

MODEL PROJECT REPORT FOR SETTING UP PLANT FOR
PRODUCTION OF RESOURCE EFFICIENT BRICKS
(25000 no.s clay hollow blocks)

**The Energy And Resources Institute,
Darbari Seth Block,
IHC Complex,
Lodhi Road,
New Delhi-110 003
Ph.no-011-24682100/41504900**

<u>1</u>						
PROJECT AT GLANCE						
A	Name and Address of the					
	Proprietor					
B	NAME OF THE UNIT :	M/S.R.E.B. BRICK PLANT (RESOURCES EFFICIENT BRICKS)				
	AND LOCATION	BANGALORE.				
	CASTE					
	AGE					
	QUALIFICATION					
C	MAN POWER REQUIREMENT:		25 Persons			
D	<u>COST OF THE PROJECT :-</u>		Rs in Lakhs			
	TERM LOAN		180.00			
	WORKING CAPITAL		9.60			
	C.C.WORKING CAPITAL		5.00			
	Promoters Contribution		60.62			
	Total		255.22			
E	INSTALLED CAPACITY		70 Lakhs per annum at 100%I.C.			
F	CUMMULATIVE D.S.C.R.		1.67%			
G	PAY BACK PERIOD (In Years)		7			
H	R.O.I.		84.29	69.84		
J	BREAK EVEN ANALYSIS		59.27	50.39	43.04	

PROJECT REPORT OF "RESOURCE EFFICIENT BRICKS."

INTRODUCTION: -

With the onset of liberalization and liberalized economic policy of the Government, a rapid thrust was given to construction related activities in the recent past. Brick Industry is a nerve center of Karnataka and this is in forefront in terms of economic development and branded as the fastest growing Metropolis in the whole world. It is due to excellent climate, good transport facilities to other cities and well established communication network, peaceful industrial climate, availability of required quality of skilled and unskilled labourers, excellent market potential for quality products and scope for survival maintenance, good and adequate remuneration by way of good profit to quality-conscious industries. The Brick sector has excellent scope for development.

Manufacturing activity is a function of risk taking and organizing abilities of the people. Persons who can take calculated risks and make industrial enterprises profitable are not to remain permanently in the industrial shadow of other places; concrete efforts have to be made to alter this attitude of people in favour of encouraging and establishing local entrepreneurship.

It is with this view the government has recently decided to decentralize the industrialization among rural areas and announced concessions and incentives apart from developing the plots and constructing industrial sheds. This is an encouragement to any promoter intending to setup his own venture by utilizing his skill and contributing his funds and added to this by raising funds from available local sources.

Due to development in the industrial growth, this has simultaneously attracted commercial and educational growth. With constructional activities of all types of buildings there is need to supply the building materials like bricks, tiles etc., also the government have launched several schemes like Janatha housing scheme, houses under Akshaya, Ashraya. Sheds under Vishwa programme etc., institutional buildings are being developed anywhere and everywhere.

The construction sector is an important part of the Indian economy with the contribution of 10% in the GDP and is registering an annual growth of 9% and clay fired bricks are the back bone of this sector. The Indian brick industry is the second largest producer of bricks in the world after china. India is estimated to produce more than 14000 crores of bricks annually , mainly by adopting age – old manual traditional processes. The brick sector consumes more than 24 million tones of coals annual along with huge quantity of biomass fuels. the per annum co2 emission from Indian brick industry are estimated to be 42 million tons due to large scale construction activities in major towns and cities , a number of bricks plants have been set up on the outskirts of these cities . These clusters are the source of local air pollution affecting local population , agriculture and vegetation .

For the production of clay bricks, top soil to the extent of 350 million tones is used every year , which is a reason for concern , since the brick sector is labor intensive , it limits its capacity to produce any other type of bricks with the introduction of NREGA scheme in various states ,these labour intensive industries are facing the shortage of manpower . thus the brick industry has started exploring other options like introduction of partial / full –scale mechanization in the sector.

While studying the market in the developed countries , it has been observed that they have completely switched over from solid brick to other resource efficient products like perforated bricks and hollow bricks . These products consume less fuel (coal, biomass etc) and raw material (fertile top soil) for their production and have better insulation properties during its usage.

A Number of legislations / legal obligations Have been passed by the Indian government such as "energy conservation and building code (ECBC)" , which encourages construction sector to adopt energy efficient and energy saving products leading to green building design, the use of " Resource efficient bricks " (REB), would also lead to the compliance of such legislations. In view of the scarcity of raw material such as top soil and coal as fuel , the production of REBs is the better option .

About UNDP –GEF Project

With an objective of reduction in energy consumption and restrict green house gases (GHG) emissions by creating appropriate infrastructure for sustained adoption of new and improved technologies for production and use of REBs in India, the united nations

development programme has sanctioned a project "Energy efficiency improvement in India bricks industry " under this project 5 local Resource centers (LRCs) in different regions covering North , South ,East , West and North East have been set up. The LRCs would facilitate adoption of REB technologies disseminate promotional material for REBs ,create awareness amongst architects , builders and other end –users including government departments for uptake of REBs and prepare DPRs for availing loans from financial institutions and banks .

IMPORTANCE OF R.E.B.

The Present day constructions have RCC (Reinforced concrete cement) columns and mainly bricks are used as partition walls . They are no longer being used as load bearing walls in majority of the buildings. A shift towards REBs would help saving fuel and reducing pollution process. There is also significant reduction in the consumption of top (agriculture) soil which is the main raw materials in brick making. Increased use of REBs during building construction would also help in reducing the energy consumption of building due to their better insulation properties.

Advantage of REBs

- Uniform product size and better finish
- Improving crushing strength of extruded products (200 to 300 kg/cm²)
- Resources saving – Energy (up to 20%) and top soil (up to 30%)
- Reduction in masonry costs and plaster requirements
- Reduced cooling / heating load requirements.

Present Scenario

As mentioned in the introduction, most of the brick kiln entrepreneurs use traditional methods of green bricks production, firing and its sale. In most part of India solid clay fired bricks are available in the market. There are only a few mechanized plants involving clay preparation by machine, with limited production capacity (about 20 – 30% of its daily production) Due to shortage of trained man power and labor , the quality of moulding of green brick has deteriorated with the result , percentage of first quality fired bricks has decreased. The Production of REB involves mechanization in the moulding process. As

regards the general public the level of awareness for the use of perforated / hollow bricks is very low. Hence, they prefer to use solid bricks.

Over the years, the level of curiosity for identification of appropriate technology, suitable for their soils and requirements, has increased amongst the brick entrepreneurs. Now they are more receptive to the new ideas for improving the quality of their bricks subject to the criterion that the cost of fired brick should not be that high which may lead them to marketing problems.

With the rise in global temperature and high electricity cost, the architects and the builders have now started catching the idea of use of resource efficient bricks. However, the level of awareness needs to be strengthened amongst them also by creating awareness through workshops / meetings.

Mainly the high rise building, commercial complexes are supported by pillars and hence the walls are like curtains. As such the hollow blocks are highly useful.

Opportunities for the brick entrepreneurs

Brick industry owners produce an average of about 20000 – 50000 bricks a day. In the process they engage more than 100 - 150 workers. This being uneconomic reduction of labour force by 40 – 45 % by mechanizing the process would give a leading edge also to produce varied designs of products. The machine made bricks / blocks with mechanization techniques have definitely a better finish and strength in comparison to hand molded bricks. This would give the entrepreneurs an other change to fetch better prices in comparison with the other fellow manufacturers.

2. Promoter's BIO DATA :

To be submitted by individual entrepreneurs.

3. Market potential and industry scenario

The demand for bricks has been increasing with the ever increasing activities in the construction sector. In the last 10 years the demand for bricks has increased specially in the major towns and cities. As a result number of new brick plants have been set up around these cities, which are catering to the local demands . As such there is a huge market potential.

However , with the introduction of new ECBC code and concept of Green Building act (GRIHA rating), the leading architects and builders have now started looking for options for replacing solid clay fired bricks with more energy efficient products (REBs) which will not only bring in saving to the bricks manufacturers but also will benefit builders in terms of savings in steel due to lesser dead load of walls , faster pace of construction and less consumption of mortar etc. Which can account for 5-7% savings in construction cost. In addition the residents would also save in terms of energy bills due to insulating properties of REBs.

The REBs are already in vogue in the state of Kerala and number of units are coming up in and around Karnataka . The entrepreneurs in Karnataka are very likely to pick up this activity in near future in a big way.

4. Project Description :-

The Primary objective of this project report is to facilitate the technical as well as financial know how for setting up of unit for the production of resource efficient bricks. with the introduction of clay hollow block, the requirements of REBs is likely to go up remarkably and this intern will naturally reduce the use of conventional solid bricks. This report addresses all the information regarding setting of the project taking in to consideration, the technology such as selection of machinery, finance project implementation processes –etc . This report will serve as complete guide for setting up new project for sustainable entity giving reasonably handsome return on capital as well as investment with ample scope for scaling up the operations.

Output :- The total installed production capacity of the unit is about 52 lakhs REBs per annum. In the beginning of the project cycle, the throughput has been assumed as 70% for REBs.

Proposed Products -

The project proposes to produce perforated Hollow bricks / blocks with perforations varied from 10 – 20% modular bricks and tiles.

Know –How and Compliances -

The technical know – how for machinery would be provided by the supplier who will ensure the successful commission of the plant , supply its spares for the first year and help in troubleshooting , if any . Further , any support for production and marketing would be provided by the local resource centre set up under UNDP – GEF Project . If needed, LRC can arrange an expert of national / international repute through implementing agency for technical know – how. In addition to this the other aspects relating to pollution control should also be taken care of during construction and production process .

- **Project profile –REBs**
- **Raw material availability**

ORIENTATION:-

Buildings gain most heat from the roof and then from walls depending upon the direction they face.

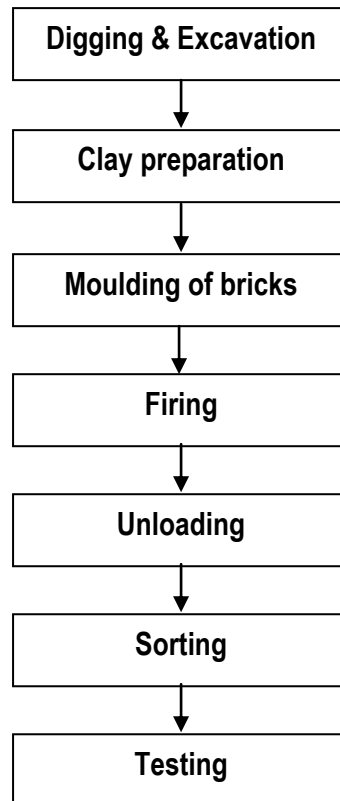
We may orient the buildings such that the least of solar rays fall directly upon the walls yet during the course of the day some sunlight would directly fall on the wall. The resultant heat transfer to inside can be controlled by using Hollow Clay Blocks especially in south and west directions.

These blocks have high density grain surface and as such need no plastering to make them water proof. Being exposed the house stands out in the residential block and becomes a land mark in a short period.

We not only save on plastering and painting costs during construction but also save on life cycle costs since those walls need minimum maintenance. Hollow clay walls define a different kind of aesthetic look and many find it adorable.

MANUFACTURING PROCESS: _

PROCESS FLOW CHART



10. WASTAGE AND PROVISION :-

A Provision of 5% is considered for wastage against the total turnover as per utilization capacity. The net sales will be totally 95% of whole production during each year of operation. The wastage is considered necessary due to possible manual handling of product.

12. MARKET POTENTIAL :-

With increased construction activities every where, there is a very good demand for quality REBs. With the construction activity booming up there may not be any problem for marketing the product of any quantity.

13. MEANS OF FINANCE :- The Promoter has to approach the financial institutions such as Nationalized Banks and other govt. sponsored agencies for availing both Term Loan and Working Capital.

14. KEY SUCCESS FACTORS :-

Production of REB's and also the mechanization in brick industry is already in vogue in developed countries and now it is reaching the Indian Market on a faster pace. The REB's should find success in Indian Market as there are legal laws like Energy Conservation Act and Energy Conservation and Building Code (ECBC) having been passed by the government. The advantages of REBs which are already explained such as less fuel and raw material consumption. The usage of REBs in buildings make the same more energy efficient.

It will decrease the amount of Green House Gasses.

ECONOMIC VIABILITY OF
M/S.R.E.B. BRICK PLANT (RESOURCES EFFICIENT BRICKS)

ANNEXURE - I

CIVIL WORKS

PROPOSED CONSTRUCTION OF DRYING SHEDS AND OTHER CIVIL WORKS.

Sl.No.	items	type	Dimensions (ft)	Area(sft)	Rate/sqft	AMOUNT
1	Moulding Machine Shed	Indl	50 x100	5,000.00	100	5.00
2	Drying Shed			43,580.00	100	43.56
3	Boundary wall					10.00
4	Dry brick storage shed	Indl	50 x100	5,000.00	100	5.00
5	Water Storage Tanks.	Sintex	500 x100	10000ltrs	4	0.40
6	Office Building Labour Quarters, workshop. Toilet Block.	RCC				10.00
7	Meter/Generator Room					1.00
8	workers common room					1.00
9	Parking etc.,					1.60
10	Land Development					6.00
						83.56

**ECONOMIC VIABILITY OF
M/S.R.E.B. BRICK PLANT (RESOURCES EFFICIENT BRICKS)
BANGALORE.**

**ANNEXURE - II
PLANT AND MACHINERY**

Sl.No.	machinery & Equipments	Quantity	KW	AMOUNT
1	Box Feeder x G 80	1	7.5	50.00
2	Double Roller Crusher GS 70	2	22	
3	Rubber Belt Conveyor	4	5.5x4	
4	Double shaft Mixer SJ240	1	37	
5	Twin stage De-Airing Extruder JKB45/45/45-20	1	55.90	
6	Reciprocating Vaccum Pump	1	15	
7	Automatic Clay Sulg Cutter QT100	1	1.1	
8	Green Brick Cutter	1	4	
9	Auto Billets Unloading Machine	1	-	
10	Air compressor	2	2x2	
11	Electric Control Box.	1		
12	Mould	2		
13	Motors, V Belts for all Machine above			
14	Spares and consumables for one year.			
15	Generator	1	380KVA	20.00
16	Tractor with Pusher	1		6.00
17	Hand crafts	25		0.50
18	Wooden Pallets	400		0.60
19	Jute and Plastic Tarpaulins	56250 Sft each		1.50
20	Gas Cutter			3.00
21	Wooden Pallets			
22	welding set			
23	Drill Machine			
24	Lathe machine			
25	Gen Tools			
26	BTK/HD type Brick Kiln			35.00
27	Shed Over BTK/HD Type Brick Kiln			10.00
	TOTAL			126.60
	Add: V.A.T. @ 5%			6.33
	TOTAL			132.93
	Errection. Transportation, installation charges			6.33
	GRAND TOTAL			139.26
MISCELLANEOUS ASSETS				
1	Computer with Printer	1		0.40
2	Furniture and Fixtures	L.S.		0.50
3	Other assets.	L.S.		1.50
	GRAND TOTAL			2.40

ANNEXURE - III

COST OF THE PROJECT AND MEANS OF FINANCE

1	Civil Works (Proposed)	83.56
2	Cost of plant and machinery & Mis. Assets.	141.66
3	Provision for contingencies	2.30
4	Preliminary & Pre-operative exp.	4.20
5	Int. during implemetation	6.50
6	Working Capital	12.00
	TOTAL	250.22
		-
<u>MEANS OF FINANCE</u>		
1	Term Loan	180.00
2	Working Capital	9.60
3	Promoter Contribution(Internal adjustments)	60.62
	TOTAL	250.22

ANNEXURE - IV

WORKING CAPITAL REQUIREMENTS

SL.NO.	PARTICULARS	Holding period	Qty at 100% capacity	Rate	2011-12	2012-13	2013-14	2014-15	2015-16
	Clay (Cft)	2	55300.00	2.90	1.12	1.20	1.28	1.44	1.44
	Coal (mt)	2	81	8,500	4.82	5.16	5.51	6.20	6.20
	GreenBrick in Dryinbg shed	1	38,400	0.65	1.75	1.87	2.00	2.25	2.25
	Green Brick Stock (No.s)	2	720000	0.75	3.78	4.05	4.32	4.86	4.86
	Work progress (No.s)	4	405000	2	5.67	6.08	6.48	7.29	7.29
	Work progress (No.s)	4	540000	0.75	2.84	3.04	3.24	3.65	3.65
	Finished Goods (No.s)	2	675000	3	14.18	15.19	16.20	18.23	18.23
	-								
	Total Inventory				34.16	36.59	39.03	43.92	43.92
	DEBTORS								
	DOMESTIC	2			8.36	9.40	10.53	12.44	13.06
					42.52	45.99	49.56	56.36	56.98
	CREDITORS	1			0.63	0.71	0.73	0.93	0.98
	TOTAL LIABILITIES				41.89	45.28	48.83	55.43	56.00
	NET WORKING CAPITAL								
	Margin				11.88	15.29	18.82	25.41	25.99
	Bank Borrowings				31.60	31.60	31.60	31.60	31.60
	Interest	13.50%			22.93	18.66	14.40	14.40	10.13
	Total				22.93	18.66	14.40	14.40	10.13

ANNEXURE-V				
STAFF AND LABOUR				
SL. NO.	DESIGNATION	SALARY WAGES P.M.	NO. OF WORKERS	TOTAL SALARY WAGES P.A.
1	Clay Feeder		1	0.29
2	Mixer operator		1	0.29
3	Extruder Forman		1	0.70
4	Green Brck cutting operator		1	0.29
5	Pellets Loader/Unloader		2	0.29
6	Green Brick Carriers			7.00
7	Jute and Plastic Tarpaulin		1	0.59
	Handler		2	
8	WELDER/fittter/ Electrician		1	0.48
9	Driver Tractor		1	0.60
10	Bharai & beldari		1	10.00
11	Cola, Keri, Jalai		11	4.40
12	Nikasi		13	8.00
				Rs. 32.93

ANNEXURE-VI
SALARIES AND WAGES COST

SL. NO.	DESIGNATION	SALARY WAGES P.M.	NO. OF WORKERS	TOTAL SALARY WAGES P.A.
1	Factory Manager	10000	1	1.20
2	Inventory controller	5000	1	0.60
3	Technician	10000	1	1.20
4	Accountant	6000	1	0.72
5	Watchman	4000	1	0.48
6	Sales Manager	5000	1	0.60
7	Jute and Plastic Tarpaulin		1	0.00
8	Add: Benefits @ 25%			1.20
				Rs. 6.00

ANNEXURE -VII

SALES REALISATION

PARTICULARS	UNIT	2011-12	2012-13	2013-14	(Rs. In lakhs) 2014-15	2015-16	2016-17
CAPACITY							
Green Bricks	No.(in laks)	216	216	216	216	216	216
Operational period	Months	7	7	7	7	7	7
		5.67	6.08	6.48	7.29	7.29	7.29
Utilisation	%	70%	80%	80%	90%	90%	90%
Finished Goods (No.s)		14.18	15.19	16.20	18.23	18.23	18.23
PRODUCTION							
GREEN BRICKS	No.(in laks)	88	95	101	113	113	113
WASTAGE	No.(in laks)	2	2	2	2	2	2
		86	93	99	111	111	111
SALES							
First Quality		69	74	79	89	89	89
Second Quality		10	11	12	13	13	13
Third/overburnt		7	7	8	9	9	9
QUALITY/ SALES VALUE							
	RATE/UNIT						
GREEN BRICKS							
First Quality	3.50	242.00	259.00	277.00	312.00	312.00	312.00
Second Quality	3.00	30.00	39.00	42.00	46.00	46.00	46.00
Third/overburnt	2.80	20.00	25.00	28.00	32.00	32.00	32.00
QUALITY		292.00	323.00	347.00	390.00	390.00	390.00
TOTAL SALES.							
RAW-MATERIALS CONSUMED							
CLAY		29.25	31.34	33.43	37.61	37.61	37.61
COAL		102.37	109.69	117.00	131.62	131.62	131.62
		131.62	141.03	150.43	169.23	169.23	169.23
Bank Borrowings							
Bank Borrowings		31.60	31.60	31.60	31.60	31.60	31.60
Interest	13.50%	25.60	22.93	18.66	14.40	14.40	10.13
Total		25.60	22.93	18.66	14.40	14.40	10.13

ANNEXURE - VIII
DEPRECIATION CHART

		<u>Rs. In Lakhs</u>	
1	COST OF THE BUILDING		83.56
2	DEPN. ON BUILDING	@ 5% P.A.	
3	COST OF PLANT & MACHINERY		141.66
4	DEPN. ON PLANT & MACHINERY	@ 10% P.A.	

YEAR	DEPRECIATION ON BUILDING @ 5%			DEPRECIATION ON PLANT & MACHINERY @ 10%			TOTAL
	OPENING BALANCE	DEPRE- CIATION	CLOSING BALANCE	OPENING BALANCE	DEPRE- CIATION	CLOSING BALANCE	
I	83.56	4.18	79.38	141.66	14.17	127.49	18.34
II	79.38	3.97	75.41	127.49	12.75	114.74	16.72
III	75.41	3.77	71.64	114.74	11.47	103.27	15.25
IV	71.64	3.58	68.06	103.27	10.33	92.94	13.91
V	68.06	3.40	64.66	92.94	9.29	83.65	12.70
VI	64.66	3.23	61.42	83.65	8.36	75.28	11.60
VII	61.42	3.07	58.35	75.28	7.53	67.76	10.60

ANNEXURE - IX
LONG TERM LOAN REPAYMENTS SCHEDULE

YEAR	INSTALMENTS	PRINCIPLE AMOUNT	INTEREST @ 13.50%	
I	-	189.60	25.60	25.60
II	7.90	181.70	6.13	
	7.90	173.80	5.87	
	7.90	165.90	5.60	
	7.90	158.00	5.33	22.93
III	7.90	150.10	5.07	
	7.90	142.20	4.80	
	7.90	134.30	4.53	
	7.90	126.40	4.27	18.66
IV	7.90	118.50	4.00	
	7.90	110.60	3.73	
	7.90	102.70	3.47	
	7.90	94.80	3.20	14.40
V	7.90	86.90	2.93	
	7.90	79.00	2.67	
	7.90	71.10	2.40	
	7.90	63.20	2.13	10.13
VI	7.90	55.30	1.87	
	7.90	47.40	1.60	
	7.90	39.50	1.33	
	7.90	31.60	1.07	5.87
VII	7.90	23.70	0.80	
	7.90	15.80	0.53	
	7.90	7.90	0.27	
	7.90	0.00	0.00	1.60

ANNEXURE - X

COST OF THE PRODUCTION AND PROFITABILITY STATEMENT

SL. NO.	PARTICULARS	I	II	III	IV	V	VI	VII
A.	INSTALLED CAPACITY	100%	100%	100%	100%	100%	100%	100%
B.	SALES REVENUE							
C.	UTILISATION CAPACITY	70%	80%	80%	90%	90%	90%	90%
D.	SALES REVENUE	292.00	369.00	369.00	435.00	435.00	435.00	480.00
	TOTAL	292.00	369.00	369.00	435.00	435.00	435.00	480.00
E.	<u>COST OF PRODUCTION :-</u>							
1	Raw-materials	131.62	141.03	150.43	169.23	169.23	169.23	169.23
2	<u>UTILITIES</u> :- Power & Water	20.14	21.58	21.58	23.02	25.90	25.90	25.90
3	Repairs & Maintenance	6.96	10.44	13.93	17.41	20.89	22.90	22.90
4	Rent	4.62	5.08	5.59	6.15	6.76	7.44	7.94
5	<u>Salaries & Wages</u>	38.94	42.84	47.12	51.83	57.02	62.72	67.32
6	Other mfg. Over heads	3.29	3.70	3.85	4.90	5.14	5.40	5.60
	Selling and Distribution Expenses	5.84	7.38	7.38	8.70	8.70	8.70	9.60
	TOTAL	211.41	232.05	249.88	281.24	293.64	302.29	308.49
	OPERATING PROFIT	80.59	136.95	119.12	153.76	141.36	132.71	171.51
	Operating Profit Margin%	27.60%	37.11%	32.28%	35.35%	32.50%	30.51%	35.73%
8	Int. on Long Term loan 13.5%	25.60	22.93	18.66	14.40	10.13	5.87	1.60
	GROSS PROFIT	54.99	114.02	100.46	139.36	131.23	126.84	169.91
	Gross profit Margin %	18.83%	30.90%	27.22%	32.04%	30.17%	29.16%	35.40%
	Depreciation on W.D.V.	18.34	16.72	15.25	13.91	12.70	11.60	10.60
	Mis. Expenditure written off	5.10	5.10	5.10	5.10	5.10	5.10	5.10
	PROFIT BEFORE TAXES	31.55	92.20	80.11	120.35	113.43	110.15	154.21
	Provision for Taxes	7.85	10.75	12.58	14.64	16.65	18.35	20.55
10	Profit After Taxes(NET PROFIT)	23.70	81.45	67.53	105.71	96.78	91.80	133.66
	NET profit Margin %	8.12%	22.07%	18.30%	24.30%	22.25%	21.10%	27.85%
11	RETAINED PROFIT	23.70	81.45	67.53	105.71	96.78	91.80	133.66
		-	-	-	-	-	-	-
12	NET CASH ACCURALS	42.04	98.17	82.78	119.62	109.48	103.39	144.26

ANNEXURE - XI
CASH FLOW STATEMENT

SL.NO.	PARTICULARS	POP	I	II	III	IV	V	VI	VII
(A)	SOURCES OF FUNDS :-								
1	Profit Before Taxes	-	31.55	92.20	80.11	120.35	113.43	110.15	154.21
2	Depreciation	-	18.34	16.72	15.25	13.91	12.70	11.60	10.60
3	misc exp. Written off		5.10	5.10	5.10	5.10	5.10	5.10	5.10
	NET CASH ACCRUALS		54.99	114.02	100.46	139.36	131.23	126.84	169.91
5	Term Loan	180.00	-	-	-	-	-	-	-
	Promoters Contribution	60.62	-	-	-	-	-	-	-
	Working Capital	-	9.60	-	-	-	-	-	-
	TOTAL	240.62	64.59	114.02	100.46	139.36	131.23	126.84	169.91
(B)	-								
1	Capital Expenditure	225.22	-	-	-	-	-	-	-
2	Preliminary & Pre-operative	4.20	-	-	-	-	-	-	-
3	Int. during implementation	6.50	-	-	-	-	-	-	-
4	Provision for contingencies	2.30							
5	Current Assets	-	-	-	-	-	-	-	-
6	Decrease in Long Term Loan & WC	-		31.60	31.60	31.60	31.60	31.60	31.60
7	Partners withdrawls		4.00	6.00	8.00	10.00	12.00	12.00	12.00
	TAXES	-	7.85	10.75	12.58	14.64	16.65	18.35	20.55
	TOTAL	238.22	11.85	48.35	52.18	56.24	60.25	61.95	64.15
	Opening Balance	0	2.40	65.67	131.34	179.62	262.74	333.72	398.61
	Surplus/ Deficit	2.40	52.74	65.67	48.28	83.12	70.98	64.89	105.76
	Closing Balance	2.40	55.14	131.34	179.62	262.74	333.72	398.61	504.37

ANNEXURE - XII

DEBT SERVICE COVERAGE RATIO

SL.NO.	PARTICULARS	I	II	III	IV	V	VI	VII
1	NET CASH ACCRUALS	42.04	98.17	82.78	119.62	109.48	103.39	144.26
2	INT. ON TERM LOAN	25.60	22.93	18.66	14.40	10.13	5.87	1.60
3	SUM OF (1+2)	67.64	121.10	101.44	134.02	119.61	109.26	145.86
4	LONG TERM INSTALMENTS		31.60	31.60	31.60	31.60	31.60	31.60
5	SUM OF INT. & INSTALMENTS	25.60	54.53	50.26	46.00	41.73	37.47	33.20
	TOTAL	25.60	86.13	81.86	77.60	73.33	69.07	64.80

**CUMMULATIVE
D.S.C.R.**

CUM A 798.93 1.67%

CUM B 478.38

ANNEXURE - XIII

RETURN ON INVESTMENT (Rs. In Lakhs)

1	Cost of the Project	250.22
2	No. of Years	7
3	Cummulative Profit after Taxes	0.00
	Cummulative Profit Before	
4	Taxes	600.63
	Cummulative Interest on Long Term	
5	Loan	99.18
	Cummulative Depreciation	
6	(SLM)	99.11
	Preliminary Expenses Written	
7	Off	
8	<u>Return on Investment :-</u>	
	VCC	
A <u>Return on Investment Before Taxes</u>		

	600.63	99.11	99.18	0.00	79893.00	45.61
	-	7	250.22		1751.54	

B <u>Return on Investment After Taxes</u>						
--	--	--	--	--	--	--

	0.00	99.11	99.18	0.00	19830.00	11.32
	-	7	250.22		1751.54	

--	--	--	--	--	--	--

ANNEXURE - XIV

BREAK EVEN ANALYSIS

SL. NO.	PARTICULARS	I YEAR	II YEAR	III YEAR
A	INSTALLED CAPACITY	0.00	0.00	0.00
B	CAPACITY UTILISATION	0.70	80.00	0.90
C	SALES TURN OVER	292.00	369.00	435.00
D	<u>VALUABLE EXP.</u>			
	A. MATERIAL COST	131.62	141.03	435.00
	B. UTILITIES	10.07	10.79	10.79
	C. INT. ON W.C. LOANS	1.30	1.12	0.82
		142.99	152.94	446.61
E	<u>FIXED COST</u>			
	A. UTILITIES	10.07	3.69	3.69
	B. SALARIES & WAGES	1.80	2.10	2.40
	C. FACTORY OVERHEADS	0.18	0.21	0.24
	D. INT. ON TERM LOAN	1.95	1.72	1.40
	E. DEPRECIATION (S.L.)	1.09	1.01	0.94
	F. ADMINISTRATIVE OVERHEADS	0.10	0.11	0.12
	TOTAL	15.19	8.84	8.79
F	CONTRIBUTION (C-D)	8.90	10.55	12.21
G.	BREAK EVEN POINT (%)	170.67	83.79	71.99

PROJECT AT GLANCE

A	Name and Address of the Proprietor				
B	NAME OF THE UNIT :	<u>M/S.R.E.B. BRICK PLANT (RESOURCES EFFICIENT BRICKS)</u>			
	AND LOCATION	<u>BANGALORE.</u>			
		-			
	CASTE				
	AGE				
	QUALIFICATION				
C	MAN POWER REQUIREMENT:			25 NOS.	
D	<u>COST OF THE PROJECT :-</u>				
	TERM LOAN			180.00	
	WORKING CAPITAL			9.60	
	C.C.WORKING CAPITAL			5.00	
	Promoters Contribution			60.62	
	Total			255.22	
E	INSTALLED CAPACITY		70 Lakhs per annum at 100%I.C.		
F	CUMMULATIVE D.S.C.R.			1.67%	
G	PAY BACK PERIOD (In Years)			7	
H	R.O.I.		84.29	69.84	
J	BREAK EVEN ANALYSIS		59.27	50.39	43.04

ANNEXURE - XV**PROJECTED BALANCE SHEET**

SL.NO.	PARTICULARS / YEARS.	2010.11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
(A)	SOURCES OF FUNDS :-	-						
1	Promoters Capital	60.62	66.62	72.81	80.12	88.23	90.35	102.31
2	Reserves and surplus		23.70	81.45	67.53	105.71	96.78	91.80
3	Less:Withdrawals		4.00	6.00	8.00	10.00	12.00	12.00
	NET CASH ACCRUALS	60.62	60.62	94.32	160.26	155.65	203.94	199.13
5	Term Loan	180.00	150.00	118.32	86.64	54.96	23.28	0.00
			-	-	-	-	-	-
	Working Capital		9.60	9.60	9.60	9.60	9.60	9.60
	TOTAL	240.62	220.22	222.24	256.50	220.21	236.82	208.73
(B)	APPLICATION OF FUNDS	-						
1	FIXED ASSETS.	225.22	225.22	225.22	225.22	225.22	225.22	225.22
2	less: depreciation	18.34	16.72	15.25	13.91	12.70	11.60	10.60
3	NET BLOCK	206.88	241.94	240.47	239.13	237.92	236.82	235.82
4	CURRENT ASSETS							
5	CASH AND BANK BAL.	3.60	14.60	30.15	43.16	80.35	114.61	128.35
6	INVENTORIES	0.00	35.10	37.25	39.25	43.35	43.35	43.35
7	RECEIVABLES	0.00	8.70	10.53	12.35	13.85	11.65	12.35
	TOTAL CURRENT ASSETS	3.60	58.40	77.93	94.76	137.55	169.61	184.05
	Less: Current LiABILITIES	0.00	0.63	0.72	0.93	0.98	1.05	1.10
	Net current Assets.	3.60	57.77	77.21	93.83	136.57	168.56	182.95
	Misc. Exp. Not, writeoff.							
	total (A+B+C)	240.62	220.22	256.50	256.50	220.21	236.82	208.73