00
Total power requirement/ day (Kw)			7.22

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	17333
Rate per unit (Rs)	3.50
Expenses on Power (Rs)	60665
Expenses on Water (Rs)	18000
Expenses on Power & Utility at 100% capacity (Rs)	**78665**

6.4 Salary: Total 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	1	10000	120000
Accountant cum Store Keeper	5	6000	360000
Sales Persons	4	6000	24000
Skilled workers	5	5000	300000
Unskilled workers	8	3000	288000
Expenses on salary in the 1st year (Rs)			**1092000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	0.00	1.00%	0.00
Plant & Machinery	10.35	2.00%	0.21
Misc. Fixed assets	0.83	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.22**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	0.00	3.34%	0.00
Plant & Machinery	10.35	5.28%	0.55
Misc. Fixed assets	0.83	6.33%	0.05
TOTAL			**0.60**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 6 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6
Month 1	Opening balance	8.40	8.40	6.72	5.04	3.36	1.68
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest (8%)	0.06	0.06	0.04	0.03	0.02	0.01
	Closing balance	**8.40**	**8.26**	**6.58**	**4.90**	**3.22**	**1.54**

Month 2	Opening balance	8.40	8.26	6.58	4.90	3.22	1.54
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.06	0.04	0.03	0.02	0.01
	Closing balance	**8.40**	**8.12**	**6.44**	**4.76**	**3.08**	**1.40**
Month 3	Opening balance	8.40	8.12	6.44	4.76	3.08	1.40
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.40**	**7.98**	**6.30**	**4.62**	**2.94**	**1.26**
Month 4	Opening balance	8.40	7.98	6.30	4.62	2.94	1.26
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.40**	**7.84**	**6.16**	**4.48**	**2.80**	**1.12**
Month 5	Opening balance	8.40	7.84	6.16	4.48	2.80	1.12
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.40**	**7.70**	**6.02**	**4.34**	**2.66**	**0.98**
Month 6	Opening balance	8.40	7.70	6.02	4.34	2.66	0.98
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.40**	**7.56**	**5.88**	**4.20**	**2.52**	**0.84**
Month 7	Opening balance	8.40	7.56	5.88	4.20	2.52	0.84
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.40**	**7.42**	**5.74**	**4.06**	**2.38**	**0.70**
Month 8	Opening balance	8.40	7.42	5.74	4.06	2.38	0.70
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.00
	Closing balance	**8.40**	**7.28**	**5.60**	**3.92**	**2.24**	**0.56**
Month 9	Opening balance	8.40	7.28	5.60	3.92	2.24	0.56
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.01	0.00
	Closing balance	**8.40**	**7.14**	**5.46**	**3.78**	**2.10**	**0.42**
Month 10	Opening balance	8.40	7.14	5.46	3.78	2.10	0.42
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.01	0.00
	Closing balance	**8.40**	**7.00**	**5.32**	**3.64**	**1.96**	**0.28**
Month 11	Opening balance	8.40	7.00	5.32	3.64	1.96	0.28
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.02	0.01	0.00
	Closing balance	**8.40**	**6.86**	**5.18**	**3.50**	**1.82**	**0.14**
Month 12	Opening balance	8.40	6.86	5.18	3.50	1.82	0.14
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.03	0.02	0.01	0.00
	Closing balance	**8.40**	**6.72**	**5.04**	**3.36**	**1.68**	**0.00**
Principal Repayment		**0.00**	**1.68**	**1.68**	**1.68**	**1.68**	**1.68**
Interest		**0.67**	**0.61**	**0.48**	**0.34**	**0.21**	**0.07**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6
Profit After Tax (Net Profit)	0.03	2.11	4.27	4.34	4.42	4.49
Depreciation	0.60	0.60	0.60	0.60	0.60	0.60
Interest	0.67	0.61	0.48	0.34	0.21	0.07
Total	**1.30**	**3.32**	**5.34**	**5.28**	**5.22**	**5.16**
Interest	0.67	0.61	0.48	0.34	0.21	0.07
Loan repayment	0.00	1.68	1.68	1.68	1.68	1.68
Total	**0.67**	**2.29**	**2.16**	**2.02**	**1.89**	**1.75**
DSCR	**1.93**	**1.45**	**2.48**	**2.61**	**2.77**	**2.95**

Average DSCR = 2.85

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**26.82**	**31.29**	**35.76**
B. Variable cost			
Raw Materials	13.18	15.37	17.57
Power & Utility	0.47	0.55	0.63
Other expenses	0.54	0.63	0.72
Interest on Working Capital Loan	0.20	0.22	0.25
Total variable cost	**14.38**	**16.77**	**19.16**
C. Contribution (A-B)	**12.44**	**14.52**	**16.60**
D. Fixed & Semi-fixed Costs			
Salary	10.92	10.97	11.03
Repair & maintenance	0.22	0.22	0.23
Interest on Term Loan	0.67	0.61	0.48
Depreciation	0.60	0.60	0.60
Total fixed cost	**12.41**	**12.41**	**12.33**
E. BREAK EVEN POINT	**99.79%**	**85.46%**	**74.28%**
F. BEP at operating capacity	**59.88%**	**59.82%**	**59.43%**
G. Cash BEP	**56.99%**	**56.93%**	**56.54%**

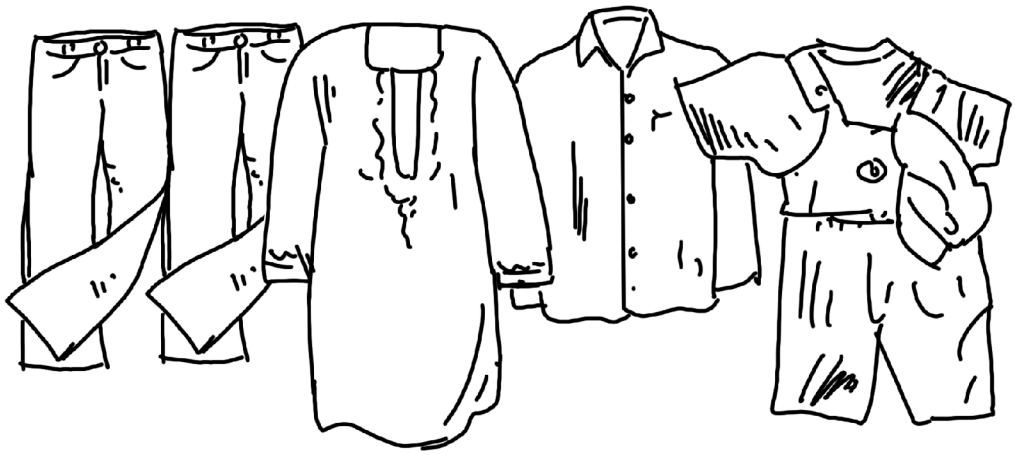
9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6
CASH OUTFLOW							
Capital Expenditure	11.51	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	4.16	0.47	0.47	0.00	0.00	0.00
Total (A)	**11.51**	**4.16**	**0.47**	**0.47**	**0.00**	**0.00**	**0.00**
CASH INFLOW							
Profit After Tax		0.03	2.11	4.27	4.34	4.42	4.49
Add: Depreciation		0.60	0.60	0.60	0.60	0.60	0.60
Add: Interest		0.67	0.61	0.48	0.34	0.21	0.07
Add: Salvage Value							
Total (B)	**0.00**	**1.30**	**3.32**	**5.34**	**5.28**	**5.22**	**5.16**
NET FLOW (B-A)	**-11.51**	**-2.87**	**2.85**	**4.87**	**5.28**	**5.22**	**5.16**

IRR = 23%

READYMADE GARMENTS



1.0 INTRODUCTION

Garments Industry in India provides one of the most basic needs of people and holds importance; maintaining sustained growth for improving quality of life. It has a unique position as a self-reliant industry, from the production of raw materials to the delivery of finished products with substantial value-addition at each stage of processing; it is a major contribution to the country's economy. This industry in the Indian context has grown up into a self-developed industry of its own.

The Readymade garments play a vital role in developed nations. The time one has to spend in selecting the dress material and difficulties encountered in locating a good tailor, now solved due to variety of readymade garments available in the market. These are generally cheaper than the garments ordered for stitching. The consumption of readymade garments like Casual wear, T-shirts and other cotton garments are increasing due to frequent changes in the styles and fashion in consuming countries.

This project profile is for setting up of a readymade garment making unit with installed capacity of 20000 pieces of garments per annum, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

There is tremendous market potential for readymade garments in the country. With increase in population, there appears increase in demand for clothing requirements. Nowadays, renowned brands are getting their products manufactured in local areas of the country for reducing production and distribution costs. They place order involving their agents, who executes the orders through the local manufacturers. A number of manufacturing units all over India works for large multinational brands. Besides, there is mushroom growth of new schools in local areas, there arises good demand for school uniforms in the market. Schools require regular suppliers of the school uniforms as per the requirements by the student of the respective schools. Moreover, the demand for readymade garments increases manifold during festival season like Durga Puja, Christmas, Id-ul-fitre, Bihu etc. Therefore, market of readymade Garment is very encouraging.

3.0 PROCESS DETAILS

The process of manufacturing readymade garments is a universally adopted process.

Procurement of Fabric: Dyed/bleached/printed cotton/synthetic fabrics as per demand are to be procured from the open market. The fabric will be inspected by laying on the inspection table against light before cutting so that unevenness in colour/shade or any other fault, if any visible in the fabric are eliminated.

Cutting and Stitching: The inspected fabric is placed on the cutting table in layers and then the different parts of the respective garments are demarked by a chalk as per different sizes. Cutting is carried out by the cutting machine. Stitching is carried out for individual portion of the garments by skilled workers with the help of over-lock, lock stitch machines etc.

Washing, Checking, Pressing and Packing: All garments are charged into washing machine containing mild detergent and washed for 4 hours in order to remove dirt and stains acquired during the manufacturing process. After washing, the garments are hydro extracted to remove excess water and after this, these garments are dried in tumbler dryer. Final checking is done before pressing and packing on the checking table so that any fault in the piece may be removed and protruding threads eliminated. The individual pieces are pressed by steam presses to remove any wrinkle marks and packed in the carton boxes.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Own Land/On Lease**
Building & Civil works	**8.40**
Plant & Machinery	**12.93**
Misc. Fixed assets	**7.43**
Preliminary & pre-operative expenses	**1.52**
Contingencies & escalation @ 3%	**0.86**
Working capital	**2.18**
TOTAL	**33.33**

4.1 Land & Site Development: Nil. Covered Area: 2,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sq ft)	Rate (Rs)	Amount (Rs)
Factory Building (Working Area, Store Room for raw material & finished goods and Office area)	2000	350	700000
		Sub total	**700000**
Add: Electrification, water supply and sanitation @ 20%			140000
		TOTAL	**840000**
		Say (Rs. in lacs)	**8.40**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Lair Cutting Machine	1	1075000
Lock Stitch	1	
Over Lock	1	
Flat Lock	1	
Rib Cutting Machine	1	
Elastic Gathering Machine	1	
Button Holing Machine	1	
Button Stitching Machine	1	
Steam press	3	
Boiler	1	
Vacuum Table	3	
Thread Sucking Machine	1	
Stain Removing Machine	1	
Auxiliary Items (Petrol Gun, Tag Gun, Labelling Machine, Strapping Machine etc)	1	
Cutter grinder machine with accessories	1	

Miscellaneous items	LS	100000
	Sub total	**1175000**
Add: Installation, transportation etc @ 10%		117500
	TOTAL	**1292500**
	Say (Rs. in lacs)	**12.93**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
30 KVA DG Set	1	375000	375000
Transformer	1	150000	150000
Furniture & fixtures	LS	--	100000
Miscellaneous items	LS	--	50000
		Sub total	**675000**
Add: Installation, transportation, etc @ 10%			67500
		TOTAL	**742500**
		Say (Rs. in lacs)	**7.43**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	15000
Professional & other fees	43000
Interest during implementation	74300
Miscellaneous expenses	20000
TOTAL	152300
Say (Rs. in lacs)	**1.52**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	1.32	1.54	1.76
Power & utility	30	0.13	0.16	0.18
Salary	30	0.52	0.53	0.53
Finished Goods	15	1.02	1.14	1.27
Receivables	30	2.47	2.88	3.29
Total		**5.46**	**6.24**	**7.02**
Working capital margin in Year 1 (40%)	**2.18**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**13.33**
B. Subsidy from Central/State Govt.	**-**	

DEBT		
Term Loan from Banks/ Financial Institutions	**60%**	**20.00**
TOTAL	**100%**	**33.33**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
A. INCOME						
Production Capacity (Nos./annum)	20000	20000	20000	20000	20000	20000
Capacity utilisation	60%	70%	80%	80%	80%	80%
Production/ annum at capacity utilisation	**12000**	**14000**	**16000**	**16000**	**16000**	**16000**
Total income/annum	**30.00**	**35.00**	**40.00**	**40.00**	**40.00**	**40.00**
B. OPERATING EXPENSES						
Raw Materials	16.05	18.73	21.40	21.40	21.40	21.40
Power & Utility	1.64	1.92	2.19	2.19	2.19	2.19
Salary	6.36	6.39	6.42	6.46	6.49	6.52
Repair & Maintenance	0.45	0.46	0.47	0.48	0.49	0.50
Other Expenses	0.30	0.35	0.40	0.40	0.40	0.40
Total Operating Expenses	**24.81**	**27.85**	**30.88**	**30.93**	**30.97**	**31.01**
Operating profit	**5.19**	**7.15**	**9.12**	**9.07**	**9.03**	**8.99**
C. FINANCIAL EXPENSES						
Depreciation	1.43	1.43	1.43	1.43	1.43	1.43
Interest on Term Loan	1.60	1.48	1.21	0.94	0.68	0.41
Interest on Working Capital Loan	0.26	0.30	0.34	0.34	0.34	0.34
Net Profit	**1.90**	**3.94**	**6.13**	**6.36**	**6.58**	**6.81**
Net cash accruals	**3.33**	**5.38**	**7.57**	**7.79**	**8.02**	**8.24**
Principal Repayment	0.00	3.33	3.33	3.33	3.33	3.33

6.1 Production capacity and Sales Realisation: Total production of **Readymade Garments** Products at 100% capacity utilization is estimated as below.

Readymade Garments	20000 Nos.
Total production per annum at 100% capacity	**20000 Nos.**

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Readymade Garments	20000 Nos.	250	5000000
Total Sale Turnover per annum at 100% capacity			**5000000**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Cotton Fabrics	2500 Kg	350 Per Kg	875000
Polynos Fabrics	4000 Kg	300 Per Kg	1200000

Stitching Thread	LS	Rs. 5000 Per Month	60000
Accessories	LS	Rs. 30000 Per Month	360000
Packaging Material	LS	Rs. 15000 Per Month	180000
Expenses on raw material at 100% capacity (Rs)			**2675000**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery	--	18.00	18.00
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			19.00

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	45600
Rate per unit (Rs)	3.50
Expenses on power (Rs)	159600

Estimate of Diesel required for Generator

No of working hours per day	1
Diesel consumption (litres per hours)	6
No. of days/annum	300
Annual requirement (in litres)	1800
Diesel Price per litre	50
Expenses on diesel (Rs.)	90000
Expenses on other Utility (Rs.)	24000
Expenses on power & utility at 100% capacity (Rs)	**273600**

6.4 Salary: Total 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	1	8000	96000
Cutting Master	1	6000	72000
Skilled workers	4	4000	192000
Semi-skilled workers	6	3000	216000
Unskilled workers	2	2500	60000
Expenses on salary in the 1st year (Rs)			**636000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	8.40	1.00%	0.08
Plant & Machinery	12.93	2.00%	0.26
Misc. Fixed assets	7.43	1.50%	0.11
Expenses on repair & maintenance in year 1			**0.45**

6.6 Other Expenses: Other expenses have been assumed at 1% of sales realisation.

6.7 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)
Building & Civil works	8.40	3.34%	0.28
Plant & Machinery	12.93	5.28%	0.68
Misc. Fixed assets	7.43	6.33%	0.47
TOTAL			**1.43**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	20.00	20.00	16.66	13.33	10.00	6.67	3.33
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest (8%)	0.13	0.13	0.11	0.09	0.07	0.04	0.02
	Closing balance	**20.00**	**19.72**	**16.39**	**13.05**	**9.72**	**6.39**	**3.05**
Month 2	Opening balance	20.00	19.72	16.39	13.05	9.72	6.39	3.05
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.13	0.11	0.09	0.06	0.04	0.02
	Closing balance	**20.00**	**19.44**	**16.11**	**12.77**	**9.44**	**6.11**	**2.78**
Month 3	Opening balance	20.00	19.44	16.11	12.77	9.44	6.11	2.78
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.13	0.11	0.09	0.06	0.04	0.02
	Closing balance	**20.00**	**19.16**	**15.83**	**12.50**	**9.16**	**5.83**	**2.50**
Month 4	Opening balance	20.00	19.16	15.83	12.50	9.16	5.83	2.50
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.13	0.11	0.08	0.06	0.04	0.02
	Closing balance	**20.00**	**18.88**	**15.55**	**12.22**	**8.89**	**5.55**	**2.22**
Month 5	Opening balance	20.00	18.88	15.55	12.22	8.89	5.55	2.22
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.13	0.10	0.08	0.06	0.04	0.01
	Closing balance	**20.00**	**18.61**	**15.27**	**11.94**	**8.61**	**5.28**	**1.94**
Month 6	Opening balance	20.00	18.61	15.27	11.94	8.61	5.28	1.94
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.12	0.10	0.08	0.06	0.04	0.01
	Closing balance	**20.00**	**18.33**	**15.00**	**11.66**	**8.33**	**5.00**	**1.67**
Month 7	Opening balance	20.00	18.33	15.00	11.66	8.33	5.00	1.67
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.12	0.10	0.08	0.06	0.03	0.01
	Closing balance	**20.00**	**18.05**	**14.72**	**11.39**	**8.05**	**4.72**	**1.39**
Month 8	Opening balance	20.00	18.05	14.72	11.39	8.05	4.72	1.39
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.12	0.10	0.08	0.05	0.03	0.01
	Closing balance	**20.00**	**17.77**	**14.44**	**11.11**	**7.78**	**4.44**	**1.11**
Month 9	Opening balance	20.00	17.77	14.44	11.11	7.78	4.44	1.11
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.12	0.10	0.07	0.05	0.03	0.01
	Closing balance	**20.00**	**17.50**	**14.16**	**10.83**	**7.50**	**4.17**	**0.83**

Month 10	Opening balance	20.00	17.50	14.16	10.83	7.50	4.17	0.83
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.12	0.09	0.07	0.05	0.03	0.01
	Closing balance	**20.00**	**17.22**	**13.89**	**10.55**	**7.22**	**3.89**	**0.56**
Month 11	Opening balance	20.00	17.22	13.89	10.55	7.22	3.89	0.56
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.11	0.09	0.07	0.05	0.03	0.00
	Closing balance	**20.00**	**16.94**	**13.61**	**10.28**	**6.94**	**3.61**	**0.28**
Month 12	Opening balance	20.00	16.94	13.61	10.28	6.94	3.61	0.28
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28	0.28
	Interest	0.13	0.11	0.09	0.07	0.05	0.02	0.00
	Closing balance	**20.00**	**16.66**	**13.33**	**10.00**	**6.67**	**3.33**	**0.00**
Principal Repayment		**0.00**	**3.33**	**3.33**	**3.33**	**3.33**	**3.33**	**3.33**
Interest		**1.60**	**1.48**	**1.21**	**0.94**	**0.68**	**0.41**	**0.14**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	1.90	3.94	6.13	6.36	6.58	6.81	7.03
Depreciation	1.43	1.43	1.43	1.43	1.43	1.43	1.43
Interest	1.60	1.48	1.21	0.94	0.68	0.41	0.14
Total	**4.93**	**6.86**	**8.78**	**8.74**	**8.69**	**8.65**	**8.61**
Interest	1.60	1.48	1.21	0.94	0.68	0.41	0.14
Loan repayment	0.00	3.33	3.33	3.33	3.33	3.33	3.33
Total	**1.60**	**4.81**	**4.54**	**4.28**	**4.01**	**3.74**	**3.48**
DSCR	**3.08**	**1.43**	**1.93**	**2.04**	**2.17**	**2.31**	**2.48**

Average DSCR = 2.09

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**30.00**	**35.00**	**40.00**
B. Variable cost			
Raw Materials	16.05	18.73	21.40
Power & Utility	1.64	1.92	2.19
Other expenses	0.30	0.35	0.40
Interest on Working Capital Loan	0.26	0.30	0.34
Total variable cost	**18.25**	**21.29**	**24.33**
C. Contribution (A-B)	**11.75**	**13.71**	**15.67**
D. Fixed & Semi-fixed Costs			
Salary	6.36	6.39	6.42
Repair & maintenance	0.45	0.46	0.47
Interest on Term Loan	1.60	1.48	1.21
Depreciation	1.43	1.43	1.43
Total fixed cost	**9.85**	**9.77**	**9.54**
E. BREAK EVEN POINT	**83.83%**	**71.23%**	**60.87%**
F. BEP at operating capacity	**50.30%**	**49.86%**	**48.69%**
G. Cash BEP	**42.98%**	**42.54%**	**41.38%**

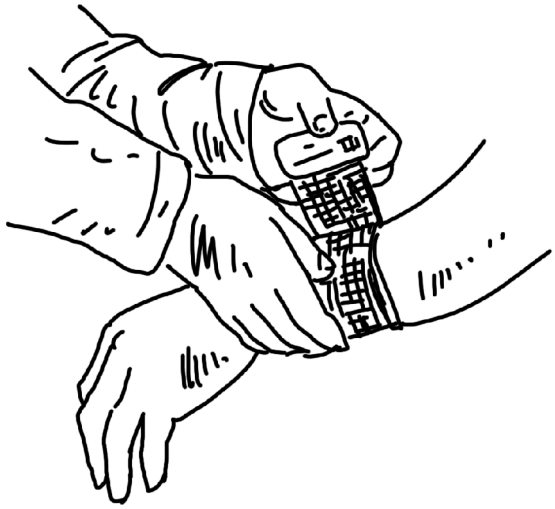
9.0 INTERNAL RATE OF RETURN (IRR)

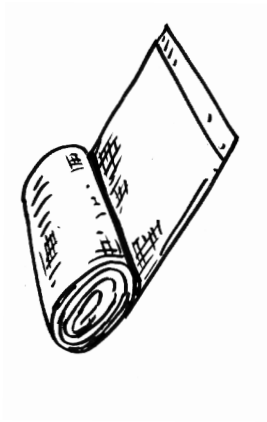
(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	29.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	5.46	0.78	0.78	0.00	0.00	0.00	0.00
Total (A)	**29.62**	**5.46**	**0.78**	**0.78**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		1.90	3.94	6.13	6.36	6.58	6.81	7.03
Add: Depreciation		1.43	1.43	1.43	1.43	1.43	1.43	1.43
Add: Interest		1.60	1.48	1.21	0.94	0.68	0.41	0.14
Add: Salvage Value								
Total (B)	**0.00**	**4.93**	**6.86**	**8.78**	**8.74**	**8.69**	**8.65**	**8.61**
NET FLOW (B-A)	**-29.62**	**-0.53**	**6.07**	**8.00**	**8.74**	**8.69**	**8.65**	**8.61**

IRR = 17%

SURGICAL BANDAGE





1.0 INTRODUCTION

Surgical Bandages are used extensively in health care institutions. The uses of bandages range from simple dressing of superficial wounds to holding together fractured bones or body parts for rehabilitation and recovery. Surgical bandages are manufactured from white bleached cotton gauge cloth of suitable quality. Surgical bandage come in roll form in length of 3 to 4 meter. Surgical Cotton also known as absorbent cotton wool or purified cotton is used at large in surgery as a dressing material for burns & wounds as a cotton bedding for maintaining a uniform temperature in inflamed parts and therefore finds applications in hospitals, dispensaries, nursing homes, etc. Good quality absorbent cotton is characterized by its uniform quality. With the establishment of large number of primary health centres in rural areas, the demand for surgical bandages has increased considerably. This item is regulated under the drugs Control Act and a manufacturing license under the provision of the act, will have to be obtained. There is good scope for new investment.

This project profile is for setting up of a Surgical Bandage Making unit with installed capacity of 6 Lakhs meters per annum, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;

2.0 MARKET POTENTIAL

The demand of Surgical bandage is directly related with the increase in population and expansion of public health services. The demand for such items increases with the increase in population and number of hospitals, dispensaries, nursing homes, health care centres etc. Progressive increase in health amenities offered by Government and coming up of new hospitals and health care centres in private sector even at small towns are contributing to the growth of surgical bandage industry. Government hospitals and large nursing homes are the largest consumer for the surgical products. With the development of medical facilities and growing awareness towards personal hygiene, the surgical products industry registered steady growth rate in past and is picking up pace with the spread of education and upward economic growth of towns and villages.

3.0 PROCESS DETAILS

The process of making bandage cloth involves:-

Feed bandage cloth into a rolling machine

Rolling of cloth

Cutting into suitable width

Sterilization

Packing.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Own Land/On Lease**
Building & Civil works	**4.95**
Plant & Machinery	**2.92**
Misc. Fixed assets	**0.39**
Preliminary & pre-operative expenses	**0.70**
Contingencies & escalation @ 3%	**0.25**
Working capital	**1.03**
TOTAL	**10.24**

4.1 Land & Site Development: Nil. Covered Area: 1,500 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Factory Shed	1500	275	412500
		Sub total	**412500**
Add: Electrification, water supply and sanitation @ 20%			82500
		TOTAL	**495000**
		Say (Rs. in lacs)	**4.95**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Winding Machine	1	240000
Bandage Rolling Machine	1	
Electric Boiler	1	
Autoclave	1	
Bandage Printing Machine	1	
Tools and equipment	LS	25000
	Sub total	**265000**
Add: Installation, transportation, etc @ 10%		26500
	TOTAL	**291500**
	Say (Rs. in lacs)	**2.92**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Furniture & fixtures	LS	--	20000
Miscellaneous items	LS	--	15000
		Sub total	**35000**
Add: Installation, transportation, etc @ 10%			3500
		TOTAL	**38500**
		Say (Rs. in lacs)	**0.39**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	19000
Interest during implementation	26400
Miscellaneous expenses	15000
TOTAL	70400
Say (Rs. in lacs)	**0.70**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.51	0.60	0.68
Power & utility	30	0.05	0.06	0.07
Salary	30	0.43	0.44	0.44
Finished Goods	15	0.77	0.85	0.94
Receivables	15	0.81	0.95	1.08
Total		**2.58**	**2.89**	**3.21**
Working capital margin in Year 1 (40%)	**1.03**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**4.10**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**6.14**
TOTAL	**100%**	**10.24**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
A. INCOME						
Production Capacity (Metres/annum)	600000	600000	600000	600000	600000	600000
Capacity utilisation	60%	70%	80%	80%	80%	80%
Production/annum at capacity utilisation	**360000**	**420000**	**480000**	**480000**	**480000**	**480000**
Total income/annum	**19.80**	**23.10**	**26.40**	**26.40**	**26.40**	**26.40**
B. OPERATING EXPENSES						
Raw Materials	12.42	14.49	16.56	16.56	16.56	16.56
Power & Utility	0.63	0.73	0.84	0.84	0.84	0.84
Salary	5.28	5.31	5.33	5.36	5.39	5.41
Repair & Maintenance	0.11	0.12	0.12	0.12	0.12	0.13
Other Expenses	0.40	0.07	0.08	0.08	0.08	0.08

Total Operating Expenses	**18.84**	**20.71**	**22.93**	**22.95**	**22.98**	**23.01**
Operating profit	**0.96**	**2.39**	**3.47**	**3.45**	**3.42**	**3.39**
C. FINANCIAL EXPENSES						
Depreciation	0.34	0.34	0.34	0.34	0.34	0.34
Interest on Term Loan	0.49	0.45	0.35	0.25	0.15	0.05
Interest on Working Capital Loan	0.12	0.14	0.15	0.15	0.15	0.15
Net Profit	**0.00**	**1.46**	**2.63**	**2.70**	**2.77**	**2.84**
Net cash accruals	**0.35**	**1.80**	**2.97**	**3.04**	**3.11**	**3.18**
Principal Repayment	0.00	1.23	1.23	1.23	1.23	1.23

6.1 Production capacity and Sales Realisation: Total production of **Surgical Bandage** at 100% capacity utilization is estimated as below.

Surgical Bandage (In Meters)	600000 Metres
Total production per annum at 100% capacity (in Meter)	**600000 Metres**

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Surgical Bandage (In Metres)	600000 Meters	5.5 Per Meter	3300000
Total Sale Turnover per annum at 100% capacity			**3300000**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Bleached Gauge Cloth	650000 Meters	3 Per Meter	1950000
Packaging Material	LS	LS	120000
Expenses on Raw Material per annum at 100% capacity			**2070000**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery	--	10.00	10.00
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			11.00

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	26400
Rate per unit (Rs)	3.50
Expenses on power (Rs)	92400
Expenses on other Utility (Rs)	12000
Expenses on power & utility at 100% capacity (Rs)	**104400**

6.4 Salary: Total 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	1	10000	120000
Chemist	1	5000	60000
Sale Person	3	5000	180000
Skilled workers	2	4000	96000
Unskilled workers	2	3000	72000
Expenses on salary in the 1st year (Rs)			**528000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	4.95	1.00%	0.05
Plant & Machinery	2.92	2.00%	0.06
Misc. Fixed assets	0.39	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.11**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	4.95	3.34%	0.17
Plant & Machinery	2.92	5.28%	0.15
Misc. Fixed assets	0.39	6.33%	0.02
TOTAL			**0.34**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 6 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6
Month 1	Opening balance	6.14	6.14	4.92	3.69	2.46	1.23
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest (8%)	0.04	0.04	0.03	0.02	0.02	0.01
	Closing balance	**6.14**	**6.04**	**4.81**	**3.58**	**2.36**	**1.13**
Month 2	Opening balance	6.14	6.04	4.81	3.58	2.36	1.13
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.04	0.03	0.02	0.02	0.01
	Closing balance	**6.14**	**5.94**	**4.71**	**3.48**	**2.25**	**1.02**
Month 3	Opening balance	6.14	5.94	4.71	3.48	2.25	1.02
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.04	0.03	0.02	0.02	0.01
	Closing balance	**6.14**	**5.84**	**4.61**	**3.38**	**2.15**	**0.92**
Month 4	Opening balance	6.14	5.84	4.61	3.38	2.15	0.92
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.04	0.03	0.02	0.01	0.01

	Closing balance	**6.14**	**5.73**	**4.51**	**3.28**	**2.05**	**0.82**
Month 5	Opening balance	6.14	5.73	4.51	3.28	2.05	0.82
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.04	0.03	0.02	0.01	0.01
	Closing balance	**6.14**	**5.63**	**4.40**	**3.17**	**1.95**	**0.72**
Month 6	Opening balance	6.14	5.63	4.40	3.17	1.95	0.72
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.04	0.03	0.02	0.01	0.00
	Closing balance	**6.14**	**5.53**	**4.30**	**3.07**	**1.84**	**0.61**
Month 7	Opening balance	6.14	5.53	4.30	3.07	1.84	0.61
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.04	0.03	0.02	0.01	0.00
	Closing balance	**6.14**	**5.43**	**4.20**	**2.97**	**1.74**	**0.51**
Month 8	Opening balance	6.14	5.43	4.20	2.97	1.74	0.51
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.04	0.03	0.02	0.01	0.00
	Closing balance	**6.14**	**5.32**	**4.10**	**2.87**	**1.64**	**0.41**
Month 9	Opening balance	6.14	5.32	4.10	2.87	1.64	0.41
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.04	0.03	0.02	0.01	0.00
	Closing balance	**6.14**	**5.22**	**3.99**	**2.76**	**1.54**	**0.31**
Month 10	Opening balance	6.14	5.22	3.99	2.76	1.54	0.31
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.03	0.03	0.02	0.01	0.00
	Closing balance	**6.14**	**5.12**	**3.89**	**2.66**	**1.43**	**0.20**
Month 11	Opening balance	6.14	5.12	3.89	2.66	1.43	0.20
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.03	0.03	0.02	0.01	0.00
	Closing balance	**6.14**	**5.02**	**3.79**	**2.56**	**1.33**	**0.10**
Month 12	Opening balance	6.14	5.02	3.79	2.56	1.33	0.10
	Repayment	0.00	0.10	0.10	0.10	0.10	0.10
	Interest	0.04	0.03	0.03	0.02	0.01	0.00
	Closing balance	**6.14**	**4.92**	**3.69**	**2.46**	**1.23**	**0.00**
Principal Repayment		**0.00**	**1.23**	**1.23**	**1.23**	**1.23**	**1.23**
Interest		**0.49**	**0.45**	**0.35**	**0.25**	**0.15**	**0.05**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6
Profit After Tax (Net Profit)	0.00	1.46	2.63	2.70	2.77	2.84
Depreciation	0.34	0.34	0.34	0.34	0.34	0.34
Interest	0.49	0.45	0.35	0.25	0.15	0.05
Total	**0.84**	**2.25**	**3.32**	**3.29**	**3.26**	**3.23**
Interest	0.49	0.45	0.35	0.25	0.15	0.05
Loan repayment	0.00	1.23	1.23	1.23	1.23	1.23
Total	**0.49**	**1.68**	**1.58**	**1.48**	**1.38**	**1.28**
DSCR	**1.71**	**1.34**	**2.11**	**2.23**	**2.36**	**2.52**

Average DSCR = 2.05

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**19.80**	**23.10**	**26.40**
B. Variable cost			
Raw Materials	12.42	14.49	16.56
Power & Utility	0.63	0.73	0.84
Other expenses	0.40	0.07	0.08
Interest on Working Capital Loan	0.12	0.14	0.15
Total variable cost	**13.57**	**15.43**	**17.63**
C. Contribution (A-B)	**6.23**	**7.67**	**8.77**
D. Fixed & Semi-fixed Costs			
Salary	5.28	5.31	5.33
Repair & maintenance	0.11	0.12	0.12
Interest on Term Loan	0.49	0.45	0.35
Depreciation	0.34	0.34	0.34
Total fixed cost	**6.23**	**6.21**	**6.14**
E. BREAK EVEN POINT	**99.93%**	**80.99%**	**70.04%**
F. BEP at operating capacity	**59.96%**	**56.69%**	**56.03%**
G. Cash BEP	**56.65%**	**53.55%**	**52.89%**

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5	6
CASH OUTFLOW							
Capital Expenditure	8.50	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	2.58	0.31	0.32	0.00	0.00	0.00
Total (A)	**8.50**	**2.58**	**0.31**	**0.32**	**0.00**	**0.00**	**0.00**
CASH INFLOW							
Profit After Tax		0.00	1.46	2.63	2.70	2.77	2.84
Add: Depreciation		0.34	0.34	0.34	0.34	0.34	0.34
Add: Interest		0.49	0.45	0.35	0.25	0.15	0.05
Add: Salvage Value							
Total (B)	**0.00**	**0.84**	**2.25**	**3.32**	**3.29**	**3.26**	**3.23**
NET FLOW (B-A)	**-8.50**	**-1.74**	**1.94**	**3.00**	**3.29**	**3.26**	**3.23**

IRR = 20%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Dadiwala Engg. Works	18, Industrial Area (DLF), Najafgarh Road, New Delhi.
2.	M/s Reliance Engg Works	Municipal Industrial Estate, 2nd Floor, Gate No. 60, West Baptist Road, Mumbai, Pin- 400 008
3.	M/s Honest Machinery Works	Beri Wali Gali, Bara Hindu Road, Delhi.

AUTOMOBILE BODY BUILDING

1.0 INTRODUCTION

Commercial Bus/Trucks are used as the most common public transport vehicle for transportation of goods and passengers. But, at the time of purchasing of these vehicles, they are supplied only in skeleton shape usually with chasis by the automobile manufacturers. After purchasing from the manufacturers, normally body of the vehicle is built by automobile body builders as per the requirements of the customers. Thus, automobile body building is an important activity.

This project profile is for setting up of an Automobile Body Building Unit based on 300 working days per annum and 8 working hours per day. The installed capacity of the unit per annum is as follows;

Complete Bus Body - 60 Nos.
Complete Truck Body - 120 Nos.

2.0 MARKET POTENTIAL

With rapid changes in the society, now a days it has become necessary to provide good and efficient transport service to the public. Also with the rapid industrialization, public and goods are moving very frequently from one place to another using public transport. Different State Transport Undertakings are plying their buses for commuting public from one place to another and from one State to another. Apart from these Undertakings, Private Bus Operators, travel agencies etc. are also operating buses on permit basis. Since more and more is expected in the coming years, the demand of public transport, private transport and luxury transport in the form of buses/Trucks will increase in the future.

3.0 PROCESS DETAILS:

Metal sheets are cleaned and de-rusted for grease/oil if any. Then sheets are cut to sizes for forming different parts and these parts are formed on press brake. Now different parts and their subassemblies are fabricated as per their design and size. These parts and subassemblies are fabricated– together to make them a complete bus body. The complete body is painted as per the requirements of the customer. Shower test is carried out for leakage etc.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & site development	**Own Land/On Lease**
Building & civil works	**3.96**
Plant & Machinery	**17.62**
Misc. Fixed assets	**1.16**
Preliminary & pre-operative expenses	**1.89**
Contingencies & escalation @ 3%	**0.68**
Working capital	**4.66**
TOTAL	**29.97**

4.1 Land & Site Development: Nil. Covered Area: 1,200 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Work Shed cum Office	1200	275	330000
		Sub total	**330000**
Add: Electrification, water supply and sanitation @20%			66000
		TOTAL	**396000**
		Say (Rs. in lacs)	**3.96**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Motorized Sheet Shearing Machine	1	1402000
Power operated press brake bending machine	1	
Suspension type MIG Welding System with accessories	1	
Gas Welding machine	2	
Arc Welding Machine	2	
Air compressor with painting equipment	1	
Drilling Machine	3	
Pollution Control Equipment	1	
Miscellaneous items	LS	200000
	Sub total	**1602000**
Add: Installation, transportation, etc @ 10%		160200
	TOTAL	**1762200**
	Say (Rs. in lacs)	**17.62**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Transformer	1	200000	200000
Fixtures and Fittings	1	40000	40000
Furniture's	LS	--	15000
Miscellaneous items	LS	--	50000
		Sub total	**105000**
Add: Installation, transportation, etc @ 10%			10500
		TOTAL	**115500**
		Say (Rs. in lacs)	**1.16**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	40000
Interest during implementation	88638

Miscellaneous expenses	50000
TOTAL	188638
Say (Rs. in lacs)	**1.89**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	4.34	5.06	5.78
Power & Utility	30	0.16	0.19	0.21
Salary	30	1.19	1.20	1.21
Finished Goods	15	2.89	3.28	3.66
Receivables	15	3.08	3.59	4.10
Total		**11.66**	**13.31**	**14.96**
Working capital margin in Year 1 (40%)	**4.66**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**11.99**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**17.98**
TOTAL	**100%**	**29.97**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Nos./annum)	132	132	132	132	132	132	132
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/annum at capacity utilisation	**79**	**92**	**106**	**106**	**106**	**106**	**106**
Total income/annum	**74.88**	**87.36**	**99.84**	**99.84**	**99.84**	**99.84**	**99.84**
B. OPERATING EXPENSES							
Raw materials	52.78	61.57	70.37	70.37	70.37	70.37	70.37
Power & Utility	1.94	2.26	2.58	2.58	2.58	2.58	2.58
Salary	14.52	14.59	14.67	14.74	14.81	14.89	14.96
Repair & Maintenance	0.41	0.42	0.43	0.43	0.44	0.45	0.46
Other Expenses	0.75	0.87	1.00	1.00	1.00	1.00	1.00
Total Operating Expenses	**70.39**	**79.72**	**89.04**	**89.12**	**89.20**	**89.29**	**89.37**
Operating profit	**4.49**	**7.64**	**10.80**	**10.72**	**10.64**	**10.55**	**10.47**
C. FINANCIAL EXPENSES							
Depreciation	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Interest on Term Loan	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Interest on Working Capital Loan	0.56	0.64	0.72	0.72	0.72	0.72	0.72
Net Profit	**1.36**	**4.54**	**7.86**	**8.01**	**8.17**	**8.33**	**8.49**

Net cash accruals	**2.49**	**5.68**	**8.99**	**9.15**	**9.31**	**9.46**	**9.62**
Principal Repayment	0.00	3.00	3.00	3.00	3.00	3.00	3.00

6.1 Production capacity and Sales Realisation: Total production of Automobile Body at 100% capacity utilization is estimated as below.

Complete Bus Body	48 Nos.
Complete Truck Body	84 Nos.
Total production per annum at 100% capacity	**132 Nos.**

Particulars	Qty	Price per Unit (Rs.)	Amount (Rs.)
Complete Bus Body	24 Nos.	400000	9600000
Complete Truck Body	60 Nos.	48000	2880000
Total Sale Turnover at 100% capacity (Rs)			12480000

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Qty Reqd	Price per Unit (Rs.)	Amount (Rs.)
M S Channel 75X40X50 mm	36 Ton	43000	1548000
M S Equal Angle	48 Ton	46000	2208000
M S Flat	6 Ton	46000	276000
Aluminium Chequered Plate	6 Ton	200000	120000
CR/BP Sheet	120 Ton	52000	624000
M S Pipes	6 Ton	45000	270000
Aluminium Rolled Sections	3 Ton	250000	750000
Hardware Items	LS	--	1200000
Other Consumables like Raxine Ply, PVC Sheet, Foam OTC, Electrical Fittings and Fixures etc.	LS	--	1800000
Expenses on raw material at 100% capacity (Rs)			**8796000**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 45)	--	33.57	33.57
General Lighting	20	0.10	2.00
		Total power requirement/ day (Kw)	35.57

No. of hrs/day	8
Nos. of days/annum	300
Annual power requirement (kwh)	85368
Rate per unit (Rs)	3.50
Expenses on power (Rs)	298788

Estimate of Utility

Expenses on other Utility (Rs)	24000
Expenses on power & Utility at 100% capacity (Rs)	**322788**

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6.4 Salary: Total expenses on salary in the 1 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)
Production Manager	1	20000	240000
Maintenance Engineer	2	15000	360000
Skilled workers	4	8000	384000
Semi-skilled workers	5	6000	360000
Unskilled workers	3	3000	108000
Expenses on salary in the 1st year (Rs)			**1452000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	3.96	1.00%	0.04
Plant & Machinery	17.62	2.00%	0.35
Misc. Fixed assets	1.16	1.50%	0.02
Expenses on repair & maintenance in year 1			**0.41**

6.6 Other Expenses: Other expenses have been assumed at 1% of sales realisation.

6.7 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)
Building & civil works	3.96	3.34%	0.13
Plant & Machinery	17.62	5.28%	0.93
Misc. Fixed assets	1.16	6.33%	0.07
TOTAL			**1.14**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	17.98	17.98	14.98	11.99	8.99	5.99	3.00
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest (8%)	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	**17.98**	**17.73**	**14.73**	**11.74**	**8.74**	**5.74**	**2.75**
Month 2	Opening balance	17.98	17.73	14.73	11.74	8.74	5.74	2.75
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	**17.98**	**17.48**	**14.48**	**11.49**	**8.49**	**5.49**	**2.50**
Month 3	Opening balance	17.98	17.48	14.48	11.49	8.49	5.49	2.50
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	**17.98**	**17.23**	**14.23**	**11.24**	**8.24**	**5.24**	**2.25**
Month 4	Opening balance	17.98	17.23	14.23	11.24	8.24	5.24	2.25
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25

	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**17.98**	**16.98**	**13.98**	**10.99**	**7.99**	**4.99**	**2.00**
Month 5	Opening balance	17.98	16.98	13.98	10.99	7.99	4.99	2.00
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**17.98**	**16.73**	**13.74**	**10.74**	**7.74**	**4.74**	**1.75**
Month 6	Opening balance	17.98	16.73	13.74	10.74	7.74	4.74	1.75
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**17.98**	**16.48**	**13.49**	**10.49**	**7.49**	**4.50**	**1.50**
Month 7	Opening balance	17.98	16.48	13.49	10.49	7.49	4.50	1.50
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**17.98**	**16.23**	**13.24**	**10.24**	**7.24**	**4.25**	**1.25**
Month 8	Opening balance	17.98	16.23	13.24	10.24	7.24	4.25	1.25
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**17.98**	**15.98**	**12.99**	**9.99**	**6.99**	**4.00**	**1.00**
Month 9	Opening balance	17.98	15.98	12.99	9.99	6.99	4.00	1.00
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**17.98**	**15.73**	**12.74**	**9.74**	**6.74**	**3.75**	**0.75**
Month 10	Opening balance	17.98	15.73	12.74	9.74	6.74	3.75	0.75
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	**17.98**	**15.48**	**12.49**	**9.49**	**6.49**	**3.50**	**0.50**
Month 11	Opening balance	17.98	15.48	12.49	9.49	6.49	3.50	0.50
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	**17.98**	**15.23**	**12.24**	**9.24**	**6.24**	**3.25**	**0.25**
Month 12	Opening balance	17.98	15.23	12.24	9.24	6.24	3.25	0.25
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	**17.98**	**14.98**	**11.99**	**8.99**	**5.99**	**3.00**	**0.00**
Principal Repayment		**0.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**
Interest		**1.44**	**1.33**	**1.09**	**0.85**	**0.61**	**0.37**	**0.13**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	1.36	4.54	7.86	8.01	8.17	8.33	8.49
Depreciation	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Interest	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Total	**3.93**	**7.01**	**10.08**	**10.00**	**9.92**	**9.83**	**9.75**
Interest	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Loan repayment	0.00	3.00	3.00	3.00	3.00	3.00	3.00
Total	**1.44**	**4.33**	**4.09**	**3.85**	**3.61**	**3.37**	**3.13**
DSCR	**2.73**	**1.62**	**2.47**	**2.60**	**2.75**	**2.92**	**3.12**

Average DSCR = 2.54

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**74.88**	**87.36**	**99.84**
B. Variable cost			
Raw materials	52.78	61.57	70.37
Power & Utility	1.94	2.26	2.58
Other expenses	0.75	0.87	1.00
Interest on Working Capital Loan	0.56	0.64	0.72
Total variable cost	**56.02**	**65.34**	**74.67**
C. Contribution (A-B)	**18.86**	**22.02**	**25.17**
D. Fixed & Semi-fixed Costs			
Salary	14.52	14.59	14.67
Repair & maintenance	0.41	0.42	0.43
Interest on Term Loan	1.44	1.33	1.09
Depreciation	1.14	1.14	1.14
Total fixed cost	**17.50**	**17.47**	**17.32**
E. BREAK EVEN POINT	**92.81%**	**79.37%**	**68.79%**
F. BEP at operating capacity	**55.69%**	**55.56%**	**55.03%**
G. Cash BEP	**52.07%**	**51.95%**	**51.42%**

9.0 INTERNAL RATE OF RETURN (IRR)

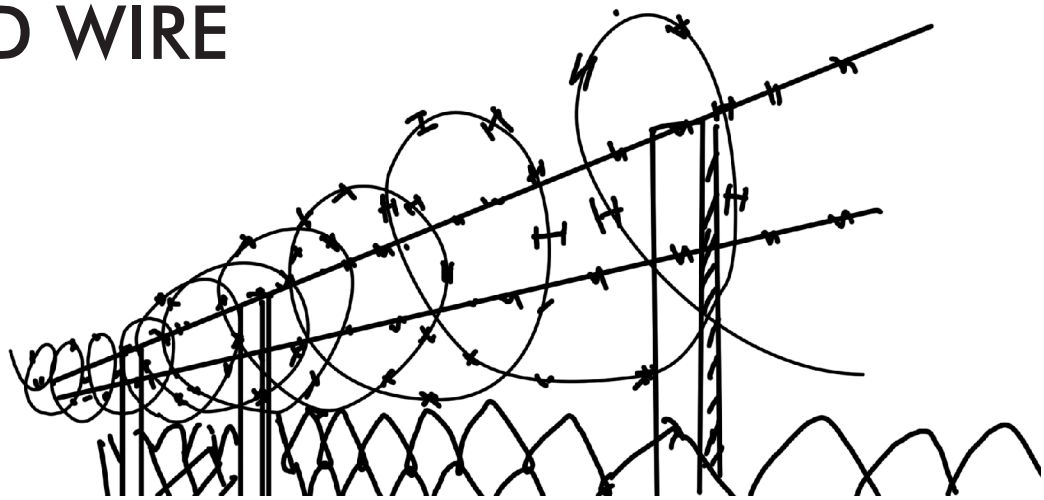
(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	23.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	11.66	1.65	1.65	0.00	0.00	0.00	0.00
Total (A)	**23.42**	**11.66**	**1.65**	**1.65**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		1.36	4.54	7.86	8.01	8.17	8.33	8.49
Add: Depreciation		1.14	1.14	1.14	1.14	1.14	1.14	1.14
Add: Interest		1.44	1.33	1.09	0.85	0.61	0.37	0.13
Add: Salvage Value								
Total (B)	**0.00**	**3.93**	**7.01**	**10.08**	**10.00**	**9.92**	**9.83**	**9.75**
NET FLOW (B-A)	**-23.42**	**-7.73**	**5.35**	**8.43**	**10.00**	**9.92**	**9.83**	**9.75**

IRR = 19%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Mika Engineering (India) Private Limited	64, Mestry Building, Gaothan Lane No.1, Andheri (West) Mumbai, Pin - 400 058, Maharashtra
2.	M/s Ace Automation	228/1, M. G. R. Street, Sivanandapyram, Saravanampatti, Coimbatore, Pin- 641035
3.	M/s G S Azad Industry.	A-31, Naraina Industrial Area Phase I, New Delhi, Pin-110 028

BARBED WIRE



1.0 INTRODUCTION

Barbed wire is useful industrial product, mainly used for fencing purposes. Barbed wire is a fencing material consisting of a metal cable with regularly spaced sharp projections. The cable usually consists of two wires twisted around each other to add strength and to allow the cable to expand and contract with temperature changes with out breaking. The sharp points, called barbs, usually consist of short pieces of wire twisted around one or both of the cable wires. Barbed wire fencing prevents the unwanted entrance and intrusion of animals and persons into the fenced area. It is durable, easy to install, flexible, and inexpensive. Moreover, barbed wire is used for military and security purposes also.

This project profile is for setting up of a barbed wire making unit with production capacity of 300 MT barbed wire per annum, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

Barbed wire is mainly used to safeguard houses, gardens, forests, nurseries and specified prohibited areas pertaining to defence establishment, aerodromes, railways, warehouses and other Govt. and Private properties. They are also used to safeguard international boundaries and are one of the cheapest materials to be used for these various purposes. Looking to the specific but important use of the product, product has demand all over the country to protect the field / property from various external elements.

3.0 PROCESS DETAILS

The barbed wires are made on an automatic machine. The barbed wire is made out of 12/14 SWG MS Galvanized wires. While two main line wires are fed into the machines through its axes, another wire is fed across into the pair of line wires to form barbs at required intervals. The line wire twine themselves automatically. The point wire after forming the desired barbs strands with the line wires automatically at the desired distance thus forming the complete barbed wire. As the machine is automatic all its feeding and wire cutting mechanism is controlled by gear movements, which drive its power from the main electric motor attached to the machine. Once the machine is set up it goes on working automatically.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Own Land/On Lease**
Building & Civil works	**3.30**
Plant & Machinery	**6.27**
Misc. Fixed assets	**0.39**
Preliminary & pre-operative expenses	**0.71**
Contingencies & escalation @ 3%	**0.30**
Working capital	**3.39**
TOTAL	**14.35**

4.1 Land & Site Development: Nil. Total Area: 2,000 Sq. Ft. Covered Area: 1,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Work-shed, Store Room and Office	1000	275	275000
		Sub total	**275000**
Add: Electrification, water supply and sanitation @ 20%			55000
		TOTAL	**330000**
		Say (Rs. in lacs)	**3.30**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Automatic Barbed Wire Making Machine	1	520000
Bench Grinder	1	
Universal Tensile Testing Machine	1	
Wrap Torsion Testing Machine	1	
Testing Equipment	1	
Miscellaneous Tools and Equipment	LS	50000
	Sub total	**570000**
Add: Installation, transportation, etc @ 10%		57000
	TOTAL	**627000**
	Say (Rs. in lacs)	**6.27**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Furniture & fixtures	LS	–	15000
Miscellaneous items	LS	–	20000
		Sub total	**35000**
Add: Installation, transportation, etc @ 10%			3500
		TOTAL	**38500**
		Say (Rs. in lacs)	**0.39**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	20000
Interest during implementation	26510
Miscellaneous expenses	14000
TOTAL	70510
Say (Rs. in lacs)	**0.71**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	3.77	4.40	5.03
Power & utility	30	0.06	0.07	0.08
Salary	30	0.28	0.28	0.28
Finished Goods	15	2.11	2.44	2.76
Receivables	15	2.26	2.63	3.01
Total		**8.47**	**9.82**	**11.16**
Working capital margin in Year 1 (40%)	**3.39**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**5.74**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**8.61**
TOTAL	**100%**	**14.35**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
A. INCOME						
Production Capacity (Ton/ annum)	300	300	300	300	300	300
Capacity utilisation	60%	70%	80%	80%	80%	80%
Production/ annum at capacity utilisation	**180**	**210**	**240**	**240**	**240**	**240**
Total income/ annum	**54.90**	**64.05**	**73.20**	**73.20**	**73.20**	**73.20**
B. OPERATING EXPENSES						
Raw Materials	45.90	53.55	61.20	61.20	61.20	61.20
Power & Utility	0.76	0.88	1.01	1.01	1.01	1.01
Salary	3.36	3.38	3.39	3.41	3.43	3.44
Repair & Maintenance	0.16	0.17	0.17	0.17	0.18	0.18
Other Expenses	1.10	1.28	1.46	1.46	1.46	1.46
Total Operating Expenses	**51.28**	**59.26**	**67.24**	**67.26**	**67.28**	**67.30**
Operating profit	**3.62**	**4.79**	**5.96**	**5.94**	**5.92**	**5.90**
C. FINANCIAL EXPENSES						
Depreciation	0.47	0.47	0.47	0.47	0.47	0.47
Interest on Term Loan	0.69	0.63	0.49	0.35	0.21	0.07
Interest on Working Capital Loan	0.41	0.47	0.54	0.54	0.54	0.54
Net Profit	**2.06**	**3.23**	**4.47**	**4.59**	**4.71**	**4.82**
Net cash accruals	**2.52**	**3.69**	**4.94**	**5.05**	**5.17**	**5.29**
Principal Repayment	0.00	1.72	1.72	1.72	1.72	1.72

6.1 Production capacity and Sales Realisation: Total production of **Barbed Wire** at 100% capacity utilization is estimated as below.

Barbed Wire	300 Tons
Total production per annum at 100% capacity (in Ton)	**300 Tons**

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Barbed Wire	300 Tons	30500 Per Ton	9150000
Total Sale Turnover per annum at 100% capacity			**9150000**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
G.I.Wire 12/14 SWG	306 Ton	25000 Per Ton	7650000
Expenses on raw material at 100% capacity (Rs)			**7650000**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery (Total HP of 15)	--	11.19	11.19
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			12.19

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	29256
Rate per unit (Rs)	3.50
Expenses on Power (Rs)	102396
Expenses on other Utility (Rs)	24000
Expenses on power & utility at 100% capacity (Rs)	**126396**

6.4 Salary: Total 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	1	6000	72000
Technicians/machine operators	2	5000	120000
Unskilled workers	4	3000	144000
Expenses on salary in the 1st year (Rs)			**336000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	3.30	1.00%	0.03
Plant & Machinery	6.27	2.00%	0.13
Misc. Fixed assets	0.39	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.16**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	3.30	3.34%	0.11
Plant & Machinery	6.27	5.28%	0.33
Misc. Fixed assets	0.39	6.33%	0.02
TOTAL			**0.47**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 6 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6
Month 1	Opening balance	8.61	8.61	6.89	5.17	3.44	1.72
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest (8%)	0.06	0.06	0.05	0.03	0.02	0.01
	Closing balance	**8.61**	**8.47**	**6.74**	**5.02**	**3.30**	**1.58**
Month 2	Opening balance	8.61	8.47	6.74	5.02	3.30	1.58
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.06	0.04	0.03	0.02	0.01
	Closing balance	**8.61**	**8.32**	**6.60**	**4.88**	**3.16**	**1.43**
Month 3	Opening balance	8.61	8.32	6.60	4.88	3.16	1.43
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.06	0.04	0.03	0.02	0.01
	Closing balance	**8.61**	**8.18**	**6.46**	**4.74**	**3.01**	**1.29**
Month 4	Opening balance	8.61	8.18	6.46	4.74	3.01	1.29
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.61**	**8.04**	**6.31**	**4.59**	**2.87**	**1.15**
Month 5	Opening balance	8.61	8.04	6.31	4.59	2.87	1.15
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.61**	**7.89**	**6.17**	**4.45**	**2.73**	**1.00**
Month 6	Opening balance	8.61	7.89	6.17	4.45	2.73	1.00
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.61**	**7.75**	**6.03**	**4.30**	**2.58**	**0.86**
Month 7	Opening balance	8.61	7.75	6.03	4.30	2.58	0.86

	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.01
	Closing balance	**8.61**	**7.60**	**5.88**	**4.16**	**2.44**	**0.72**
Month 8	Opening balance	8.61	7.60	5.88	4.16	2.44	0.72
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.00
	Closing balance	**8.61**	**7.46**	**5.74**	**4.02**	**2.30**	**0.57**
Month 9	Opening balance	8.61	7.46	5.74	4.02	2.30	0.57
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.02	0.00
	Closing balance	**8.61**	**7.32**	**5.60**	**3.87**	**2.15**	**0.43**
Month 10	Opening balance	8.61	7.32	5.60	3.87	2.15	0.43
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.03	0.01	0.00
	Closing balance	**8.61**	**7.17**	**5.45**	**3.73**	**2.01**	**0.29**
Month 11	Opening balance	8.61	7.17	5.45	3.73	2.01	0.29
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.02	0.01	0.00
	Closing balance	**8.61**	**7.03**	**5.31**	**3.59**	**1.87**	**0.14**
Month 12	Opening balance	8.61	7.03	5.31	3.59	1.87	0.14
	Repayment	0.00	0.14	0.14	0.14	0.14	0.14
	Interest	0.06	0.05	0.04	0.02	0.01	0.00
	Closing balance	**8.61**	**6.89**	**5.17**	**3.44**	**1.72**	**0.00**
Principal Repayment		**0.00**	**1.72**	**1.72**	**1.72**	**1.72**	**1.72**
Interest		**0.69**	**0.63**	**0.49**	**0.35**	**0.21**	**0.07**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6
Profit After Tax (Net Profit)	2.06	3.23	4.47	4.59	4.71	4.82
Depreciation	0.47	0.47	0.47	0.47	0.47	0.47
Interest	0.69	0.63	0.49	0.35	0.21	0.07
Total	**3.21**	**4.32**	**5.42**	**5.40**	**5.38**	**5.36**
Interest	0.69	0.63	0.49	0.35	0.21	0.07
Loan repayment	0.00	1.72	1.72	1.72	1.72	1.72
Total	**0.69**	**2.35**	**2.21**	**2.07**	**1.93**	**1.80**
DSCR	**4.66**	**1.84**	**2.45**	**2.61**	**2.78**	**2.99**

Average DSCR = 2.63

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**54.90**	**64.05**	**73.20**
B. Variable cost			
Raw Materials	45.90	53.55	61.20
Power & Utility	0.76	0.88	1.01
Other expenses	1.10	1.28	1.46
Interest on Working Capital Loan	0.41	0.47	0.54
Total variable cost	**48.16**	**56.19**	**64.21**
C. Contribution (A B)	**6.74**	**7.86**	**8.99**

D. Fixed & Semi-fixed Costs			
Salary	3.36	3.38	3.39
Repair & maintenance	0.16	0.17	0.17
Interest on Term Loan	0.69	0.63	0.49
Depreciation	0.47	0.47	0.47
Total fixed cost	**4.68**	**4.64**	**4.52**
E. BREAK EVEN POINT	**69.45%**	**58.95%**	**50.26%**
F. BEP at operating capacity	**41.67%**	**41.27%**	**40.21%**
G. Cash BEP	**37.52%**	**37.12%**	**36.07%**

9.0 INTERNAL RATE OF RETURN (IRR)

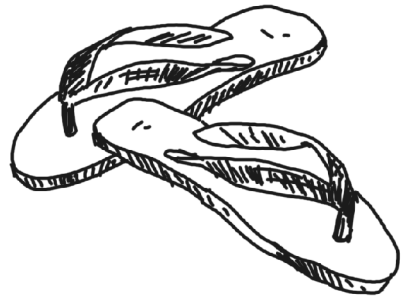
(Rs. in lacs)

Year	0	1	2	3	4	5	6
CASH OUTFLOW							
Capital Expenditure	10.25	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	8.47	1.34	1.34	0.00	0.00	0.00
Total (A)	**10.25**	**8.47**	**1.34**	**1.34**	**0.00**	**0.00**	**0.00**
CASH INFLOW							
Profit After Tax		2.06	3.23	4.47	4.59	4.71	4.82
Add: Depreciation		0.47	0.47	0.47	0.47	0.47	0.47
Add: Interest		0.69	0.63	0.49	0.35	0.21	0.07
Add: Salvage Value							
Total (B)	**0.00**	**3.21**	**4.32**	**5.42**	**5.40**	**5.38**	**5.36**
NET FLOW (B-A)	**-10.25**	**-5.26**	**2.97**	**4.08**	**5.40**	**5.38**	**5.36**

IRR = 22%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Nasu Engineering Co.	NO-3, GIDC, Nadia Khambat Road. Petlad, Pin - 388450, Gujarat.
2.	M/s Rajan Wire Industries	25/4, Street No. 1, Anand Parbat Industrial Area, (Near Tata Link Service Station), New Delhi, Pin - 110005
3.	M/s H P Singh & Co.	75, Ganesh Chandra Avenue, Kolkata, Pin - 700 013

HAWAI CHAPPAL



1.0 INTRODUCTION

Hawai chappals are lightweight footwear used by every common people and of all ages. These days different manufacturing processes are adopted suiting the needs of different people wearing hawai chappal. Usually small units manufacture hawai chappal using only rubber sheets, few machines and the market can be considerably increased by using different colours, designs, etc. It is a good export item as well.

This project profile is for setting up of a Hawai Chappal Production unit with annual production capacity of 60,000 Hawai Chappals, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

People from both the urban and rural area wears hawai chappals. While the lower middle class uses it as utility footwear, the more affluent sections use it for casual wear. There is a good scope of market for this product in rural and urban areas.

3.0 PROCESS DETAILS

The rubber sheets are cut with the help of die/mould in sole cutting machine or fly press. After cutting the soles in required sizes, they are drilled with drilling machine for inserting the straps. The straps are then fitted by strap fitting tool made out of iron/stainless steel. The edges are finished with the help of grinding machine. The chappals so produced are then inspected and packed in polythene and kept in boxes.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Rented**
Building & Civil works	**Rented**
Plant & Machinery	**1.21**
Misc. Fixed assets	**0.50**
Preliminary & pre-operative expenses	**0.68**
Contingencies & escalation @ 3%	**0.05**
Working capital	**0.58**
TOTAL	**3.02**

4.1 Land & Site Development: Nil. Covered Area: 1,000 Sq. Ft.

4.2 Building & Civil Works: Nil.

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Amount (Rs)
Fly Press for Cutting Sheet (Hand Operated)	1	75000
Drilling Machine	1	
Finishing Machine	1	
Cutting Dies of different sizes and shapes	1	
Miscellaneous Tools and Equipment	LS	35000
	Sub total	**110000**
Add: Installation, transportation, etc @ 10%		11000
	TOTAL	**121000**
	Say (Rs. in lacs)	**1.21**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Furniture & fixtures	LS	--	25000
Miscellaneous items	LS	--	20000
		Sub total	**45000**
Add: Installation, transportation, etc @ 10%			4500
		TOTAL	**49500**
		Say (Rs. in lacs)	**0.50**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	20000
Professional & other fees	30000
Interest during implementation	3410
Miscellaneous expenses	15000
TOTAL	68410
Say (Rs. in lacs)	**0.68**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	0.41	0.48	0.55
Power & Utility	30	0.03	0.03	0.03
Salary	30	0.27	0.27	0.27
Finished Goods	15	0.36	0.40	0.44
Receivables	15	0.38	0.45	0.51
Total		**1.45**	**1.63**	**1.81**
Working capital margin in Year 1 (40%)	**0.58**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**1.21**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**1.81**
TOTAL	**100%**	**3.02**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production Capacity (Nos./annum)	60000	60000	60000	60000	60000
Capacity utilisation	60%	70%	80%	80%	80%
Production/ annum at capacity utilisation	**36000**	**42000**	**48000**	**48000**	**48000**
Total income/annum	**9.36**	**10.92**	**12.48**	**12.48**	**12.48**
B. OPERATING EXPENSES					
Raw Materials	5.05	5.89	6.73	6.73	6.73
Power & Utility	0.31	0.36	0.41	0.41	0.41
Salary	3.24	3.26	3.27	3.29	3.31
Repair & Maintenance	0.03	0.03	0.03	0.03	0.03
Other Expenses	0.19	0.22	0.25	0.25	0.25
Total Operating Expenses	**8.82**	**9.76**	**10.70**	**10.71**	**10.73**
Operating profit	**0.54**	**1.16**	**1.78**	**1.77**	**1.75**
C. FINANCIAL EXPENSES					
Depreciation	0.10	0.10	0.10	0.10	0.10
Interest on Term Loan	0.14	0.11	0.08	0.05	0.02
Interest on Working Capital Loan	0.07	0.08	0.09	0.09	0.09
Net Profit	**0.24**	**0.88**	**1.52**	**1.53**	**1.55**
Net cash accruels	**0.33**	**0.97**	**1.61**	**1.63**	**1.64**
Principal Repayment	0.20	0.40	0.40	0.40	0.40

6.1 Production capacity and Sales Realisation: Total production of Hawai Chappal at 100% capacity utilization is estimated as below.

Hawai Chappal	60000 Nos.
Total production per annum at 100% capacity	**60000 Nos.**

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Hawai Chappal	60000 Nos.	26	1560000
Total Sales Turnover per annum at 100% capacity			**1560000**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qnty	Average Rate Per Unit (Rs.)	Amount (Rs)
Rubber (Hawai) Sheet- Nos.	1850	220	407000
Straps- Nos.	62000 Nos.	4	248000
Packing Material	62000 Nos.	3	186000
Expenses on raw material per annum at 100% capacity			**841000**

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery (Total HP of 5)	--	3.73	3.73
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			4.73

No. of hrs/day	8
No. of days/annum	300
Annual power requirement (kwh)	11352
Rate per unit (Rs)	3.50
Expenses on power (Rs)	39732
Expenses on other Utility (Rs)	12000
Expenses on power & utility at 100% capacity (Rs)	**51732**

6.4 Salary: Total 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	1	5000	60000
Technicians/machine operators	2	4000	96000
Semi skilled workers	2	4000	96000
Unskilled workers	2	3000	72000
Expenses on salary in the 1st year (Rs)			**324000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	0.00	1.00%	0.00
Plant & Machinery	1.21	2.00%	0.02
Misc. Fixed assets	0.50	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.03**

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 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)
Building & Civil works	0.00	3.34%	0.00
Plant & Machinery	1.21	5.28%	0.06
Misc. Fixed assets	0.50	6.33%	0.03
TOTAL			**0.10**

6.8 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 6 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	1.81	1.61	1.21	0.81	0.40
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest (8%)	0.01	0.01	0.01	0.01	0.00
	Closing balance	**1.81**	**1.58**	**1.18**	**0.77**	**0.37**
Month 2	Opening balance	1.81	1.58	1.18	0.77	0.37
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.01	0.00
	Closing balance	**1.81**	**1.54**	**1.14**	**0.74**	**0.34**
Month 3	Opening balance	1.81	1.54	1.14	0.74	0.34
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.81**	**1.51**	**1.11**	**0.71**	**0.30**
Month 4	Opening balance	1.81	1.51	1.11	0.71	0.30
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.81**	**1.48**	**1.07**	**0.67**	**0.27**
Month 5	Opening balance	1.81	1.48	1.07	0.67	0.27
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.81**	**1.44**	**1.04**	**0.64**	**0.24**
Month 6	Opening balance	1.81	1.44	1.04	0.64	0.24
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.81**	**1.41**	**1.01**	**0.60**	**0.20**
Month 7	Opening balance	1.81	1.41	1.01	0.60	0.20
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.78**	**1.38**	**0.97**	**0.57**	**0.17**
Month 8	Opening balance	1.78	1.38	0.97	0.57	0.17
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.75**	**1.34**	**0.94**	**0.54**	**0.13**
Month 9	Opening balance	1.75	1.34	0.94	0.54	0.13
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.71**	**1.31**	**0.91**	**0.50**	**0.10**
Month 10	Opening balance	1.71	1.31	0.91	0.50	0.10

	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.68**	**1.28**	**0.87**	**0.47**	**0.07**
Month 11	Opening balance	1.68	1.28	0.87	0.47	0.07
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.65**	**1.24**	**0.84**	**0.44**	**0.03**
Month 12	Opening balance	1.65	1.24	0.84	0.44	0.03
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**1.61**	**1.21**	**0.81**	**0.40**	**0.00**
Principal Repayment		**0.20**	**0.40**	**0.40**	**0.40**	**0.40**
Interest		**0.14**	**0.11**	**0.08**	**0.05**	**0.02**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5
Profit After Tax (Net Profit)	0.24	0.88	1.52	1.53	1.55
Depreciation	0.10	0.10	0.10	0.10	0.10
Interest	0.14	0.11	0.08	0.05	0.02
Total	**0.48**	**1.09**	**1.70**	**1.68**	**1.66**
Interest	0.14	0.11	0.08	0.05	0.02
Loan repayment	0.20	0.40	0.40	0.40	0.40
Total	**0.34**	**0.52**	**0.48**	**0.45**	**0.42**
DSCR	**1.38**	**2.10**	**3.50**	**3.71**	**3.95**

Average DSCR = 2.98

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**9.36**	**10.92**	**12.48**
B. Variable cost			
Raw Materials	5.05	5.89	6.73
Power & Utility	0.31	0.36	0.41
Other expenses	0.19	0.22	0.25
Interest on Working Capital Loan	0.07	0.08	0.09
Total variable cost	**5.61**	**6.55**	**7.48**
C. Contribution (A-B)	**3.75**	**4.37**	**5.00**
D. Fixed & Semi-fixed Costs			
Salary	3.24	3.26	3.27
Repair & maintenance	0.03	0.03	0.03
Interest on Term Loan	0.14	0.11	0.08
Depreciation	0.10	0.10	0.10
Total fixed cost	**3.51**	**3.50**	**3.48**
E. BREAK EVEN POINT	**93.64%**	**79.97%**	**69.63%**
F. BEP at operating capacity	**56.19%**	**55.98%**	**55.70%**
G. Cash BEP	**54.66%**	**54.45%**	**54.18%**

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	1.76	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	1.45	0.18	0.18	0.00	0.00
Total (A)	**1.76**	**1.45**	**0.18**	**0.18**	**0.00**	**0.00**
CASH INFLOW						
Profit After Tax		0.24	0.88	1.52	1.53	1.55
Add: Depreciation		0.10	0.10	0.10	0.10	0.10
Add: Interest		0.14	0.11	0.08	0.05	0.02
Add: Salvage Value						
Total (B)	**0.00**	**0.48**	**1.09**	**1.70**	**1.68**	**1.66**
NET FLOW (B-A)	**-1.76**	**-0.98**	**0.91**	**1.52**	**1.68**	**1.66**

IRR = 39%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s BPM Engineering Co.	D-134, Devnagar, Murlipura, , Jaipur, Rajasthan Pin-302023.
2.	M/s Lords Group Of Companies	33a, Chatterjee International Center, J. L. Nehru Road, Kolkata, West Bengal Pin-70007.
3.	M/s Major Machine Tools	B-XXX-94, Shehpur Khurd, Byepass Road, Ludhiana.
4.	M/s Haria Engineering Works	Shankar Tekri Industrial Estate, Post Box No. 643, Jamnagar, Gujrat.
5.	M/s G.G.Engineering Works	5/1-B, Industrial Estate, Kirti Nagar, New Delhi Pin- 110 015.

BRICK FIELD (TRADITIONAL)

1.0 INTRODUCTION

The construction activity is one of the vital sectors of the economy. There is hardly any sector in the economy where there is no construction involved. There is tremendous increase in the growth of construction activities during the last decade and with the higher targets of growth envisaged in coming years and in the next decade the construction activity is poised to enlarge further. The general construction sector consisting of industrial projects, agricultural projects, defence projects commercial establishments and housing sector all contribute to the growth of construction activity.

Building bricks are used in the construction of the houses. This industry is spread all over India as cottage industry. It is a seasonal industry as in rainy season the brick kiln remains closed. Bricks are one of the mainstays of construction activities and constitute about 13 percent of the total cost of building material required for construction. By and large three types of materials are used in walling viz. Conventional Burnt Clay Bricks, different types of board and Concrete Blocks/Bricks. It has been established that the use of clay bricks provides a superior and comfortable physical living environment than the use of other materials as far as residential construction is concerned.

This project profile is for setting up of a brick field unit with installed processing capacity of 20 lacs nos. of bricks covering 12 bighas of land, based on 175 working days (7 months) per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

Bricks remain one of the most important building materials in the country. Brick making is a traditional industry in India, generally confined to rural areas. Notably, the Indian brick industry, with more than 1 Lakh production units producing about 100 billion tons a brick annually, is the second largest brick producer in the world after that of China. The industry has an annual turnover of more than Rs. 10,000 Crores and, very importantly, it is one of the largest employment generating industries, employing millions of workers. However, brick making is an energy intensive process as fuel costs account for almost 30% of the production cost.

Every year several construction works are undertaken. Several bridges, dams, roads, shopping complexes, commercial complexes, hospitals, hotels, educational institutions, Govt. offices and residential houses are constructed. All these civil construction activities consume large quantity of bricks and therefore consumption of bricks are increasing. The demand for housing is increasing as there is a heavy backlog of houses to be constructed in India and there is a scope of adding 50 lakhs houses every year. This allows a big demand for new flats and houses construction. The country consumes about 180 billion tons bricks,

exhausting approximately 340 billion tons of clay every year and about 5000 acres of top soil land is made unfertile for a long period. The demand supply gap for bricks is estimated to be 120 billion tons for the year 2012 thus leaving a scope for establishment of more brick fields across India.

3.0 PROCESS DETAILS

The process of brick production is as follows.

In hand moulding, two methods are adopted. One is lying of bricks on the ground and another is the forming of bricks in one place and placing them for drying in drying yards. For the first method, generally wooden moulds are used. In this method the mould is placed on the ground. Either water or oil or fine sand is applied on the slides of the mould for easy removal of bricks. The prepared clay is thrown into the mould with a little force and the excess clay is removed with a stick.

The bricks are allowed to dry for a week or ten days and assembled as a clamp. Fuel wood or coal is placed and the kiln is closed and lighted. After the firing is over the clamp is removed for sale.

PROCESS FLOW CHART

↓

EXCAVATION OF CLAY

↓

MIXING OF CLAY WITH SAND

↓

MOULDING

↓

LOADING OF MOLDED BRICKS IN CHAMBER KILN

↓

FIRING

↓

REMOVAL OF BRICKS FROM KILN

↓

INSPECTION/SORTING

↓

STORING/LOADING/SUPPLY

4.0 COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & site development	**Own Land/ On Lease**
Building & civil works	**6.33**
Plant & Machinery	**12.70**
Misc. Fixed assets	**0.72**
Preliminary & pre-operative expenses	**1.88**
Contingencies & escalation @ 3%	**0.59**
Working capital	**2.93**
TOTAL	**25.14**

4.1 Land & Site Development: Details of land & site development are given below.

Total Land: 4 Acres; Covered Area: 3,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Material Storage cum Office	1000	275	275000
Labour Quarter (10 ft X 8 ft each)= 25 Nos.	2000	150	300000
		Sub total	**575000**
Add: Electrification, water supply and sanitation @ 10%			57500
		TOTAL	**632500**
		Say (Rs. in lacs)	**6.33**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Kiln with all Accessories	1	980000	980000
Wheel Barrows	8	4000	32000
Cutter	1	20000	20000
Mixer, Loader, Box Feeder and Moulds etc.	LS	--	75000
Miscellaneous items	LS	--	25000
		Sub total	**1132000**
Add: Installation, transportation etc @ 10%			113200
		TOTAL	**1270200**
		Say (Rs. in lacs)	**12.70**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Fixtures and Fittings	LS	--	40000
Furniture	LS	--	15000
Miscellaneous items	LS	--	10000
		Sub total	**65000**
Add: Installation, transportation, etc @ 10%			6500
		TOTAL	**71500**
		Say (Rs. in lacs)	**0.72**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	50000
Interest during implementation	77538
Miscellaneous expenses	50000
TOTAL	187538
Say (Rs. in lacs)	**1.88**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	1.90	2.22	2.54
Power & utility	30	0.01	0.01	0.01
Salary	30	0.68	0.69	0.69
Finished Goods	15	2.27	2.59	2.91
Receivables	15	2.47	2.88	3.29
Total		**7.33**	**8.38**	**9.44**
Working capital margin in Year 1 (40%)	**2.93**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**10.06**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**15.08**
TOTAL	**100%**	**25.14**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Nos./ annum)	2000000	2000000	2000000	2000000	2000000	2000000	2000000
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/ annum at capacity utilisation	**1200000**	**1400000**	**1600000**	**1600000**	**1600000**	**1600000**	**1600000**
Price of Bricks (Rs/Piece)	5	5	5	5	5	5	5
Total income/ annum	**60.00**	**70.00**	**80.00**	**80.00**	**80.00**	**80.00**	**80.00**
B. OPERATING EXPENSES							
Raw materials	46.32	54.04	61.76	61.76	61.76	61.76	61.76
Power & fuel	0.10	0.12	0.14	0.14	0.14	0.14	0.14
Salary	8.30	8.34	8.38	8.43	8.47	8.51	8.55
Repair &	0.33	0.33	0.34	0.35	0.36	0.36	0.37
Other Expenses	0.18	0.21	0.24	0.24	0.24	0.24	0.24
Total Operating Expenses	**55.23**	**63.04**	**70.86**	**70.91**	**70.96**	**71.01**	**71.06**
Operating profit	**4.77**	**6.96**	**9.14**	**9.09**	**9.04**	**8.99**	**8.94**
C. FINANCIAL EXPENSES							
Depreciation	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Interest on Term Loan	1.21	1.11	0.91	0.71	0.51	0.31	0.11
Interest on Working Capital Loan	0.35	0.40	0.45	0.45	0.45	0.45	0.45
Net Profit	**2.64**	**4.91**	**7.30**	**7.45**	**7.60**	**7.76**	**7.91**
Net cash accruals	**3.56**	**5.84**	**8.23**	**8.38**	**8.53**	**8.68**	**8.83**
Principal Repayment	0.00	2.51	2.51	2.51	2.51	2.51	2.51

6.1 Production capacity: Total production of bricks at 100% capacity utilization is estimated as below.

No. of bricks/annum	2000000 Nos.
Total production per annum at 100% capacity (Nos)	**2000000 Nos.**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Qty Reqd	Price per truck (10 Ton Load)	Amount (Rs.)
Clay Soil @ 3.5 Ton per 1000 bricks	7000 Tons	4000	2800000
Coal for burning @150 Kg per 1000 bricks	300 Tons	150000	4500000
Firewood @ 70 Kg per 1000 bricks	140 Tons	30000	420000
Expenses on raw material at 100% capacity (Rs)			7720000

6.3 Power & fuel: Total expenses on power & fuel at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery	--	0.00	0.00
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			1.00

No. of hrs/day	8
Nos. of days/annum	175
Annual power requirement (kwh)	1400
Rate per unit (Rs)	3.50
Expenses on power (Rs)	4900
Estimate of Utility	
Expenses on other Utility (Rs)	12000
Expenses on power & Utility at 100% capacity (Rs)	**16900**

6.4 Salary: Total 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	1	10000	120000
Kiln Operator	2	5000	120000
Skilled workers	5	4000	240000
Unskilled workers (On contract for 7 months)	50	1000	350000
Expenses on salary in the 1st year (Rs)			**830000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	6.33	1.00%	0.06
Plant & Machinery	12.7	2.00%	0.25
Misc. Fixed assets	0.72	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.33**

6.6 Other Expenses: Other expenses have been assumed at 0.3% of sales realisation.

6.7 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)
Building & civil works	6.33	3.34%	0.21
Plant & Machinery	12.70	5.28%	0.67
Misc. Fixed assets	0.72	6.33%	0.05
TOTAL			**0.93**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	15.08	15.08	12.57	10.06	7.54	5.03	2.51
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest (8%)	0.10	0.10	0.08	0.07	0.05	0.03	0.02
	Closing balance	**15.08**	**14.87**	**12.36**	**9.85**	**7.33**	**4.82**	**2.30**
Month 2	Opening balance	15.08	14.87	12.36	9.85	7.33	4.82	2.30
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.10	0.08	0.07	0.05	0.03	0.02
	Closing balance	**15.08**	**14.66**	**12.15**	**9.64**	**7.12**	**4.61**	**2.09**
Month 3	Opening balance	15.08	14.66	12.15	9.64	7.12	4.61	2.09
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.10	0.08	0.06	0.05	0.03	0.01
	Closing balance	**15.08**	**14.46**	**11.94**	**9.43**	**6.91**	**4.40**	**1.89**
Month 4	Opening balance	15.08	14.46	11.94	9.43	6.91	4.40	1.89
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.10	0.08	0.06	0.05	0.03	0.01
	Closing balance	**15.08**	**14.25**	**11.73**	**9.22**	**6.70**	**4.19**	**1.68**
Month 5	Opening balance	15.08	14.25	11.73	9.22	6.70	4.19	1.68
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.09	0.08	0.06	0.04	0.03	0.01
	Closing balance	**15.08**	**14.04**	**11.52**	**9.01**	**6.49**	**3.98**	**1.47**
Month 6	Opening balance	15.08	14.04	11.52	9.01	6.49	3.98	1.47
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.09	0.08	0.06	0.04	0.03	0.01
	Closing balance	**15.08**	**13.83**	**11.31**	**8.80**	**6.28**	**3.77**	**1.26**
Month 7	Opening balance	15.08	13.83	11.31	8.80	6.28	3.77	1.26
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.09	0.08	0.06	0.04	0.03	0.01
	Closing balance	**15.08**	**13.62**	**11.10**	**8.59**	**6.08**	**3.56**	**1.05**
Month 8	Opening balance	15.08	13.62	11.10	8.59	6.08	3.56	1.05
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.09	0.07	0.06	0.04	0.02	0.01
	Closing balance	**15.08**	**13.41**	**10.89**	**8.38**	**5.87**	**3.35**	**0.84**
Month 9	Opening balance	15.08	13.41	10.89	8.38	5.87	3.35	0.84
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.09	0.07	0.06	0.04	0.02	0.01
	Closing balance	**15.08**	**13.20**	**10.68**	**8.17**	**5.66**	**3.14**	**0.63**
Month 10	Opening balance	15.08	13.20	10.68	8.17	5.66	3.14	0.63

	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.09	0.07	0.05	0.04	0.02	0.00
	Closing balance	**15.08**	**12.99**	**10.47**	**7.96**	**5.45**	**2.93**	**0.42**
Month 11	Opening balance	15.08	12.99	10.47	7.96	5.45	2.93	0.42
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.09	0.07	0.05	0.04	0.02	0.00
	Closing balance	**15.08**	**12.78**	**10.27**	**7.75**	**5.24**	**2.72**	**0.21**
Month 12	Opening balance	15.08	12.78	10.27	7.75	5.24	2.72	0.21
	Repayment	0.00	0.21	0.21	0.21	0.21	0.21	0.21
	Interest	0.10	0.09	0.07	0.05	0.03	0.02	0.00
	Closing balance	**15.08**	**12.57**	**10.06**	**7.54**	**5.03**	**2.51**	**0.00**
Principal Repayment		**0.00**	**2.51**	**2.51**	**2.51**	**2.51**	**2.51**	**2.51**
Interest		**1.21**	**1.11**	**0.91**	**0.71**	**0.51**	**0.31**	**0.11**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	2.64	4.91	7.30	7.45	7.60	7.76	7.91
Depreciation	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Interest	1.21	1.11	0.91	0.71	0.51	0.31	0.11
Total	**4.77**	**6.96**	**9.14**	**9.09**	**9.04**	**8.99**	**8.94**
Interest	1.21	1.11	0.91	0.71	0.51	0.31	0.11
Loan repayment	0.00	2.51	2.51	2.51	2.51	2.51	2.51
Total	**1.21**	**3.63**	**3.43**	**3.23**	**3.03**	**2.82**	**2.62**
DSCR	**3.95**	**1.92**	**2.67**	**2.82**	**2.99**	**3.18**	**3.41**

Average DSCR = 2.85

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**60.00**	**70.00**	**80.00**
B. Variable cost			
Raw materials	46.32	54.04	61.76
Power & utility	0.10	0.12	0.14
Other expenses	0.18	0.21	0.24
Interest on Working Capital Loan	0.35	0.40	0.45
Total variable cost	**46.95**	**54.77**	**62.59**
C. Contribution (A-B)	**13.05**	**15.23**	**17.41**
D. Fixed & Semi-fixed Costs			
Salary	8.30	8.34	8.38
Repair & maintenance	0.33	0.33	0.34
Interest on Term Loan	1.21	1.11	0.91
Depreciation	0.93	0.93	0.93
Total fixed cost	**10.76**	**10.72**	**10.56**
E. BREAK EVEN POINT	**82.49%**	**70.38%**	**60.68%**
F. BEP at operating capacity	**49.49%**	**49.26%**	**48.54%**
G. Cash BEP	**45.23%**	**45.00%**	**44.28%**

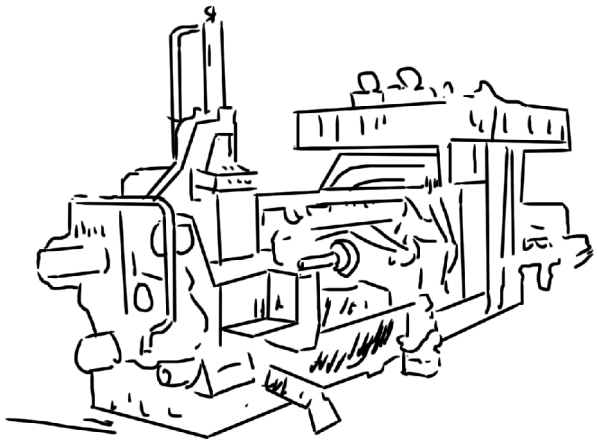
9.0 INTERNAL RATE OF RETURN (IRR) **(Rs. in lacs)**

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	20.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	7.33	1.05	1.05	0.00	0.00	0.00	0.00
Total (A)	**20.33**	**7.33**	**1.05**	**1.05**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		2.64	4.91	7.30	7.45	7.60	7.76	7.91
Add: Depreciation		0.93	0.93	0.93	0.93	0.93	0.93	0.93
Add: Interest		1.21	1.11	0.91	0.71	0.51	0.31	0.11
Add: Salvage Value								
Total (B)	**0.00**	**4.77**	**6.96**	**9.14**	**9.09**	**9.04**	**8.99**	**8.94**
NET FLOW (B-A)	**-20.33**	**-2.56**	**5.90**	**8.09**	**9.09**	**9.04**	**8.99**	**8.94**

IRR = 25%

Sl. No.	Name of the Equipment Suppliers	Communication Address
1.	M/s B B Engineering Works	166/22, B. T. Road, Kolkata, West Bengal, Pin – 700 008.
2.	M/s Flowmech Engineers Private Ltd.	C - 196/2, 2nd Floor, Mayapuri Industrial Area, Phase - 2, New Delhi - 110 064
3.	M/s Micro Engineering Works	No. 6 / 140, Gandhi Nagar, Nallampalayam Road, Nanjai Gounden, Pudur, G. N. Mills Post, Coimbatore, Tamil Nadu , Pin – 641029.

SEMI MECHANISED BRICK PLANT



1.0 INTRODUCTION

The normal brick industry is as majority of the units still employ age-old hand-moulding, sun-drying, moving or fixed chimney kiln burning methods. The industry can not operate year-round and provide steady employment. With the help of semi-mechanised brick plant the production cycle of the brick industries increases and the employment can be generated for longer period as 8 to 11 months, which in normal brick field is from 5 to 7 months only. Mechanization of the brick industry makes it more reliable, year-round stable employment with better quality. Semi Mechanised Building Bricks are made out of mixture of tank clay and lean clay. Semi-mechanised brick field have following advantages;

- Uniform mixing of soil and mixtures
- Sharp corners and smooth shape
- Uniform quality of bricks
- Uniform size of bricks
- Stronger and superior in quality

This project profile is for setting up of a semi-mechanised brick field unit with installed processing capacity of 30 lacs nos of bricks, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

In spite of many brick firms, there is still growing demand for bricks in the region primarily due to several on-going large infrastructure projects (like hospitals, commercial complex, Schools, colleges, Govt. office buildings, other civil constructions, etc.) and moreover there is a significant growth in the domestic housing segment. As per the market information obtained, there are advance bookings of 1 - 2 months of which is clear indication of demand –supply gap and there is still scope for brick firms to meet the growing demands.

3.0 PROCESS DETAILS

The production process comprises of the following different process.

Clay Preparation: Preparation consists of transforming the clay rock into plastic mouldable material by a process of grinding and mixing with water

Extrusion: The clay body is mixed to a fairly stiff texture and is then loaded into an extruder where a worm screw pushes it along a barrel into a vacuum chamber which compresses it through a taper and out through a die. The die is mechanised to a precise size and shape larger than the finished size of the brick. The clay emerges as a continuous brick shaped column. The clay column is then cut into single bricks and palletised ready for the dryers or in some factories, are loaded directly onto kiln cars.

Drying: Before the bricks can be fired, as much moisture as possible must be removed or they will explode in the kilns. During drying the brick will shrink as the clay particles come together and they become strong enough to be stacked, but at this stage they have no weather resistant qualities.

Firing: Firing temperatures vary considerably between different clay types and are often quite critical. During firing, bricks undergo a physical change. Clay particles and impurities are fused together to produce a hard durable and weather resistant product. This is usually accompanied by further shrinkage and a colour change. Temperatures vary greatly depending on clay type but are generally in the range of 900 – 1200 degrees centigrade.

Cooling: Cold air is drawn into the kiln to cool the bricks slowly ready for sorting and packing. This air becomes hot and can be drawn off and recycled for use in the drying process.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & site development	**Own Land/On Lease**
Building & civil works	**4.13**
Plant & Machinery	**24.11**
Misc. Fixed assets	**10.56**
Preliminary & pre-operative expenses	**2.44**
Contingencies & escalation @ 3%	**1.16**
Working capital	**4.33**
TOTAL	**46.73**

4.1 Land & Site Development:

Total Land: 4 Acres; Covered Area: 1,500 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Machinery cum Office Shed	1000	275	275000
Material Storage	500	200	100000
		Sub total	**375000**
Add: Electrification, water supply and sanitation @ 10%			37500
		TOTAL	**412500**
		Say (Rs. in lacs)	**4.13**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
High Drought Kiln with accessories	1	1200000	1200000
Wheel Barrows	15	4000	60000
Extrusion Brick Making Machine	1	789000	789000
Miscellaneous Equipment	LS	--	75000
		Sub total	**2124000**
Add: Installation, transportation, etc @ 10%			212400
		TOTAL	**2411400**
		Say (Rs. in lacs)	**24.11**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Transformer	1	450000	450000
DG Set	1	375000	375000
Water Pump Set	1	25000	25000
Drying Fans	100	850	85000
Office Furniture's	LS	--	5000
Miscellaneous items	LS	--	20000
		Sub total	**960000**
Add: Installation, transportation, etc @ 10%			96000
		TOTAL	**1056000**
		Say (Rs. in lacs)	**10.56**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	50000
Interest during implementation	134076
Miscellaneous expenses	50000
TOTAL	244076
Say (Rs. in lacs)	**2.44**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	2.86	3.33	3.81
Power & utility	30	0.23	0.27	0.31
Salary	30	0.68	0.69	0.69
Finished Goods	15	3.35	3.85	4.35
Receivables	15	3.70	4.32	4.93
Total		**10.82**	**12.45**	**14.09**
Working capital margin in Year 1 (40%)	**4.33**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**18.69**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**28.04**
TOTAL	**100%**	**46.73**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Nos./annum)	3000000	3000000	3000000	3000000	3000000	3000000	3000000
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/ annum at capacity utilisation	**1800000**	**2100000**	**2400000**	**2400000**	**2400000**	**2400000**	**2400000**
Price of Bricks (Rs/Piece)	5	5	5	5	5	5	5
Total income/annum	**90.00**	**105.00**	**120.00**	**120.00**	**120.00**	**120.00**	**120.00**
B. OPERATING EXPENSES							
Raw materials	69.48	81.06	92.64	92.64	92.64	92.64	92.64
Power & utility	2.81	3.28	3.75	3.75	3.75	3.75	3.75

Salary	8.30	8.34	8.38	8.43	8.47	8.51	8.55
Repair & Maintenance	0.68	0.70	0.71	0.72	0.74	0.75	0.77
Other Expenses	0.27	0.32	0.36	0.36	0.36	0.36	0.36
Total Operating Expenses	**81.54**	**93.69**	**105.84**	**105.90**	**105.95**	**106.01**	**106.07**
Operating profit	**8.46**	**11.31**	**14.16**	**14.10**	**14.05**	**13.99**	**13.93**
C. FINANCIAL EXPENSES							
Depreciation	2.08	2.08	2.08	2.08	2.08	2.08	2.08
Interest on Term Loan	2.24	2.07	1.70	1.32	0.95	0.58	0.20
Interest on Working Capital Loan	0.52	0.60	0.68	0.68	0.68	0.68	0.68
Net Profit	**3.62**	**6.56**	**9.71**	**10.02**	**10.34**	**10.66**	**10.98**
Net cash accruals	**5.70**	**8.64**	**11.79**	**12.10**	**12.42**	**12.74**	**13.05**
Principal Repayment	0.00	4.67	4.67	4.67	4.67	4.67	4.67

6.1 Production capacity: Total production of **Bricks** at 100% capacity utilization is estimated as below.

No. of bricks/annum	3000000 Nos.
Total production per annum at 100% capacity (Nos)	**3000000 Nos.**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Qty Reqd	Price per truck (10 Ton Load) (In Rs.)	Amount (Rs.)
Clay Soil @ 3.5 Ton per 1000 bricks	10500 Tons	4000	4200000
Coal for burning @150 Kg per 1000 bricks	450 Tons	150000	6750000
Firewood @ 70 Kg per 1000 bricks	210 Tons	30000	630000
Expenses on raw material at 100% capacity (Rs)			11580000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery	--	44.76	44.76
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			45.76

No. of hrs/day	8
Nos. of days/annum	300
Annual power requirement (kwh)	109824
Rate per unit (Rs)	3.50
Expenses on power (Rs)	384384
Estimate of Utility	
Expenses on Diesel	66000
Expenses on other Utility (Rs)	18000
Expenses on power & Utility at 100% capacity (Rs)	**468384**

6.4 Salary: Total 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	1	9200	110400
Kiln Operator	2	5000	120000
Skilled workers	5	4000	240000
Unskilled workers	10	3000	360000
Expenses on salary in the 1st year (Rs)			**830400**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	4.13	1.00%	0.04
Plant & Machinery	24.11	2.00%	0.48
Misc. Fixed assets	10.56	1.50%	0.16
Expenses on repair & maintenance in year 1			**0.68**

6.6 Other Expenses: Other expenses have been assumed at 0.3% of sales realisation.

6.7 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)
Building & civil works	4.13	3.34%	0.14
Plant & Machinery	24.11	5.28%	1.27
Misc. Fixed assets	10.56	6.33%	0.67
TOTAL			**2.08**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	28.04	28.04	23.36	18.69	14.02	9.35	4.67
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest (8%)	0.19	0.19	0.16	0.12	0.09	0.06	0.03
	Closing balance	**28.04**	**27.65**	**22.97**	**18.30**	**13.63**	**8.96**	**4.28**
Month 2	Opening balance	28.04	27.65	22.97	18.30	13.63	8.96	4.28
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.18	0.15	0.12	0.09	0.06	0.03
	Closing balance	**28.04**	**27.26**	**22.58**	**17.91**	**13.24**	**8.57**	**3.89**
Month 3	Opening balance	28.04	27.26	22.58	17.91	13.24	8.57	3.89
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.18	0.15	0.12	0.09	0.06	0.03
	Closing balance	**28.04**	**26.87**	**22.20**	**17.52**	**12.85**	**8.18**	**3.50**
Month 4	Opening balance	28.04	26.87	22.20	17.52	12.85	8.18	3.50
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39

	Interest	0.19	0.18	0.15	0.12	0.09	0.05	0.02
	Closing balance	**28.04**	**26.48**	**21.81**	**17.13**	**12.46**	**7.79**	**3.12**
Month 5	Opening balance	28.04	26.48	21.81	17.13	12.46	7.79	3.12
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.18	0.15	0.11	0.08	0.05	0.02
	Closing balance	**28.04**	**26.09**	**21.42**	**16.74**	**12.07**	**7.40**	**2.73**
Month 6	Opening balance	28.04	26.09	21.42	16.74	12.07	7.40	2.73
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.17	0.14	0.11	0.08	0.05	0.02
	Closing balance	**28.04**	**25.70**	**21.03**	**16.35**	**11.68**	**7.01**	**2.34**
Month 7	Opening balance	28.04	25.70	21.03	16.35	11.68	7.01	2.34
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.17	0.14	0.11	0.08	0.05	0.02
	Closing balance	**28.04**	**25.31**	**20.64**	**15.97**	**11.29**	**6.62**	**1.95**
Month 8	Opening balance	28.04	25.31	20.64	15.97	11.29	6.62	1.95
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.17	0.14	0.11	0.08	0.04	0.01
	Closing balance	**28.04**	**24.92**	**20.25**	**15.58**	**10.90**	**6.23**	**1.56**
Month 9	Opening balance	28.04	24.92	20.25	15.58	10.90	6.23	1.56
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.17	0.13	0.10	0.07	0.04	0.01
	Closing balance	**28.04**	**24.53**	**19.86**	**15.19**	**10.51**	**5.84**	**1.17**
Month 10	Opening balance	28.04	24.53	19.86	15.19	10.51	5.84	1.17
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.16	0.13	0.10	0.07	0.04	0.01
	Closing balance	**28.04**	**24.14**	**19.47**	**14.80**	**10.12**	**5.45**	**0.78**
Month 11	Opening balance	28.04	24.14	19.47	14.80	10.12	5.45	0.78
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.16	0.13	0.10	0.07	0.04	0.01
	Closing balance	**28.04**	**23.75**	**19.08**	**14.41**	**9.73**	**5.06**	**0.39**
Month 12	Opening balance	28.04	23.75	19.08	14.41	9.73	5.06	0.39
	Repayment	0.00	0.39	0.39	0.39	0.39	0.39	0.39
	Interest	0.19	0.16	0.13	0.10	0.06	0.03	0.00
	Closing balance	**28.04**	**23.36**	**18.69**	**14.02**	**9.35**	**4.67**	**0.00**
Principal Repayment		**0.00**	**4.67**	**4.67**	**4.67**	**4.67**	**4.67**	**4.67**
Interest		**2.24**	**2.07**	**1.70**	**1.32**	**0.95**	**0.58**	**0.20**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	3.61	6.56	9.70	10.02	10.34	10.65	10.97
Depreciation	2.08	2.08	2.08	2.08	2.08	2.08	2.08
Interest	2.24	2.07	1.70	1.32	0.95	0.58	0.20
Total	**7.93**	**10.71**	**13.48**	**13.42**	**13.37**	**13.31**	**13.25**
Interest	2.24	2.07	1.70	1.32	0.95	0.58	0.20
Loan repayment	0.00	4.67	4.67	4.67	4.67	4.67	4.67
Total	**2.24**	**6.74**	**6.37**	**6.00**	**5.62**	**5.25**	**4.88**
DSCR	**3.54**	**1.59**	**2.12**	**2.24**	**2.38**	**2.54**	**2.72**

Average DSCR = 2.30

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**90.00**	**105.00**	**120.00**
B. Variable cost			
Raw materials	69.48	81.06	92.64
Power & utility	2.81	3.28	3.75
Other expenses	0.27	0.32	0.36
Interest on Working Capital Loan	0.52	0.60	0.68
Total variable cost	**73.08**	**85.25**	**97.42**
C. Contribution (A-B)	**16.92**	**19.75**	**22.58**
D. Fixed & Semi-fixed Costs			
Salary	8.30	8.35	8.39
Repair & maintenance	0.68	0.70	0.71
Interest on Term Loan	2.24	2.07	1.70
Depreciation	2.08	2.08	2.08
Total fixed cost	**13.31**	**13.19**	**12.87**
E. BREAK EVEN POINT	**78.65%**	**66.80%**	**57.02%**
F. BEP at operating capacity	**47.19%**	**46.76%**	**45.62%**
G. Cash BEP	**39.82%**	**39.39%**	**38.25%**

9.0 INTERNAL RATE OF RETURN (IRR)

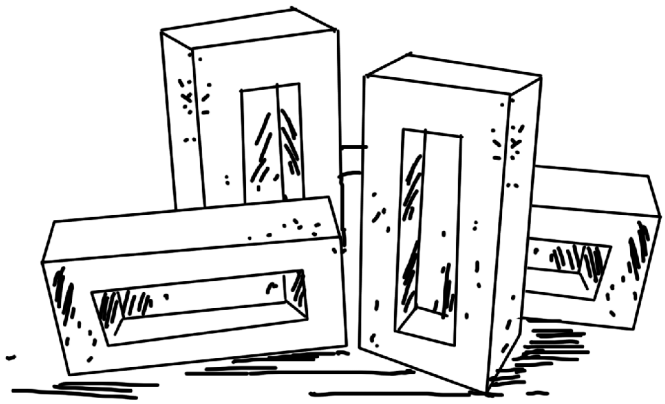
(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	39.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	10.82	1.63	1.63	0.00	0.00	0.00	0.00
Total (A)	**39.96**	**10.82**	**1.63**	**1.63**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		3.61	6.56	9.70	10.02	10.34	10.65	10.97
Add: Depreciation		2.08	2.08	2.08	2.08	2.08	2.08	2.08
Add: Interest		2.24	2.07	1.70	1.32	0.95	0.58	0.20
Add: Salvage Value								
Total (B)	**0.00**	**7.93**	**10.71**	**13.48**	**13.42**	**13.37**	**13.31**	**13.25**
NET FLOW (B-A)	**-39.96**	**-2.88**	**9.07**	**11.85**	**13.42**	**13.37**	**13.31**	**13.25**

IRR = 19%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Bhavesh Secure Technologies Pvt Ltd	D-1, Madani Complex, 100 Feet Road, Gandhipuram, Coimbatore, Tamil Nadu, Pin - 641 012.
2.	M/s Jayem Manufacturing Co.	C - 99, Sector – 4, Noida, U.P.
3.	M/s Off-Tech (India),	203, City Plaza, 564, M. G. Road, Regal Square, Indore.

FLY ASH BRICKS



1.0 INTRODUCTION

Pulverized fuel ash commonly known as fly ash is a useful by-product from thermal power stations using pulverized coal as fuel and has considerable pozzolonic activity. This national resource has been gainfully utilized for manufacture of pulverized fuel ash-lime bricks as a supplement to common burnt clay buildings bricks leading to conservation of natural resources and improvement in environment quality. These bricks are suitable for use in masonary construction just like common burnt clay bricks. Production of pulverized fuel ash-lime bricks has already started in the country and it is expected that this standard would encourage production and use on mass scale.

The fly ash bricks are comparatively lighter in weight and stronger than common clay bricks. Since fly ash is being accumulated as waste material in large quantity near thermal power plants and creating serious environmental pollution problems, its utilisation as main raw material in the manufacture of bricks will not only create ample opportunities for its proper and useful disposal but also help in environmental pollution control to a greater extent in the surrounding areas of power plants. In view of superior quality and eco-friendly nature and government support the demand for Fly Ash Bricks has picked up. The demand of bricks could be met by establishing small units near thermal power stations and to meet the local demand with less transportation costs.

This project profile is for setting up of a fly ash brick field unit with production capacity of 20 Lakhs Fly ash bricks based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

With the rise in population and increase in construction activities considering the improvement in the standard of living the demand for building bricks is increasing day by day. The country consumes about 180 billion tonnes bricks, exhausting approximately 340 billion tonnes of clay every year and about 5000 acres of top soil land is made unfertile for a long period. The Government is seriously concerned over soil erosion for production of massive quantities of bricks, in the background of enormous housing needs. Since 60% of country's electricity comes from coal based power station, the country has a huge stock of fly ash amounting to 60 million tones annually. Despite all the efforts present scenario is not too encouraging as only 5% of country's total ash has been consumed in different sectors. Considering the gravity of the situation of disposal of fly ash, which is hazardous, both the central and State Governments and R&D organizations have been constantly finding out appropriate means for best utilization of fly ash. As the production of building bricks in the state and country, falls far below the market demand due to increase in constructional activities the shortfall is likely to increase manifold. Hence there is a promising market potential for Fly Ash based building bricks, however, the quality and cost have to be maintained at par with the conventional red clay burnt building bricks.

3.0 PROCESS DETAILS

The production process comprises of the following different process.

Fly ash (70%) Lime (10%) Gypsum (5%) and sand(15%)

are manually fed into a pan mixer where water is added to the required proportion for homogeneous mixing. The proportion of raw material may vary depending upon quality of raw materials. After mixing, the mixture are allowed to belt conveyor through feed in to automatic brick making machine where the bricks are pressed automatically. Then the bricks are placed on wooden pallets and kept as it is for two days there after transported to open area where they are water cured for 10 -15 days. The bricks are sorted and tested before dispatch.

Process involves the following stages of operations.

i) Proportioning and mixing of batch materials such as fly ash, lime, calcined gypsum, sand and water.
ii) Preparation of Bricks through moulds/ Shaping of bricks in the press.
iii) Drying of green bricks over wooden pallets.
iv) Curing of the bricks by spraying/sprinkling water for 10 to 15 days.
v) Sorting, inspection and quality control tests prior to sale.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & site development	**Own Land/On Lease**
Building & civil works	**5.23**
Plant & Machinery	**19.25**
Misc. Fixed assets	**0.72**
Preliminary & pre-operative expenses	**2.03**
Contingencies & escalation @ 3%	**0.76**
Working capital	**2.10**
TOTAL	**30.08**

4.1 Land & Site Development: Nil.

Total Land: 2 Acres; Covered Area: 2,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Machinery Shed cum Office	1000	275	275000
Material Storage Shed	1000	200	200000
		Sub total	**475000**
Add: Electrification, water supply and sanitation @ 10%			47500
		TOTAL	**522500**
		Say (Rs. in lacs)	**5.23**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Automatic Fly Ash Brick Making Machine	1	1200000	1200000
Pan Mixer	1	250000	250000
Material Handling and Moulds	1	225000	225000
Belt Conveyor	1	50000	50000
Miscellaneous items	LS	--	25000
		Sub total	**1750000**
Add: Installation, transportation, etc @ 10%			175000
		TOTAL	**1925000**
		Say (Rs. in lacs)	**19.25**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Transformer	1	200000	200000
Fixtures and Fittings	1	40000	40000
Furniture	LS	--	15000
Miscellaneous items	LS	--	10000
		Sub total	**65000**
Add: Installation, transportation, etc @ 10%			6500
		TOTAL	**71500**
		Say (Rs. in lacs)	**0.72**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	44000
Interest during implementation	99330
Miscellaneous expenses	50000
TOTAL	203330
Say (Rs. in lacs)	**2.03**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	1.69	1.97	2.25
Power & Utility	30	0.12	0.14	0.17
Salary	30	0.69	0.69	0.70
Finished Goods	15	1.27	1.43	1.58
Receivables	15	1.48	1.73	1.97
Total		**5.26**	**5.96**	**6.67**
Working capital margin in Year 1 (40%)	**2.10**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**12.03**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**18.05**
TOTAL	**100%**	**30.08**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Nos./ annum)	2000000	2000000	2000000	2000000	2000000	2000000	2000000
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/ annum at capacity	**1200000**	**1400000**	**1600000**	**1600000**	**1600000**	**1600000**	**1600000**
utilisation							
Price of Fly-ash Bricks (Rs/Piece)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total income/ annum	**36.00**	**42.00**	**48.00**	**48.00**	**48.00**	**48.00**	**48.00**
B. OPERATING EXPENSES							
Raw materials	20.53	23.95	27.38	27.38	27.38	27.38	27.38
Power & utility	1.51	1.76	2.01	2.01	2.01	2.01	2.01
Salary	8.40	8.44	8.48	8.53	8.57	8.61	8.66
Repair & Maintenance	0.45	0.46	0.47	0.48	0.48	0.49	0.50
Other Expenses	0.11	0.13	0.14	0.14	0.14	0.14	0.14
Total Operating Expenses	**31.00**	**34.74**	**38.48**	**38.54**	**38.59**	**38.64**	**38.69**
Operating profit	**5.00**	**7.26**	**9.52**	**9.46**	**9.41**	**9.36**	**9.31**
C. FINANCIAL EXPENSES							
Depreciation	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Interest on Term Loan	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Interest on Working Capital Loan	0.25	0.29	0.32	0.32	0.32	0.32	0.32
Net Profit	**2.07**	**4.40**	**6.87**	**7.06**	**7.24**	**7.43**	**7.62**
Net cash accruals	**3.31**	**5.64**	**8.10**	**8.29**	**8.48**	**8.67**	**8.86**
Principal Repayment	0.00	3.01	3.01	3.01	3.01	3.01	3.01

6.1 Production capacity: Total production of **Fly-ash Bricks** at 100% capacity utilization is estimated as below.

No. of Fly-ash Bricks/annum	2000000 Nos.
Total production per annum at 100% capacity (Nos)	**2000000 Nos.**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Qty Reqd	Price per Unit (In Rs.)	Amount (Rs.)
Fly Ash	3000 Ton	9500	2850000
Gypsum	850 Ton	3200	272000
Lime	1200 Ton	2500	300000
Expenses on raw material at 100% capacity (Rs)			3422000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 35)	--	26.11	26.11
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			27.11

No. of hrs/day	8
Nos. of days/annum	300
Annual power requirement (kwh)	65064
Rate per unit (Rs)	3.50
Expenses on power (Rs)	227724
B: Estimate of Utility	
Expenses on other Utility (Rs)	24000
Expenses on power & Utility at 100% capacity (Rs)	**251724**

6.4 Salary: Total 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	1	10000	120000
Kiln Operator	2	5000	120000
Skilled workers	5	4000	240000
Unskilled workers (On contract)	10	3000	360000
Expenses on salary in the 1st year (Rs)			**840000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	5.23	1.00%	0.05
Plant & Machinery	19.25	2.00%	0.39
Misc. Fixed assets	0.72	1.50%	0.01
Expenses on repair & maintenance in year 1			**0.45**

6.6 Other Expenses: Other expenses have been assumed at 0.3% of sales realisation.

6.7 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)
Building & civil works	5.23	3.34%	0.17
Plant & Machinery	19.25	5.28%	1.02
Misc. Fixed assets	0.72	6.33%	0.05
TOTAL			**1.24**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	18.05	18.05	15.04	12.03	9.02	6.02	3.01
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest (8%)	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	**18.05**	**17.80**	**14.79**	**11.78**	**8.77**	**5.77**	**2.76**
Month 2	Opening balance	18.05	17.80	14.79	11.78	8.77	5.77	2.76
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	**18.05**	**17.55**	**14.54**	**11.53**	**8.52**	**5.51**	**2.51**
Month 3	Opening balance	18.05	17.55	14.54	11.53	8.52	5.51	2.51
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	**18.05**	**17.30**	**14.29**	**11.28**	**8.27**	**5.26**	**2.26**
Month 4	Opening balance	18.05	17.30	14.29	11.28	8.27	5.26	2.26
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.12	0.10	0.08	0.06	0.04	0.02
	Closing balance	**18.05**	**17.05**	**14.04**	**11.03**	**8.02**	**5.01**	**2.01**
Month 5	Opening balance	18.05	17.05	14.04	11.03	8.02	5.01	2.01
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**18.05**	**16.80**	**13.79**	**10.78**	**7.77**	**4.76**	**1.75**
Month 6	Opening balance	18.05	16.80	13.79	10.78	7.77	4.76	1.75
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**18.05**	**16.54**	**13.54**	**10.53**	**7.52**	**4.51**	**1.50**
Month 7	Opening balance	18.05	16.54	13.54	10.53	7.52	4.51	1.50
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**18.05**	**16.29**	**13.29**	**10.28**	**7.27**	**4.26**	**1.25**
Month 8	Opening balance	18.05	16.29	13.29	10.28	7.27	4.26	1.25
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**18.05**	**16.04**	**13.04**	**10.03**	**7.02**	**4.01**	**1.00**
Month 9	Opening balance	18.05	16.04	13.04	10.03	7.02	4.01	1.00
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25

	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**18.05**	**15.79**	**12.78**	**9.78**	**6.77**	**3.76**	**0.75**
Month 10	Opening balance	18.05	15.79	12.78	9.78	6.77	3.76	0.75
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	**18.05**	**15.54**	**12.53**	**9.53**	**6.52**	**3.51**	**0.50**
Month 11	Opening balance	18.05	15.54	12.53	9.53	6.52	3.51	0.50
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	**18.05**	**15.29**	**12.28**	**9.28**	**6.27**	**3.26**	**0.25**
Month 12	Opening balance	18.05	15.29	12.28	9.28	6.27	3.26	0.25
	Repayment	0.00	0.25	0.25	0.25	0.25	0.25	0.25
	Interest	0.12	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	**18.05**	**15.04**	**12.03**	**9.02**	**6.02**	**3.01**	**0.00**
Principal Repayment		**0.00**	**3.01**	**3.01**	**3.01**	**3.01**	**3.01**	**3.01**
Interest		**1.44**	**1.33**	**1.09**	**0.85**	**0.61**	**0.37**	**0.13**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	2.07	4.40	6.87	7.06	7.24	7.43	7.62
Depreciation	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Interest	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Total	**4.75**	**6.97**	**9.20**	**9.14**	**9.09**	**9.04**	**8.99**
Interest	1.44	1.33	1.09	0.85	0.61	0.37	0.13
Loan repayment	0.00	3.01	3.01	3.01	3.01	3.01	3.01
Total	**1.44**	**4.34**	**4.10**	**3.86**	**3.62**	**3.38**	**3.14**
DSCR	**3.29**	**1.61**	**2.24**	**2.37**	**2.51**	**2.68**	**2.86**

Average DSCR = 2.39

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**36.00**	**42.00**	**48.00**
B. Variable cost			
Raw materials	20.53	23.95	27.38
Power & utility	1.51	1.76	2.01
Other expenses	0.11	0.13	0.14
Interest on Working Capital Loan	0.25	0.29	0.32
Total variable cost	**22.40**	**26.13**	**29.85**
C. Contribution (A-B)	**13.60**	**15.87**	**18.15**
D. Fixed & Semi-fixed Costs			
Salary	8.40	8.44	8.48
Repair & maintenance	0.45	0.46	0.47
Interest on Term Loan	1.44	1.33	1.09
Depreciation	1.24	1.24	1.24
Total fixed cost	**11.53**	**11.47**	**11.28**
E. BREAK EVEN POINT	**84.78%**	**72.26%**	**62.16%**
F. BEP at operating capacity	**50.87%**	**50.58%**	**49.73%**
G. Cash BEP	**45.41%**	**45.13%**	**44.28%**

9.0 INTERNAL RATE OF RETURN (IRR)

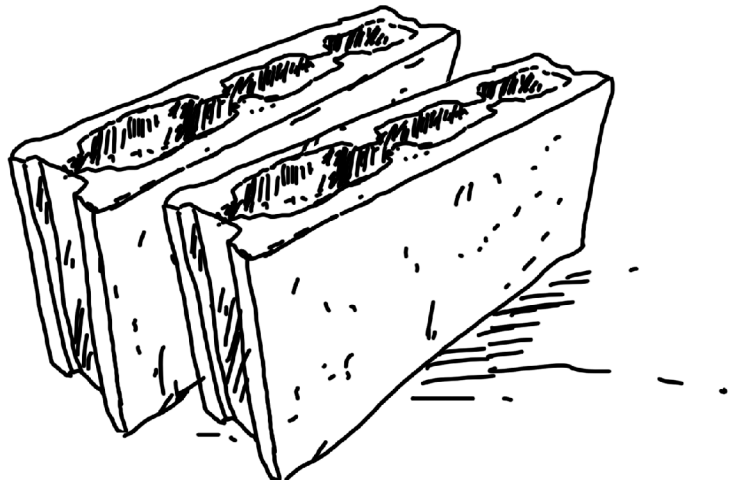
(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	16.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	3.28	0.42	0.42	0.00	0.00	0.00	0.00
Total (A)	**16.38**	**3.28**	**0.42**	**0.42**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		0.05	1.49	3.02	3.14	3.26	3.38	3.49
Add: Depreciation		0.73	0.73	0.73	0.73	0.73	0.73	0.73
Add: Interest		0.93	0.86	0.70	0.55	0.39	0.24	0.08
Add: Salvage Value								
Total (B)	**0.00**	**1.71**	**3.09**	**4.46**	**4.42**	**4.39**	**4.35**	**4.31**
NET FLOW (B-A)	**-16.38**	**-1.57**	**2.67**	**4.05**	**4.42**	**4.39**	**4.35**	**4.31**

IRR = 16%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Shree Vishwakarma Yantrik Udyog	No. 132- 139, Karni Vihar, Road No. 17, Near Taj Marble, V. K. I. Area, Jaipur - 302013, Rajasthan
2.	M/s Santhosh Engineering Works	No. 20, Koniamman Nagar, Chinthamanipudur, Coimbatore.
3.	M/s Benny Industries	No. 12, Thadagam Road, Near Agarwal School, Somaiyampalayam Post, Coimbatore Pin- 641 108, Tamil Nadu

HOLLOW CONCRETE BLOCK



1.0 INTRODUCTION

Hollow and dense cement concrete blocks known as hollow blocks, have been developed as an alternative to bricks. The products are widely used in construction activity. The hollow blocks are made of cement, stone chips, stone dust and sand are not only cheaper than bricks but have other specialities as well. These blocks have more tensile strength, the walls constructed from these blocks act as thermal insulators because of their hollowness. Cement concrete dense/ hollow bricks and blocks are very popular and are extensively used in building construction throughout the country because of the many advantages such as durability, strength, structural stability, fire resistance, insulation and sound absorption it possess. The cement concrete blocks have an attractive appearance and are readily adaptable to any style of architecture. It lends itself to a wide variety of surface finishes for both exterior and interior walls.

This project profile is for setting up of a Hollow concrete block with installed production capacity of 6.00 Lakhs concrete block/bricks of size per annum, based on 300 working days per annum and 8 working hours per day. Cement concrete hollow blocks are usually of the following three dimensions:

(a) 100X200X400 mm,
(b) 150X200X400 mm
(c) 200X200X400 mm.

2.0 MARKET POTENTIAL

As the construction activity is growing day by day, there is a good demand for hollow and cement concrete blocks/bricks. These blocks find wide applicability and construction cost is largely reduced. The cement concrete dense/hollow bricks and blocks are replacing conventional building bricks gradually due to the inherent properties like strength, size, accuracy and insulation. These are used both for laying load bearing and non- load bearing walls. The cost of blocks is very much reasonable and cheaper compared to the cost of red bricks and quite low, specially, in hilly regions where building bricks cannot be made whereas red bricks have to be procured from distant places thus incurring extra heavy transportation costs. Only in a few regions the good quality clay is available and red brick industry has come up there. But the cement building blocks can be made anywhere. The main raw material for production such as stone metals, sand grit etc. is abundantly available in any state.

3.0 PROCESS DETAILS

The process of manufacture of cement concrete hollow blocks involves the following 5 stages;

(I) Proportioning
(II) Mixing
(III) Compacting
(IV) Curing
(V) Drying

(I) Proportioning: The determination of suitable amounts of raw materials needed to produce concrete of desired quality under given conditions of mixing, placing and curing is known as proportioning. As per Indian Standard specifications, the combined aggregate content in the concrete mix used for making hollow blocks should not be more than 6 parts to 1 part by volume of Portland cement. If this ratio is taken in terms of weight basis this may average approximately at 1:7 (cement : aggregate).

However, there have been instances of employing a lean mix of as high as 1:9 by manufacturers where hollow blocks are compacted by power operated vibrating machines. The water cement ratio of 0.62 by weight basis can be used for concrete hollow blocks.

(II) Mixing: The objective of thorough mixing of aggregates, cement and water is to ensure that the cement-water paste completely covers the surface of the aggregates. All the raw materials including water are collected in a concrete mixer, which is rotated for about 1 ½ minutes. The prepared mix is discharged from the mixer and consumed within 30 minutes.

(III) Compacting: The purpose of compacting is to fill all air pockets with concrete as a whole without movement of free water through the concrete. Excessive compaction would result in formation of water pockets or layers with higher water content and poor quality of the product. Semi-automatic vibrating table type machines are widely used for making cement concrete hollow blocks. The machine consists of an automatic vibrating unit, a lever operated up and down metallic mould box and a stripper head contained in a frame work.

Wooden pallet is kept on the vibrating platform of the machine. The mould box is lowered on to the pallet. Concrete mix is poured into the mould and evenly levelled. The motorised vibrating causes the concrete to settle down the mould by approximately 1 ½ to 1 ¾ inches. More of concrete is then raked across the mould level. The stripper head is placed over the mould to bear on the levelled material. Vibration causes the concrete come down to its limit position. Then the mould box is lifted by the lever. The moulded hollow blocks resting on the pallet is removed and a new pallet is placed and the process repeated. The machine can accommodate interchangeable mould for producing blocks of different sizes of hollow or solid blocks.

(IV) Curing: Hollow blocks removed from the mould are protected until they are sufficiently hardened to permit handling without damage. This may take about 24 hours in a shelter away from sun and winds. The hollow blocks thus hardened are cured in a curing yard to permit complete moisturisation for at least 21 days. When the hollow blocks are cured by immersing them in a water tank, water should be changed atleast every four days. The greatest strength benefits occur during the first three days and valuable effects are secured up to 10 or 14 days. The longer the curing time permitted the better the product.

(V) Drying: Concrete shrinks slightly with loss of moisture. It is therefore essential that after curing is over, the blocks should be allowed to dry out gradually in shade so that the initial drying shrinkage of the blocks is completed before they are used in the construction work. Hollow blocks are stacked with their cavities horizontal to facilitate thorough passage of air. Generally a period of 7 to 15 days of drying will bring the blocks to the desired degree of dryness to complete their initial shrinkage. After this the blocks are ready for use in construction work.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & site development	**Own Land/On Lease**
Building & civil works	**6.60**
Plant & Machinery	**7.10**
Misc. Fixed assets	**2.20**
Preliminary & pre-operative expenses	**1.69**
Contingencies & escalation @ 3%	**0.48**
Working capital	**1.31**
TOTAL	**19.38**

4.1 Land & Site Development: Nil.

Total Land: 4 Acres; Covered Area: 2,000 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Machinery Shed, Storing Shed cum Office	2000	275	550000
		Sub total	**550000**
Add: Electrification, water supply and sanitation @ 20%			110000
		TOTAL	**660000**
		Say (Rs. in lacs)	**6.60**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Concrete Block Making Machine with all accessories	1	275000	275000
Concrete Mixer	1	200000	200000
Block Moulds	4	25000	100000
Tipping Barrows	LS	--	20000
Miscellaneous items	LS	--	50000
		Sub total	**645000**
Add: Installation, transportation, etc @ 10%			64500
		TOTAL	**709500**
		Say (Rs. in lacs)	**7.10**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Transformer and Fittings	1	175000	175000
Furniture	LS	--	15000
Miscellaneous items	LS	--	10000
		Sub total	**200000**
Add: Installation, transportation, etc @ 10%			20000
		TOTAL	**220000**
		Say (Rs. in lacs)	**2.20**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	50000
Interest during implementation	59180
Miscellaneous expenses	50000
TOTAL	169180
Say (Rs. in lacs)	**1.69**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	1.00	1.17	1.33
Power & Utility	30	0.05	0.06	0.07
Salary	30	0.53	0.54	0.54
Finished Goods	15	0.81	0.90	0.99
Receivables	15	0.89	1.04	1.18
Total		**3.28**	**3.70**	**4.12**
Working capital margin in Year 1 (40%)	**1.31**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**7.75**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**11.63**
TOTAL	**100%**	**19.38**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Nos./ annum)	600000	600000	600000	600000	600000	600000	600000
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/annum at capacity utilisation	**360000**	**420000**	**480000**	**480000**	**480000**	**480000**	**480000**
Price of Bricks (Rs/Piece)	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Total income/annum	**21.60**	**25.20**	**28.80**	**28.80**	**28.80**	**28.80**	**28.80**
B. OPERATING EXPENSES							
Raw materials	12.18	14.21	16.24	16.24	16.24	16.24	16.24
Power & utility	0.61	0.71	0.82	0.82	0.82	0.82	0.82
Salary	6.48	6.51	6.54	6.58	6.61	6.64	6.68
Repair & Maintenance	0.24	0.25	0.25	0.26	0.26	0.27	0.27
Other Expenses	0.22	0.25	0.29	0.29	0.29	0.29	0.29
Total Operating Expenses	**19.73**	**21.93**	**24.14**	**24.18**	**24.22**	**24.25**	**24.29**
Operating profit	**1.87**	**3.27**	**4.66**	**4.62**	**4.58**	**4.55**	**4.51**
C. FINANCIAL EXPENSES							
Depreciation	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Interest on Term Loan	0.93	0.86	0.70	0.55	0.39	0.24	0.08
Interest on Working Capital Loan	0.16	0.18	0.20	0.20	0.20	0.20	0.20
Net Profit	**0.05**	**1.49**	**3.02**	**3.14**	**3.26**	**3.38**	**3.49**
Net cash accruals	**0.78**	**2.23**	**3.76**	**3.88**	**3.99**	**4.11**	**4.23**
Principal Repayment	0.00	1.94	1.94	1.94	1.94	1.94	1.94

6.1 Production capacity: Total production of **Concrete Blocks/Bricks** at 100% capacity utilization is estimated as below.

No. of Concrete Blocks/annum	600000 Nos.
Total production per annum at 100% capacity	**600000 Nos.**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Qty	Price Per Unit (Rs.)	Amount (Rs.)
Cement	200 Ton	7000	1400000
Sand	300 C M	600	180000
Stone Chips	600 C M	750	450000
Expenses on raw material at 100% capacity (Rs)			2030000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 20)	--	14.92	14.92
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			15.92

No. of hrs/day	8
Nos. of days/annum	175
Annual power requirement (kwh)	22288
Rate per unit (Rs)	3.50
Expenses on power (Rs)	78008
B: Estimate of Utility	
Expenses on other Utility (Rs)	24000
Expenses on power & Utility at 100% capacity (Rs)	**102008**

6.4 Salary: Total 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	1	10000	120000
Machine Operator	2	5000	120000
Skilled workers	4	4000	192000
Unskilled workers	6	3000	216000
Expenses on salary in the 1st year (Rs)			**648000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	6.60	1.00%	0.07
Plant & Machinery	7.1	2.00%	0.14
Misc. Fixed assets	2.20	1.50%	0.03
Expenses on repair & maintenance in year 1			**0.24**

6.6 Other Expenses: Other expenses have been assumed at 1% of sales realisation.

6.7 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)
Building & civil works	6.60	3.34%	0.22
Plant & Machinery	7.10	5.28%	0.37
Misc. Fixed assets	2.20	6.33%	0.14
TOTAL			**0.73**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	11.63	11.63	9.69	7.75	5.81	3.88	1.94
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest (8%)	0.08	0.08	0.06	0.05	0.04	0.03	0.01
	Closing balance	**11.63**	**11.47**	**9.53**	**7.59**	**5.65**	**3.71**	**1.78**
Month 2	Opening balance	11.63	11.47	9.53	7.59	5.65	3.71	1.78
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.08	0.06	0.05	0.04	0.02	0.01
	Closing balance	**11.63**	**11.31**	**9.37**	**7.43**	**5.49**	**3.55**	**1.62**
Month 3	Opening balance	11.63	11.31	9.37	7.43	5.49	3.55	1.62
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.08	0.06	0.05	0.04	0.02	0.01
	Closing balance	**11.63**	**11.14**	**9.21**	**7.27**	**5.33**	**3.39**	**1.45**
Month 4	Opening balance	11.63	11.14	9.21	7.27	5.33	3.39	1.45
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.05	0.04	0.02	0.01
	Closing balance	**11.63**	**10.98**	**9.04**	**7.11**	**5.17**	**3.23**	**1.29**
Month 5	Opening balance	11.63	10.98	9.04	7.11	5.17	3.23	1.29
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.05	0.03	0.02	0.01
	Closing balance	**11.63**	**10.82**	**8.88**	**6.95**	**5.01**	**3.07**	**1.13**
Month 6	Opening balance	11.63	10.82	8.88	6.95	5.01	3.07	1.13
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.05	0.03	0.02	0.01
	Closing balance	**11.63**	**10.66**	**8.72**	**6.78**	**4.85**	**2.91**	**0.97**
Month 7	Opening balance	11.63	10.66	8.72	6.78	4.85	2.91	0.97
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16

	Interest	0.08	0.07	0.06	0.05	0.03	0.02	0.01
	Closing balance	**11.63**	**10.50**	**8.56**	**6.62**	**4.68**	**2.75**	**0.81**
Month 8	Opening balance	11.63	10.50	8.56	6.62	4.68	2.75	0.81
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.04	0.03	0.02	0.01
	Closing balance	**11.63**	**10.34**	**8.40**	**6.46**	**4.52**	**2.58**	**0.65**
Month 9	Opening balance	11.63	10.34	8.40	6.46	4.52	2.58	0.65
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.04	0.03	0.02	0.00
	Closing balance	**11.63**	**10.18**	**8.24**	**6.30**	**4.36**	**2.42**	**0.48**
Month 10	Opening balance	11.63	10.18	8.24	6.30	4.36	2.42	0.48
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.05	0.04	0.03	0.02	0.00
	Closing balance	**11.63**	**10.01**	**8.08**	**6.14**	**4.20**	**2.26**	**0.32**
Month 11	Opening balance	11.63	10.01	8.08	6.14	4.20	2.26	0.32
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.05	0.04	0.03	0.02	0.00
	Closing balance	**11.63**	**9.85**	**7.91**	**5.98**	**4.04**	**2.10**	**0.16**
Month 12	Opening balance	11.63	9.85	7.91	5.98	4.04	2.10	0.16
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.05	0.04	0.03	0.01	0.00
	Closing balance	**11.63**	**9.69**	**7.75**	**5.81**	**3.88**	**1.94**	**0.00**
Principal Repayment		**0.00**	**1.94**	**1.94**	**1.94**	**1.94**	**1.94**	**1.94**
Interest		**0.93**	**0.86**	**0.70**	**0.55**	**0.39**	**0.24**	**0.08**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	0.05	1.49	3.02	3.14	3.26	3.38	3.49
Depreciation	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Interest	0.93	0.86	0.70	0.55	0.39	0.24	0.08
Total	**1.71**	**3.09**	**4.46**	**4.42**	**4.39**	**4.35**	**4.31**
Interest	0.93	0.86	0.70	0.55	0.39	0.24	0.08
Loan repayment	0.00	1.94	1.94	1.94	1.94	1.94	1.94
Total	**0.93**	**2.80**	**2.64**	**2.49**	**2.33**	**2.18**	**2.02**
DSCR	**1.84**	**1.10**	**1.69**	**1.78**	**1.88**	**2.00**	**2.13**

Average DSCR = 1.84

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**21.60**	**25.20**	**28.80**
B. Variable cost			
Raw materials	12.18	14.21	16.24
Power & fuel	0.61	0.71	0.82
Other expenses	0.22	0.25	0.29
Interest on Working Capital Loan	0.16	0.18	0.20
Total variable cost	**13.17**	**15.35**	**17.54**
C. Contribution (A-B)	**8.43**	**9.85**	**11.26**
D. Fixed & Semi-fixed Costs			
Salary	6.48	6.51	6.54
Repair & maintenance	0.24	0.25	0.25
Interest on Term Loan	0.93	0.86	0.70
Depreciation	0.73	0.73	0.73
Total fixed cost	**8.39**	**8.35**	**8.23**
E. BREAK EVEN POINT	**99.43%**	**84.82%**	**73.14%**
F. BEP at operating capacity	**59.66%**	**59.38%**	**58.51%**
G. Cash BEP	**54.43%**	**54.15%**	**53.29%**

9.0 INTERNAL RATE OF RETURN (IRR)

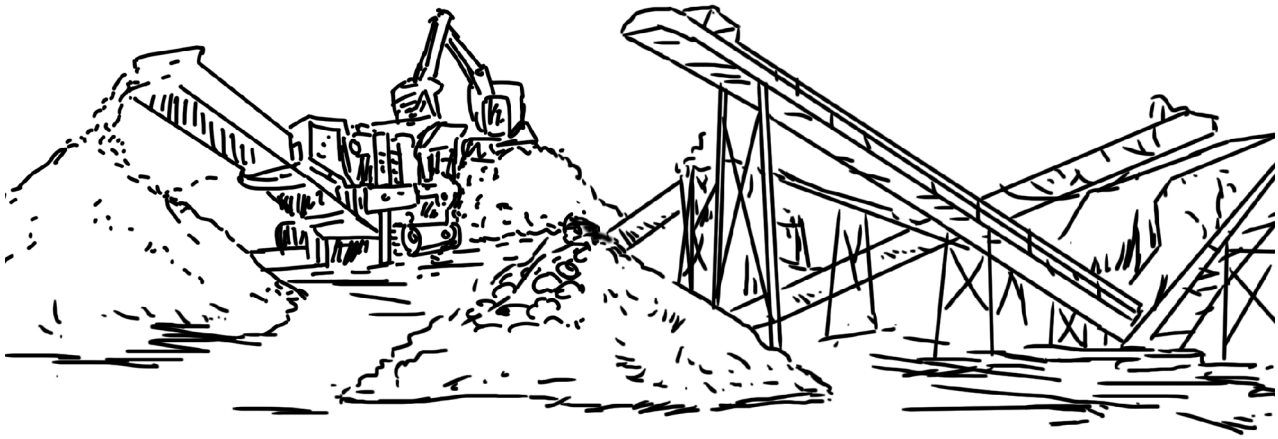
(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	16.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	3.28	0.42	0.42	0.00	0.00	0.00	0.00
Total (A)	**16.38**	**3.28**	**0.42**	**0.42**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		0.05	1.49	3.02	3.14	3.26	3.38	3.49
Add: Depreciation		0.73	0.73	0.73	0.73	0.73	0.73	0.73
Add: Interest		0.93	0.86	0.70	0.55	0.39	0.24	0.08
Add: Salvage Value								
Total (B)	**0.00**	**1.71**	**3.09**	**4.46**	**4.42**	**4.39**	**4.35**	**4.31**
NET FLOW (B-A)	**-16.38**	**-1.57**	**2.67**	**4.05**	**4.42**	**4.39**	**4.35**	**4.31**

IRR = 16%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Shree Vishwakarma Yantrik Udyog	No. 132- 139, Karni Vihar, Road No. 17, Near Taj Marble, V. K. I. Area, Jaipur - 302013, Rajasthan
2.	M/s Santhosh Engineering Works	No. 20, Koniamman Nagar, Chinthamanipudur, Coimbatore.
3.	M/s Benny Industries	No. 12, Thadagam Road, Near Agarwal School, Somaiyampalayam Post, Coimbatore Pin- 641 108, Tamil Nadu

STONE CRUSHER



1.0 INTRODUCTION

Stone crushing industry is an important industrial sector in the country engaged in producing crushed stone which acts as raw material for various construction activities such as the construction of roads, bridges, buildings, canals, etc. The stone crusher is one such industry that exists in the vicinity of almost all major cities/towns throughout the country in all the states because the construction activities go on throughout the country. Crushed stone is segregated into various sizes like 35mm, 20mm, 12mm, etc for different uses. Crushed stone aggregates are used for construction of roads, bridges, housing, industrial building construction and other cement based products like RCC pipes, PSC poles, pre-moulded slabs, frames and beems, etc for fabrication. It is advantageous if the crushed stone unit is set up near the quarries where the boulders of various sizes are available for the crushing unit.

As the transportation of stone over long distances adds on to the cost of the crushed stone products, the crushers need to be necessarily located nearer to the demand centers such as cities, bridges, canals, etc. Stone crusher also needs electricity supply and a large number manpower for its operation. It also needs access roads for the movement of mined stone as well as crushed stone products. It is for these reasons that most stone crusher units are located along the periphery of cities or in the vicinity of major construction projects. In most cases the stone crushers come up in clusters of numbers of units ranging from five to fifty in one cluster. The crushers are located nearer to the source of raw materials such as stone mines, river beds etc.

This project profile is for setting up of a Stone Crusher unit with installed capacity of crushing 15000 MT per annum, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

The demand for stone chips is directly linked with the volume of construction activity. Stone chips termed as “Metal” in construction parlance constitute one of the main construction materials along with bricks, sand, cement and steel. Housing is a basic need of the society. Hence, it is receiving increased focus. All the building constructions whether it is housing or industrial construction activities requires crushed stone. Crushed stone is also required for cement based products like RCC pipes, PSC poles, cement concrete hollow blocks, precast cement concrete slabs, well rings, window & door frames and road lading. The demand for crushed stone will continue to grow with the growth of its user industry. The unit can be set up depending availability of raw material and major commercial centre. In the north-eastern region, where places are widely dispersed and there are communication bottlenecks, availability of construction materials is not adequate at all the places. In many areas, stone chips have to be brought over long distances, resulting in high construction costs. Dispersed stone crushing units are therefore a necessity in all the north-eastern states.

3.0 PROCESS DETAILS

The production process comprises of the following different process.

The Big stone boulders of various sizes are fed into the jaw crushers for size reduction. Depending on the desired output size of the crushed stone, the raw material may be fed to one or two jaw crushers in a sequence. Then these crushed stones are passed on to the rotary screen for size gradation. Material is handled through a belt conveyor to the different places of operation i.e from jaw crusher to the rotary screen.

4.0.COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & Site Development	**Own Land/On Lease**
Building & civil works	**5.48**
Plant & Machinery	**8.39**
Misc. Fixed assets	**2.20**
Preliminary & pre-operative expenses	**1.70**
Contingencies & escalation @ 3%	**0.48**
Working capital	**1.12**
TOTAL	**19.37**

4.1 Land & Site Development: Nil.

Total Land: ½ Acres; Covered Area: 750 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Civil Work for Ramp etc.	LS	LS	250000
Material Store House cum Office	750	275	206250
		Sub total	**456250**
Add: Electrification, water supply and sanitation @ 20%			91250
		TOTAL	**547500**
		Say (Rs. in lacs)	**5.48**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Toggle Jaw Crusher (16X10)	1	250000	250000
Vibratory Screen with complete accessories	8	4000	32000
Belt Conveyor	1	25000	25000
Cyclonic Dust Collector with Motor	1	265000	265000
Tools and equipment	LS	--	100000
		Sub total	**672000**
Add: Installation, transportation, etc @ 10%			67200
		TOTAL	**839200**
		Say (Rs. in lacs)	**8.39**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Transformer	1	175000	175000
Furniture	LS	--	15000
Miscellaneous items	LS	--	10000
		Sub total	**200000**
Add: Installation, transportation, etc @ 10%			20000
		TOTAL	**220000**
		Say (Rs. in lacs)	**2.20**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	50000
Interest during implementation	59868
Miscellaneous expenses	50000
TOTAL	169868
Say (Rs. in lacs)	**1.70**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.47	0.55	0.63
Power & Utility	30	0.07	0.08	0.10
Salary	30	0.51	0.51	0.51
Finished Goods	15	0.82	0.91	1.01
Receivables	15	0.92	1.08	1.23
Total		**2.80**	**3.14**	**3.48**
Working capital margin in Year 1 (40%)	**1.12**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**7.75**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**11.62**
TOTAL	**100%**	**19.37**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
A. INCOME							
Production capacity (Ton/annum)	15000	15000	15000	15000	15000	15000	15000
Capacity utilisation	60%	70%	80%	80%	80%	80%	80%
Production/annum at capacity utilisation	**9000**	**10500**	**12000**	**12000**	**12000**	**12000**	**12000**
Price of Stone Chips(Rs/MT)	250	250	250	250	250	250	250
Total income/annum	**22.50**	**26.25**	**30.00**	**30.00**	**30.00**	**30.00**	**30.00**
B. OPERATING EXPENSES							
Raw materials	11.52	13.44	15.36	15.36	15.36	15.36	15.36
Power & utility	0.87	1.02	1.17	1.17	1.17	1.17	1.17
Salary	6.20	6.23	6.26	6.29	6.32	6.36	6.39

Repair & Maintenance	0.26	0.26	0.27	0.27	0.28	0.28	0.29
Other Expenses	1.13	1.31	1.50	1.50	1.50	1.50	1.50
Total Operating Expenses	**19.97**	**22.26**	**24.55**	**24.59**	**24.63**	**24.66**	**24.70**
Operating profit	**2.53**	**3.99**	**5.45**	**5.41**	**5.37**	**5.34**	**5.30**
C. FINANCIAL EXPENSES							
Depreciation	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Interest on Term Loan	0.93	0.86	0.70	0.55	0.39	0.24	0.08
Interest on Working Capital Loan	0.13	0.15	0.17	0.17	0.17	0.17	0.17
Net Profit	**0.83**	**2.36**	**3.98**	**4.10**	**4.21**	**4.33**	**4.45**
Net cash accruals	**1.60**	**3.13**	**4.74**	**4.86**	**4.98**	**5.10**	**5.21**
Principal Repayment	0.00	1.94	1.94	1.94	1.94	1.94	1.94

6.1 Production capacity: Total production of **Stone Chips** at 100% capacity utilization is estimated as below.

Stone Chips/annum	15000 Tons
Total production per annum at 100% capacity	**15000 Tons**

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Qty	Price per Unit (In Rs.)	Amount (Rs.)
Stone Boulders	16000 Tons	120	1920000
Expenses on raw material at 100% capacity (Rs)			1920000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery (Total HP of 20)	--	14.92	14.92
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			15.92

No. of hrs/day	8
Nos. of days/annum	300
Annual power requirement (kwh)	38208
Rate per unit (Rs)	3.50
Expenses on power (Rs)	133728
B: Estimate of Utility	
Expenses on other Utility (Rs)	12000
Expenses on power & Utility at 100% capacity (Rs)	**145728**

6.4 Salary: Total 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	1	10000	120000
Machine Operator	2	5000	120000
Skilled workers	5	4000	240000
Unskilled workers	8	2500	140000
Expenses on salary in the 1st year (Rs)			**620000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	5.48	1.00%	0.05
Plant & Machinery	8.39	2.00%	0.17
Misc. Fixed assets	2.20	1.50%	0.03
Expenses on repair & maintenance in year 1			**0.26**

6.6 Other Expenses: Other expenses have been assumed at 5% of sales realisation.

6.7 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)
Building & civil works	5.48	3.34%	0.18
Plant & Machinery	8.39	5.28%	0.44
Misc. Fixed assets	2.20	6.33%	0.14
TOTAL			**0.77**

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 7 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)

Month	Year	1	2	3	4	5	6	7
Month 1	Opening balance	11.62	11.62	9.68	7.75	5.81	3.87	1.94
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest (8%)	0.08	0.08	0.06	0.05	0.04	0.03	0.01
	Closing balance	**11.62**	**11.46**	**9.52**	**7.58**	**5.65**	**3.71**	**1.78**
Month 2	Opening balance	11.62	11.46	9.52	7.58	5.65	3.71	1.78
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.08	0.06	0.05	0.04	0.02	0.01
	Closing balance	**11.62**	**11.30**	**9.36**	**7.42**	**5.49**	**3.55**	**1.61**
Month 3	Opening balance	11.62	11.30	9.36	7.42	5.49	3.55	1.61
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.08	0.06	0.05	0.04	0.02	0.01
	Closing balance	**11.62**	**11.14**	**9.20**	**7.26**	**5.33**	**3.39**	**1.45**
Month 4	Opening balance	11.62	11.14	9.20	7.26	5.33	3.39	1.45
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.05	0.04	0.02	0.01

	Closing balance	**11.62**	**10.97**	**9.04**	**7.10**	**5.16**	**3.23**	**1.29**
Month 5	Opening balance	11.62	10.97	9.04	7.10	5.16	3.23	1.29
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.05	0.03	0.02	0.01
	Closing balance	**11.62**	**10.81**	**8.88**	**6.94**	**5.00**	**3.07**	**1.13**
Month 6	Opening balance	11.62	10.81	8.88	6.94	5.00	3.07	1.13
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.05	0.03	0.02	0.01
	Closing balance	**11.62**	**10.65**	**8.71**	**6.78**	**4.84**	**2.90**	**0.97**
Month 7	Opening balance	11.62	10.65	8.71	6.78	4.84	2.90	0.97
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.05	0.03	0.02	0.01
	Closing balance	**11.62**	**10.49**	**8.55**	**6.62**	**4.68**	**2.74**	**0.81**
Month 8	Opening balance	11.62	10.49	8.55	6.62	4.68	2.74	0.81
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.04	0.03	0.02	0.01
	Closing balance	**11.62**	**10.33**	**8.39**	**6.46**	**4.52**	**2.58**	**0.65**
Month 9	Opening balance	11.62	10.33	8.39	6.46	4.52	2.58	0.65
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.06	0.04	0.03	0.02	0.00
	Closing balance	**11.62**	**10.17**	**8.23**	**6.29**	**4.36**	**2.42**	**0.48**
Month 10	Opening balance	11.62	10.17	8.23	6.29	4.36	2.42	0.48
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.05	0.04	0.03	0.02	0.00
	Closing balance	**11.62**	**10.01**	**8.07**	**6.13**	**4.20**	**2.26**	**0.32**
Month 11	Opening balance	11.62	10.01	8.07	6.13	4.20	2.26	0.32
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.05	0.04	0.03	0.02	0.00
	Closing balance	**11.62**	**9.84**	**7.91**	**5.97**	**4.03**	**2.10**	**0.16**
Month 12	Opening balance	11.62	9.84	7.91	5.97	4.03	2.10	0.16
	Repayment	0.00	0.16	0.16	0.16	0.16	0.16	0.16
	Interest	0.08	0.07	0.05	0.04	0.03	0.01	0.00
	Closing balance	**11.62**	**9.68**	**7.75**	**5.81**	**3.87**	**1.94**	**0.00**
Principal Repayment		**0.00**	**1.94**	**1.94**	**1.94**	**1.94**	**1.94**	**1.94**
Interest		**0.93**	**0.86**	**0.70**	**0.55**	**0.39**	**0.24**	**0.08**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5	6	7
Profit After Tax (Net Profit)	0.83	2.36	3.98	4.10	4.21	4.33	4.45
Depreciation	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Interest	0.93	0.86	0.70	0.55	0.39	0.24	0.08
Total	**2.53**	**3.99**	**5.45**	**5.41**	**5.37**	**5.34**	**5.30**
Interest	0.93	0.86	0.70	0.55	0.39	0.24	0.08
Loan repayment	0.00	1.94	1.94	1.94	1.94	1.94	1.94
Total	**0.93**	**2.80**	**2.64**	**2.49**	**2.33**	**2.18**	**2.02**
DSCR	**2.72**	**1.43**	**2.06**	**2.18**	**2.31**	**2.45**	**2.62**

Average DSCR = 2.17

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**22.50**	**26.25**	**30.00**
B. Variable cost			
Raw materials	11.52	13.44	15.36
Power & fuel	0.87	1.02	1.17
Other expenses	1.13	1.31	1.50
Interest on Working Capital Loan	0.13	0.15	0.17
Total variable cost	**13.65**	**15.92**	**18.19**
C. Contribution (A-B)	**8.85**	**10.33**	**11.81**
D. Fixed & Semi-fixed Costs			
Salary	6.20	6.23	6.26
Repair & maintenance	0.26	0.26	0.27
Interest on Term Loan	0.93	0.86	0.70
Depreciation	0.77	0.77	0.77
Total fixed cost	**8.15**	**8.12**	**8.00**
E. BREAK EVEN POINT	**92.13%**	**78.59%**	**67.73%**
F. BEP at operating capacity	**55.28%**	**55.01%**	**54.18%**
G. Cash BEP	**50.09%**	**49.82%**	**49.00%**

9.0 INTERNAL RATE OF RETURN (IRR)

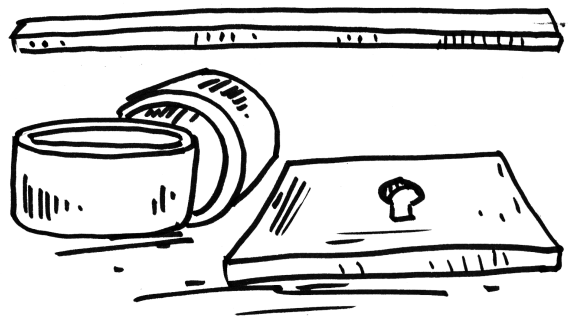
(Rs. in lacs)

Year	0	1	2	3	4	5	6	7
CASH OUTFLOW								
Capital Expenditure	16.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	2.80	0.34	0.34	0.00	0.00	0.00	0.00
Total (A)	**16.55**	**2.80**	**0.34**	**0.34**	**0.00**	**0.00**	**0.00**	**0.00**
CASH INFLOW								
Profit After Tax		0.83	2.36	3.98	4.10	4.21	4.33	4.45
Add: Depreciation		0.77	0.77	0.77	0.77	0.77	0.77	0.77
Add: Interest		0.93	0.86	0.70	0.55	0.39	0.24	0.08
Add: Salvage Value								
Total (B)	**0.00**	**2.53**	**3.99**	**5.45**	**5.41**	**5.37**	**5.34**	**5.30**
NET FLOW (B-A)	**-16.55**	**-0.28**	**3.64**	**5.10**	**5.41**	**5.37**	**5.34**	**5.30**

IRR = 20%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s Heena Engineers	15, Sy No.112/2, 12th Cross, Doddanna Industrial Estate Peenya 2nd Stage, Bangalore, Karnataka
2.	M/s Y.B.C.C. Pvt. Ltd.	F-24, Level-i, Agarwal Chambers, King Koti Road, Hyderabad, Andhra Pradesh
3.	M/s Miester Mining & Agro Industries	M- 48, Ambad M. I. D. C., Nashik, Maharashtra

CONCRETE PRODUCTS (POSTS, KITCHEN SINKS AND WELL RINGS)



1.0 INTRODUCTION

Concrete is considered to be one of the most durable building materials under favourable conditions. There is no substitute for well-compact, dense concrete of adequate strength in order to ensure durable structures with long service life. The concrete product is a kind of artificial rock made by cementing crushed stones or gravel stone together. It has the great advantage that it can be made in whatever shape or size required. Some of the major concrete products include concrete posts, concrete kitchen sinks and concrete rings etc. The concrete posts are used mainly in fencing purposes and for erecting pillars for new constructions. Some posts are also used as electricity, telephone posts. The flower tubs, sanitary toilet plates, are an integral part of most urban homes. In view of its convenience, these items are fast entering rural homes also.

This project profile is for setting up of Concrete Based Products Making Unit, based on 300 working days per annum and 8 working hours per day. The installed production capacity of the unit per annum is as follows;

Well Rings	-	300 Nos.
Kitchen Sinks	-	1500 Nos.
No. of Posts	-	3000 Nos.

2.0 MARKET POTENTIAL

Cement based products are used in construction of houses, schools and other public buildings and also in housing for weaker sections. They are also used by Municipalities for plantation of trees. There are one or two units in every town, but they are required in many development block areas also. A cement concrete can be made as per local requirement. Considering the vast borders of the North-eastern region and regular requirement of posts at Forest department, Electricity department, in Paddy fields, or tea gardens its demand is increasing rapidly. Besides there is demand for concrete sinks or ceramic sinks in every household due to rapid urbanization and awareness of the products. Again there are good numbers of demand for sanitary toilet plates, flower tubs in the rural areas in a large scale. Therefore it does have a vast potential.

3.0 PROCESS DETAILS

All the three materials- Cement, Sand, Stone-chips are mixed in concrete mixture in ratio of 1:3:6 or 1:2:4 depending on the type of construction and required strength. The water, cement ratio is approximately 0.44:1. For reinforcement, wire mesh or rods are placed between successive layers of concrete mix and the size of the material required is 12 mm and below. The mixture is fed into the mould of the hydraulic tempting machine and vibrated for few seconds with intervals to give complete compactness. The blocks are then placed on the floor for 24 hours for initial setting. Then they are cured in water tank for 5-10 days for complete curing.

When making concrete posts or other products the various proportions of various ingredients (i.e. the quantities of different substances in the mixture) should be carefully measured. It is important not to use too much water in the mixing because this will make the concrete weak. To produce concrete products of a good quality there is requirement of highly skilled personnel's. The strength of the concrete products arrives from chemical action between the cement and the water, which produces a hard substance that binds the whole mass of material together. The concrete cemented product must not be allowed to dry during the first weeks after it has been prepared. Warm damp weather is therefore very much suitable for making concrete products.

The process steps are as follows.

1. Preparation of suitable mould depending on product shape and size.

2. Preparation of concrete mixture.

3. Pouring of cement concrete into the moulds and stirring to avoid gaps. Suitable reinforcement is to be provided while pouring cement mixture.

4. Curing the product for 4/5 days. During this period water is to be poured. After opening from moulds water is to put for about a week time.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

(Rs. in lacs)

Particulars	Amount (Rs)
Land & site development	**Own Land/On Lease**
Building & civil works	**1.65**
Plant & Machinery	**1.10**
Misc. Fixed assets	**0.28**
Preliminary & pre-operative expenses	**0.53**
Contingencies & escalation @ 3%	**0.09**
Working capital	**0.46**
TOTAL	**4.10**

4.1 Land & Site Development: Nil.

Total Land: 2000 Sq. Ft.; Covered Area: 500 Sq. Ft.

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Material Store House cum Office	500	275	137500
		Sub total	**137500**
Add: Electrification, water supply and sanitation @ 20%			27500
		TOTAL	**165000**
		Say (Rs. in lacs)	**1.65**

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Moulds	1	25000	25000
Tools and Equipment	LS	--	75000
		Sub total	**100000**
Add: Installation, transportation, etc @ 10%			10000
		TOTAL	**110000**
		Say (Rs. in lacs)	**1.10**

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

Particulars	Qty	Rate (Rs)	Amount (Rs)
Furniture	LS	--	15000
Miscellaneous items	LS	--	10000
		Sub total	**25000**
Add: Installation, transportation, etc @ 10%			2500
		TOTAL	**27500**
		Say (Rs. in lacs)	**0.28**

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	16000
Interest during implementation	11550
Miscellaneous expenses	15000
TOTAL	52550
Say (Rs. in lacs)	**0.53**

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	30	0.28	0.32	0.37
Power & utility	30	0.02	0.02	0.02
Salary	30	0.26	0.26	0.26
Finished Goods	15	0.28	0.31	0.33
Receivables	15	0.31	0.37	0.42
Total		**1.14**	**1.27**	**1.40**
Working capital margin in Year 1 (40%)	**0.46**			

5.0 MEANS OF FINANCE

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

(Rs. in lacs)

Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	**40%**	**1.64**
B. Subsidy from Central/State Govt.	**-**	
DEBT		
Term Loan from Banks/Financial Institutions	**60%**	**2.46**
TOTAL	**100%**	**4.10**

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production capacity (Nos./annum)	4800	4800	4800	4800	4800
Capacity utilisation	60%	70%	80%	80%	80%
Production/annum at capacity utilisation	**2880**	**3360**	**3840**	**3840**	**3840**
Total income/annum	**7.65**	**8.93**	**10.20**	**10.20**	**10.20**
B. OPERATING EXPENSES					
Raw materials	3.35	3.91	4.46	4.46	4.46
Power & Utility	0.19	0.23	0.26	0.26	0.26
Salary	3.12	3.14	3.15	3.17	3.18
Repair & Maintenance	0.04	0.04	0.04	0.05	0.05
Other Expenses	0.15	0.18	0.20	0.20	0.20
Total Operating Expenses	**6.86**	**7.49**	**8.12**	**8.14**	**8.16**
Operating profit	**0.79**	**1.43**	**2.08**	**2.06**	**2.04**

C. FINANCIAL EXPENSES					
Depreciation	0.13	0.13	0.13	0.13	0.13
Interest on Term Loan	0.19	0.15	0.11	0.07	0.02
Interest on Working Capital Loan	0.05	0.06	0.07	0.07	0.07
Net Profit	**0.41**	**1.09**	**1.77**	**1.80**	**1.82**
Net cash accruals	**0.54**	**1.22**	**1.90**	**1.93**	**1.95**
Principal Repayment	0.27	0.55	0.55	0.55	0.55

6.1 Production capacity and Sales Realisation: Total production of Concrete Products at 100% capacity utilization is estimated as below.

Posts	3000 Nos.
Kitchen Sinks	1500 Nos.
Well Rings	300 Nos.
Total production per annum at 100% capacity	**4800 Nos.**

Particulars	Qty	Price Per Unit (In Rs.)	Amount (Rs.)
Posts	3000 Nos.	200	600000
Kitchen Sinks	1500 Nos.	250	375000
Well Rings	300 Nos.	1000	300000
Total Sale Turnover at 100% capacity (Rs)			1275000

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Particulars	Qty Reqd	Price Per Unit (In Rs.)	Amount (Rs.)
Cement	60 Ton	7500	450000
Sand	65 C M	600	39000
Stone Chips	92 C M	750	69000
Iron Strips	7 Ton	3000	21000
Expenses on raw material at 100% capacity (Rs)			558000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & machinery	--	0.00	0.00
General Lighting	10	0.10	1.00
Total power requirement/ day (Kw)			1.00

No. of hrs/day	8
Nos. of days/annum	300
Annual power requirement (kwh)	2400
Rate per unit (Rs)	3.50
Expenses on power (Rs)	8400
Estimate of Utility	
Expenses on other Utility (Rs)	24000
Expenses on power & Utility at 100% capacity (Rs)	**32400**

6.4 Salary: Total 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	1	6000	72000
Skilled workers	2	4000	96000
Unskilled workers	4	3000	144000
Expenses on salary in the 1st year (Rs)			**312000**

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)

Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & civil works	1.65	1.00%	0.02
Plant & Machinery	1.1	2.00%	0.02
Misc. Fixed assets	0.28	1.50%	0.00
Expenses on repair & maintenance in year 1			**0.04**

6.6 Other Expenses: Other expenses have been assumed at 1% of sales realisation.

6.7 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)
Building & civil works	1.65	3.34%	0.06
Plant & Machinery	1.10	5.28%	0.06
Misc. Fixed assets	0.28	6.33%	0.02
TOTAL			**0.13**

6.8 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 6 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	2.46	2.19	1.64	1.09	0.55
	Repayment	0.00	0.05	0.05	0.05	0.05
	Interest (8%)	0.02	0.01	0.01	0.01	0.00
	Closing balance	**2.46**	**2.14**	**1.59**	**1.05**	**0.50**
Month 2	Opening balance	2.46	2.14	1.59	1.05	0.50
	Repayment	0.00	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.01	0.00
	Closing balance	**2.46**	**2.09**	**1.55**	**1.00**	**0.46**
Month 3	Opening balance	2.46	2.09	1.55	1.00	0.46
	Repayment	0.00	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.01	0.00
	Closing balance	**2.46**	**2.05**	**1.50**	**0.96**	**0.41**
Month 4	Opening balance	2.46	2.05	1.50	0.96	0.41
	Repayment	0.00	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.01	0.00

	Closing balance	**2.46**	**2.00**	**1.46**	**0.91**	**0.36**
Month 5	Opening balance	2.46	2.00	1.46	0.91	0.36
	Repayment	0.00	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.01	0.00
	Closing balance	**2.46**	**1.96**	**1.41**	**0.87**	**0.32**
Month 6	Opening balance	2.46	1.96	1.41	0.87	0.32
	Repayment	0.00	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.01	0.00
	Closing balance	**2.46**	**1.91**	**1.37**	**0.82**	**0.27**
Month 7	Opening balance	2.46	1.91	1.37	0.82	0.27
	Repayment	0.05	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.01	0.00
	Closing balance	**2.41**	**1.87**	**1.32**	**0.77**	**0.23**
Month 8	Opening balance	2.41	1.87	1.32	0.77	0.23
	Repayment	0.05	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.01	0.00
	Closing balance	**2.37**	**1.82**	**1.28**	**0.73**	**0.18**
Month 9	Opening balance	2.37	1.82	1.28	0.73	0.18
	Repayment	0.05	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.00	0.00
	Closing balance	**2.32**	**1.78**	**1.23**	**0.68**	**0.14**
Month 10	Opening balance	2.32	1.78	1.23	0.68	0.14
	Repayment	0.05	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.00	0.00
	Closing balance	**2.28**	**1.73**	**1.18**	**0.64**	**0.09**
Month 11	Opening balance	2.28	1.73	1.18	0.64	0.09
	Repayment	0.05	0.05	0.05	0.05	0.05
	Interest	0.02	0.01	0.01	0.00	0.00
	Closing balance	**2.23**	**1.69**	**1.14**	**0.59**	**0.05**
Month 12	Opening balance	2.23	1.69	1.14	0.59	0.05
	Repayment	0.05	0.05	0.05	0.05	0.05
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	**2.19**	**1.64**	**1.09**	**0.55**	**0.00**
Principal Repayment		**0.27**	**0.55**	**0.55**	**0.55**	**0.55**
Interest		**0.19**	**0.15**	**0.11**	**0.07**	**0.02**

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5
Profit After Tax (Net Profit)	0.41	1.09	1.77	1.80	1.82
Depreciation	0.13	0.13	0.13	0.13	0.13
Interest	0.19	0.15	0.11	0.07	0.02
Total	**0.74**	**1.37**	**2.01**	**1.99**	**1.98**
Interest	0.19	0.15	0.11	0.07	0.02
Loan repayment	0.27	0.55	0.55	0.55	0.55
Total	**0.47**	**0.70**	**0.66**	**0.61**	**0.57**
DSCR	**1.58**	**1.96**	**3.06**	**3.25**	**3.47**

Average DSCR = 2.69

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	**7.65**	**8.93**	**10.20**
B. Variable cost			
Raw materials	3.35	3.91	4.46
Power & Utility	0.19	0.23	0.26
Other expenses	0.15	0.18	0.20
Interest on Working Capital Loan	0.05	0.06	0.07
Total variable cost	**3.75**	**4.37**	**4.99**
C. Contribution (A-B)	**3.90**	**4.55**	**5.21**
D. Fixed & Semi-fixed Costs			
Salary	3.12	3.14	3.15
Repair & maintenance	0.04	0.04	0.04
Interest on Term Loan	0.19	0.15	0.11
Depreciation	0.13	0.13	0.13
Total fixed cost	**3.49**	**3.46**	**3.44**
E. BREAK EVEN POINT	**89.38%**	**76.10%**	**66.03%**
F. BEP at operating capacity	**53.63%**	**53.27%**	**52.83%**
G. Cash BEP	**51.62%**	**51.26%**	**50.82%**

9.0 INTERNAL RATE OF RETURN (IRR)

(Rs. in lacs)

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	3.12	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	1.14	0.13	0.13	0.00	0.00
Total (A)	**3.12**	**1.14**	**0.13**	**0.13**	**0.00**	**0.00**
CASH INFLOW						
Profit After Tax		0.41	1.09	1.77	1.80	1.82
Add: Depreciation		0.13	0.13	0.13	0.13	0.13
Add: Interest		0.19	0.15	0.11	0.07	0.02
Add: Salvage Value						
Total (B)	**0.00**	**0.74**	**1.37**	**2.01**	**1.99**	**1.98**
NET FLOW (B-A)	**-3.12**	**-0.41**	**1.25**	**1.88**	**1.99**	**1.98**

IRR = 35%

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M B Unit Complex, Rajbari,
Dharmanagar, North Tripura-799250
Mob: 096121-55421

Dimapur
2nd Floor, 'Kuknalim', Circular Road,
Dimapur-797112, Nagaland
Telefax: 03862- 235030

Gangtok
Near Super Market Complex Development Area,
Gangtok-737101, Sikkim
Telefax: 03592 208269

Imphal
Babupara, Opp. Telephone Bhawan
Imphal- 795001, Manipur
Ph: 0385-2443385, Telefax: 0385-2445927

Itanagar
NH-52A, Main Road, E-Sector,
Itanagar-791111, Arunachal Pradesh
Telefax: 0360-2217694

Kohima
4th floor, MATO Complex
PR Hills (Opp. Police HQ)
Kohima-797001, Nagaland
Ph.: 0370 2243046

Lunglei
C-1/236, First Floor, Chanmari-1
Lunglei-796701, Mizoram.
Ph: 0372-2324274

Namchi
Agam Singh Marg, Bhanyang Road, Namchi,
South Sikkim-737126
Mob: 095939-72217

Shillong
Cresens Buildings, 1st Floor,
Opp Main Secretariat,
M. G. Road, Shillong-793001, Meghalaya
Ph: 0364-2504814/ 2504815 (Telefax)

Silchar
Silchar Cachar Market, 3rd Floor,
Netaji Subhas Avenue,
P.S. Rangirkhari, Silchar-788005
Telefax: 03842-226707, 03842-220157

Tinsukia
Satyam Trade & Tower-1,
First Floor, S. R. Lohia Road,
Tinsukia-786125, Assam
Ph: 0374-2330225, Mob: 9854057430

Udaipur
C/O Shanti Mohan Rakkhit,
Ramesh Chowmuhani, Jagannath Dighi Road,
Near Tripura Rubber Board, Udaipur,
South Tripura-799120
Mob: 9856034495

REPRESENTATIVE OFFICES

Agia, Goalpara, Assam
Ajagar Social Circle,
Vill & P.O. Agai, Goalpara,
District- Goalpara, Assam,
Pin-783120
Mobile- 9435725238

Churachandpur, Manipur
Rural Aid Services (RAS),
Happy Valley, Tuibuong, Opp. Oil Pump,
Near KBC Church, Churachandpur,
Manipur, Pin-795128.
Mobile- 9862000469

Kokrajhar, Assam
Discovery Club,
Above BSNL Office, RNB Road,
Ward No. 8, Kokrajhar, District- Kokrajhar BTC,
Assam, Pin-783370
Mobile- 9954897742/ 9954393369

Sivasagar, Assam
Willforce Technology & Consultancy Pvt. Ltd.
New KMP, A T Road,
Sivasagar, Assam. Pin-785640
Mobile- 9954342380/ 94350-57549

Tura, Meghalaya
A-Chik Evangelical Association,
Ringrey, Tura,
District- West Garo Hills,
Meghalaya, Pin-794001
Mobile- 9436306138.
Ph: 03651 224031

NEDFi's Scheme's at a glance

Sl. No	Name of the scheme	Eligibility	Nature and Extent of Assistance (Max.)	Promoter's Contribution (Min.)	Interest Rate	Upfront Fees
1	PROJECT FINANCE (PF)	Project promoted by Private & Public Ltd. Company/Proprietorship or Partnership firms	Rupee Term Loan (RTL)	35-40% of the project cost	*PLR + 1-3% p.a.	1% of RTL
2	NORTH EAST ENTREPRENEURS DEVELOPMENT SCHEME (NEEDS)	Project promoted by First Generation entrepreneurs. Maximum Project cost upto Rs. 50.00 lakhs	RTL- 75% of Project Cost	25% of the total project cost	8% p.a.	1% of RTL
3	NEDFi OPPURTUNITY SCHEME FOR SMALL ENTERPRISE (NOSSE)	Project promoted by Private & Public Ltd. Company/Proprietorship or Partnership firms. Project Cost from 50.00 lakhs to 200 lakhs with or without working capital	RTL-67% of Project Cost upto a ceiling of Rs. 100 lakhs	Minimum Debt Equity Ratio= 2:1	8% p.a.	1% of RTL
4	EQUIPMENT FINANCE (EF)	Company shall be in operation profitably for last three years and of good track record	70% of the cost of equipment including taxes, transport, insurance etc.	30%	*PLR + 3% p.a.	1% of RTL
5	MICRO FINANCE (MF)	Well managed NGOs/VOs in operation for last three years with good track record	RTL	Depends on the option of the Implementing Agency	*PLR + 0.5% p.a. for served areas and 8% for un-served areas	0.75% for RTL from 10 lacs to 50 lacs & 1% for RTL 50 lacs and above
6	JUTE ENTERPRISE DEVELOPMENT SCHEME (JEDS)	Small enterprises where investment is not more than Rs. 10.00 lakhs and NGOs VOs Co-operatives	RTL- 75% of Project Cost	25% of the total project cost	8% p.a.	1% of RTL
7	WOMEN ENTERPRISE DEVELOPMENT SCHEME (WEDS)	Any viable income generating activity promoted by women within the age group of 18-50 years. Maximum Project Cost upto Rs. 15.00 lakhs	RTL- 75% of Project Cost	25% of the total project cost	8% p.a.	1% of RTL
8	SCHEME FOR NORTH EAST HANDLOOM AND HANDICRAFTS (SNEHH)	For Manufacturers/Designe-rs/Exporters of handloom and handicrafts on proprietorship/partnership/co mpany basis. Maximum project cost upto Rs. 25.00 lakhs	RTL- 75% of Project Cost	25% of the total project cost	8% p.a.	1% of RTL

*PLR- 11.75% p.a. (as on 1/12/2012, subject to change at the discretion of the management)
- NEDFi financed units are given special preference to participate in fairs/exhibitions etc.
- NEDFi extends marketing support to NEDFi financed units wherever possible.
- Provides skill upgradation and trainings time to time.
- Lots of other packages/facilities available for the clients.

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