Pre-feasibility Study

LIGHT WEIGHT ROOF TILES MANUFACTURING UNIT

June 2022

"The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, andrevenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA's website and consult financial experts to stay current with market conditions."

Small and Medium Enterprises Development Authority
Ministry of Industries and Production
Government of Pakistan

Table of Contents

1 DISCLAIMER 3
2 EXECUTIVE SUMMARY 4
3 INTRODUCTION TO SMEDA 5
4 PURPOSE OF THE DOCUMENT 5
5 BRIEF DESCRIPTION OF PROJECT & PRODUCT 6
5.1 PRODUCTION PROCESS FLOW 7
5.2 INSTALLED AND OPERATIONAL CAPACITIES 8
6 CRITICAL FACTORS 8
7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT 9
8 POTENTIAL TARGET CUSTOMERS / MARKETS 9
9 PROJECT COST SUMMARY 9
9.1 PROJECT ECONOMICS 9
9.2 PROJECT FINANCING 10
9.3 PROJECT COST 10
9.4 SPACE REQUIREMENT 11
9.5 MACHINERY & EQUIPMENT REQUIREMENT 11
9.6 FURNITURE & FIXTURES REQUIREMENT 12
9.7 OFFICE EQUIPMENT REQUIREMENT 12
9.8 HUMAN RESOURCE REQUIREMENT 13
9.9 OTHER COSTS 13
9.10 REVENUE GENERATION 13
10 CONTACT DETAILS 14
10.1 MACHINERY SUPPLIERS 14
10.2 RAW MATERIAL SUPPLIERS 14
11 USEFUL WEB LINKS 15
12 ANNEXURES 16
12.1 INCOME STATEMENT 16
12.2 BALANCE SHEET 17
12.3 CASH FLOW STATEMENT 18
13 KEY ASSUMPTIONS 19
13.1 OPERATING COST ASSUMPTIONS 19
13.2 PRODUCTION COST ASSUMPTIONS 19
13.3 REVENUE ASSUMPTIONS 19
13.4 FINANCIAL ASSUMPTIONS 19

1 DISCLAIMER

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2 EXECUTIVE SUMMARY

Roof is a very important part of any construction unit and it comes in different shapes and sizes. There are a wide variety of roofing materials available and being used in construction today with a range of advantages and disadvantages. The choice of roof selected is dependent upon number of factors, including the location, climate, desired look, maintenance and cost that one is willing to bear. In addition the easy/simple installation of the roofs and the durability of the roofing material are also very important considerations.

In addition to reinforced concrete roof, other more economic roofing materials include metal sheets, wood, clay and tiles etc. Roofing tiles are one of the most preferred construction materials for low cost housing and commercial constructions (warehouses, factories etc.). These tiles can be made of clay brick (e.g., clay fired at a high temperature) or fabricated from concrete.

The proposed project is related to the production of pre-fabricated concrete roofing tiles. The tiles can be designed in a way to achieve high performance in wide range of roof requirements such as converting flat roofs to pitched roofs, construction of housing, community centers, warehouses and factories etc. It is also suitable for roofing of schools and other public buildings especially in the rural areas.

The lightweight roofing tiles manufacturing unit will fulfill the local housing construction demand of tiles of different sizes and strengths depending upon the individual requirements of the customer. Roofing tiles used in Balochistan are generally available in 12”x12” however; given the customer demand tiles of different specification can also be manufactured.

Light Weight Tiles Manufacturing Unit is proposed to be located at any industrial zone throughout Pakistan adjacent to metro-Politian cities with higher population density and higher concentration of construction work going on in the area for instance the same production plant may developed in all those cities which provide the basic raw material for the project. The entrepreneur will have market access to two countries e.g. Pakistan and Afghanistan.

The finished Product would include **light Weight 12’’x12’’ Tiles.**

The installed manufacturing unit would have the Capacity to produce **288,000 Units** of the product and will initially operate at **70%** capacity utilization.

Total Cost Estimates is **Rs.4, 310,257** with fixed investment **Rs.3, 654,892** and working capital **Rs.6, 55,365.**

Given the cost assumptions IRR and payback are **37%** and **3.90 years** respectively

The most critical considerations or factors for success of the project are:

- The product should be produced in accordance with International standards and quality
- Location of the unit would play vital role in this projects success.
- Procurement of raw material from trusted suppliers and below market rates.
- Human resource would play vital role in manufacturing therefore well trained staff will be required to run the project successfully.
- Market research should be done to identify market gaps moreover most recent trends may be identified and product may be reshaped in accordance to demand.
- Availability of water and electricity should be ensured.

3 INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out ‘sectoral research’ to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need based capacity building programs of different types in addition to business guidance through help desk services.

4 PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in **Light Weight Tiles Manufacturing Unit** by providing them with a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and it's successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form basis of any Investment Decision.

5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

Following key parameters must be addressed as per pre-feasibility study under preparation

- **Technology:** The proposed manufacturing unit is likely to be equipped with modern equipment.
- **Location:** The production unit is proposed to be located in Quetta which would provide investor market access to two countries however it may also be located adjacent to metro-Politian cities likewise Karachi, Lahore and location where population density is high and more of construction work is going on for instance an ideal location could be Hub Chowki which is adjacent to Karachi and more likely to give competitive edge to the entrepreneur.
- **Product:** The unit would produce 12''-12'' light weight roof tiles however the product may be modified further by adding some mould to the production unit considering change in demand.
- **Target Market:** In addition to local markets in Karachi, Lahore, Quetta and Islamabad an enormous export market for the Pakistani products exists in Afghanistan.
- **Employment Generation:** The proposed project will provide employment opportunity to 5 people. Financial analysis shows the unit would be profitable from the very first year of operation.

6 PRODUCTION PROCESS FLOW

The roofing tiles that are made of cement, sand, gravel mixture which are reinforced with steel wires. The tiles are made in wooden or steel frame, which is placed on an oiled smooth surface. After half-filling the mold with cement sand mixture, five to twelve iron wires are placed in crisscrossed manner. Then the remaining mold is filled up with the mixture. The tiles are left to set down in the mold for one day and after removing from mold they are placed in water for further two days. After removing from water they are left to cure for seven days before they are used in construction.

Process Flow Chart

- Step 1: Ordering and Stockpiling of Raw Material.
- Step 2: Mixing of Raw Material (Day 1).
- Step 3: Molding (Day 1).
- Step 3: DE-molding and Setting (Day 2-10).
- Step 4: Storage and Distribution.

The following steps describe the production of lightweight roofing tiles in detail.

1. Ordering and stockpiling of Raw Material.

Raw material required for the production of lightweight roofing tiles i.e. sand, cement, iron wires and gravel will be ordered and stored as per the production requirement. It is recommended to store raw materials for one week's production requirements for efficient running of project and orders fulfillment on time.

2. Mixing.

Light weight roofing tile production begins by mixing aggregates. Sand is pre-washed to remove dirt contaminants. When aggregate are mixed thoroughly water is added to the mixture. In the local roof tile industry the mixing is performed manually however for higher production requirements aggregate mixer machine may also be used.

3. Molding.

The mold is lubricated with a thin layer of motor oil and kerosene mixture. It allows the tile to be easily removed from the mold after setting. The lubrication is applied by using paint brush. The lubrication is done by used motor oil purchased from motor workshops.
After lubrication the mold is half filled with aggregate mixture. At this point metal wires are placed on the aggregate in a crisscross manner. Six to twelve wires are used depending upon the requirement of the customer. The diameter of wire also varies. After adding the wires the mold is completely filled with aggregate,
When the molds are full, the concrete is compacted and the upper surface is made smooth by using masonry tools. The size and design of the mold determines the size and design of the finished tile.

4. **Making of reinforced profiles**

The mold containing the wet concrete tile is moved to setting area. Initially, small amount of water is applied to keep the tiles wet. After about one day the tiles are removed from the mold and moved to a water tank where they are kept immersed in water for further two days.
After being removed from the water tank the tiles are kept in ambient temperature for another seven days to become firm.

5. **Storage and distribution.**

The tiles do not require specific storage requirements; they are normally stored in open air. The tiles are inspected for defects before they are sent for shipment.

6.1 Installed And Operational Capacities

The proposed production unit is set to operate at 70% at capacity utilization initially and shall increase its production by 5% yearly.

The proposed manufacturing plant has the ability to produce 288,000 units of light weight roof tiles per year. The proposed plant is set to operate for 8 hours per day however production can be increased if needed.

7 CRITICAL FACTORS

- Trained and specialized human resource should be hired which would play vital role in project's success.
- Continuous efforts should be made to upgrade technology.
- Price may be adjusted in accordance to the segment targeted moreover price would play vital role in success of the project.
- Purchase of raw material from trusted suppliers and below market prices would play a vital role in projects success and may provide competitive advantage over competitors

- Location of the unit would play a vital role in projects success.
- In future the products may enhanced or modified in accordance to market demand therefore special attention should be paid to market developments.
- The product can be reshaped considering market demand; simply by adding some molds therefore molds may be researched and bought.

8 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Big cities with growing middle income group such as Karachi, Islamabad, Quetta, Lahore, Sukkur and Hyderabad are some of the prospective cities for setting up this business. Cities like Lahore and Karachi with high population and construction work going on are more favorable for this project.

9 POTENTIAL TARGET CUSTOMERS / MARKETS

Shelter is one of the most basic needs for human beings therefore the demand for homes has increased at great pace. The major variables causing increase in demand in homes can be stated as increase in population and rapid urbanization. Roof tiles have gain popularity, especially with the lower income segment of the population, as of its low cost when compared to reinforced concrete roofs. Other advantages of tile include durability (compared to wooden/mud roofs), easy installation, easy maintenance and fire safety, as they are non-combustible.

Light weight roofing tiles have a number of uses including public, private, commercial and residential projects and it has well-proven market demand making it a good business opportunity.

10 PROJECT COST SUMMARY

10.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 5.796 million in the year one. The capacity utilization during year one is worked out at 70% with 5% increase in subsequent years up to the maximum capacity utilization of 95%.

The following table shows internal rate of return, payback period and net present value of the proposed venture.

Table 1: Project Economics

Description	Details
Internal Rate of Return (IRR)	37%

Payback Period (yrs.)	3.90
Net Present Value (Rs.)	4,987,600

10.2 Project Financing

Following table provides details of the equity required and variables related to bank loan;

Table 2: Project Financing

Description	Details
Total Equity (70%)	Rs. 3,017,180
Bank Loan (30%)	Rs. 1,293,077
Markup to the Borrower (%age / annum)	20%
Tenure of the Loan (Years)	10

10.3 Project Cost

Following fixed and working capital requirements have been identified for operations of the proposed business.

Table 3: Project Cost

Description	Amount Rs.
Capital Cost	
Land	1,044,000
Building/Infrastructure	1,220,992
Machinery & equipment	1,175,000
Furniture & Fixture	119,900
Office Equipment	83,000
Pre-operating Cost	12,000
Total Capital Cost	**3,654,892**

Working Capital	
Raw Material Inventory	155,365
Cash	500,000
Total Working Capital	**655,365**
Total Project Cost	**4,310,257**

10.4 Space Requirement

The space requirement for the proposed **Light Weight Roof Tiles Manufacturing unit** is estimated considering various facilities including management office, production hall, storage, open space, etc. Details of space requirement and cost related to land & building is given below;

Table 4: Space Requirment

Description	Estimated Area (Sq.ft)	Unit Cost (Rs.)	Total Cost (Rs.)
Management Office	300	1,000	300,000
bath tubs 8L*3B*2.5h=80sqft.(No. of bth tubs 2)	320	800	256,000
store	256	900	230,400
Material mixing area	232	650	150,800
drive way	500	200	100,000
bathrooms/washrooms	200	900	180,000
Production area	2,692	-	-
Total	**4,500**		**1,220,992**

10.5 Machinery & Equipment Requirement

Plant, machinery and equipment for the proposed project are stated below.

Table 5: Machinery & Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Molds (1*1)	450	2,500	1,125,000
Misc. equipment shovels etc.	1	50,000	50,000
Total			**1,175,000**

10.6 Furniture & Fixtures Requirement

Details of the furniture and fixture required for the project are given below;

Table 6: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Furniture(lump sum)	1	60,000	60,000
Carpeting	300	33	9,900
Electric wiring & lighting(lump sum)	1	50,000	50,000
Total			**119,900**

10.7 Office Equipment Requirement

Following office equipment will be required for **Light Weight Roof Tiles Manufacturing Unit**;

Table 7: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computer With LCD	1	40,000	40,000
Printer with scanner	1	40,000	40,000
Telephone set	1	3,000	3,000
Total			**83,000**

10.8 Human Resource Requirement

In order to run operations of **Light Weight Roof Tiles Manufacturing Unit** smoothly, details of human resources required along with number of employees and monthly salary are recommended as under;

Table 8: Human Resource Requirment

Description	No. of Employees	Monthly Salary per person (Rs.)
Supervisor/Mistri	1	28,000
Labor	3	23,000
Guard Part Time (Night Shift) Part Time	1	12,000
Total	**05**	

10.9 other costs

The promotional expense being essential for marketing of Light Weight Roof Tiles Manufacturing Unit is estimated as 1% of revenue expenses which is estimated to be Rs. 57,960 in first year of operations.

10.10 Revenue Generation

Based on the capacity utilization of 70%, respectively, sales revenue during the first year of operations is estimated as under;

Table 9: Revenue Generation – Year 1

Description	No. of Units Produced (No.)	Finished Goods Inventory (No.)	Units available for Sale (No.)	Sale Price / unit (Rs.)	Sales Revenue (Rs.)
Light weight Roof Tiles 1*1	201,600	8,400	193,200	30	5,796,000
Total					**5,796,000**

11 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project be given.

11.1 Machinery Suppliers

Name of Supplier	Address	Phone
Fine Hardware Store	Mir Ahmed Khan Rd, Quetta, Balochistan	(081) 2825918
Abdullah Hardware Store	Corner Essa Khan Road، main Sirki Rd, near pioneer school، Quetta	(081) 2451284
Building Hardware Store	Gizri Rd, Gizri Village Defence Housing Authority, Karachi, Karachi City, Sindh 75500	(021) 35821847
Ahmed Hardware, Paint & Sanitary Store	University Rd, Block 7, Gulistan-e-Johar, Karachi, Sindh	0321 2539405

11.2 Raw Material Suppliers

Name of Supplier	Address	Phone
Mukhtar Cement Agency	Hazara Qabristan Rd, Quetta, Balochistan 87300	0332 78540923
Maplleleaf cement	JINNAH ROAD, near HALI ROAD, Model Town, Quetta, Balochistan 87300	(081) 2825123
Hanzala Cement & Iron	Pishin Station, Quetta, Balochistan	(081) 2825123

12 USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of Industries & Production	www.moip.gov.pk
Ministry of Education, Training & Standards in Higher Education	http://moptt.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	www.sindh.gov.pk
Government of Khyber Pakhtunkhwa	www.khyberpakhtunkhwa.gov.pk
Government of Balochistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jamu Kashmir	www.ajk.gov.pk
Trade Development Authority of Pakistan (TDAP)	www.tdap.gov.pk
Security Commission of Pakistan (SECP)	www.secp.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
State Bank of Pakistan (SBP)	www.sbp.org.pk
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Pakistan Horticulture Development and Export Company (PHDEC)	www.**phdec**.org.pk
Punjab Vocational Training Council (PVTC)	www.**pvtc**.gop.pk
Technical Education and Vocational Training Authority (TEVTA)	www.**tevta**.org
Pakistan Readymade Garment Technical Training Institute	www.prgmea.org/**prgtti**/
Livestock & Dairy Development Department, Government of Punjab.	www.**livestock**punjab.gov.pk
Punjab Industrial Estates (PIE)	www.pie.com.pk
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	www.fiedmc.com.pk

13 ANNEXURES

13.1 Income Statement

Statement Summaries **SMEDA**

Income Statement

Rs. in actuals

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	5,796,000	7,108,200	8,341,740	9,750,906	11,358,488	13,190,077	14,540,973	15,995,070	17,594,577	19,354,035
Cost of goods sold	4,844,260	5,638,862	6,287,783	6,990,348	7,750,580	8,572,796	9,108,944	9,660,658	10,249,330	10,877,721
Gross Profit	951,740	1,469,338	2,053,957	2,760,558	3,607,908	4,617,281	5,432,028	6,334,412	7,345,247	8,476,313
General administration & selling expenses										
Administration expense	144,000	158,020	173,405	190,288	208,815	229,145	251,455	275,937	302,803	332,284
Rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	-	-	-	-	-	-	-	-	-	-
Travelling & Comm. expense (phone, fax, etc.)	720	790	867	951	1,044	1,146	1,257	1,380	1,514	1,661
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	1,440	1,580	1,734	1,903	2,088	2,291	2,515	2,759	3,028	3,323
Promotional expense	57,960	71,082	83,417	97,509	113,585	131,901	145,410	159,951	175,946	193,540
Insurance expense	-	-	-	-	-	-	-	-	-	-
Professional fees (legal, audit, etc.)	-	-	-	-	-	-	-	-	-	-
Depreciation expense	259,889	259,889	259,889	259,889	259,889	259,889	259,889	259,889	259,889	259,889
Amortization expense	2,400	2,400	2,400	2,400	2,400	-	-	-	-	-
Property tax expense	-	-	-	-	-	-	-	-	-	-
Miscellaneous expense	-	-	-	-	-	-	-	-	-	-
Subtotal	466,409	493,762	521,713	552,941	587,821	624,372	660,526	699,916	743,180	790,698
Operating Income	485,331	975,577	1,532,244	2,207,617	3,020,087	3,992,909	4,771,502	5,634,496	6,602,067	7,685,615
Other income	66,495	123,486	215,617	342,112	520,387	760,431	1,065,182	1,437,492	1,886,807	2,442,684
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	551,826	1,099,063	1,747,861	2,549,730	3,540,474	4,753,340	5,836,685	7,071,988	8,488,874	10,128,299
Interest expense	257,899	249,455	239,350	227,258	212,789	195,476	174,758	149,968	120,304	84,808
Earnings Before Tax	293,926	849,609	1,508,511	2,322,472	3,327,685	4,557,864	5,661,926	6,922,019	8,368,570	10,043,491
Tax	120,510	348,340	618,490	952,213	1,364,351	1,868,724	2,321,390	2,838,028	3,431,114	4,117,831
NET PROFIT/(LOSS) AFTER TAX	173,416	501,269	890,022	1,370,258	1,963,334	2,689,140	3,340,536	4,083,991	4,937,456	5,925,659
Balance brought forward		173,416	674,686	1,564,707	2,934,966	4,898,299	7,587,439	10,927,976	15,011,967	19,949,424
Total profit available for appropriation	173,416	674,686	1,564,707	2,934,966	4,898,299	7,587,439	10,927,976	15,011,967	19,949,424	25,875,083
Dividend	-	-	-	-	-	-	-	-	-	-
Balance carried forward	173,416	674,686	1,564,707	2,934,966	4,898,299	7,587,439	10,927,976	15,011,967	19,949,424	25,875,083

13.2 Balance Sheet

Statement Summaries **SMEDA**

Balance Sheet

Rs. in actuals

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
Current assets											
Cash & Bank	500,000	829,896	1,639,830	2,672,505	4,169,737	6,237,995	8,970,633	12,333,014	16,416,828	21,319,319	27,534,352
Accounts receivable	-	158,795	176,770	211,643	247,844	289,170	336,282	379,877	418,302	460,132	506,145
Finished goods inventory	-	210,620	235,607	262,675	291,980	323,690	357,985	379,539	402,527	427,055	453,238
Equipment spare part inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	155,365	183,697	207,834	234,220	263,037	294,484	312,987	331,923	352,004	373,300	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	-	-	-	-	-	-	-	-	-	-	-
Total Current Assets	655,365	1,383,008	2,260,041	3,381,042	4,972,599	7,145,339	9,977,886	13,424,354	17,589,662	22,579,807	28,493,736
Fixed assets											
Land	1,044,000	1,044,000	1,044,000	1,044,000	1,044,000	1,044,000	1,044,000	1,044,000	1,044,000	1,044,000	1,044,000
Building/Infrastructure	1,220,992	1,098,893	976,794	854,694	732,595	610,496	488,397	366,298	244,198	122,099	0
Machinery & equipment	1,175,000	1,057,500	940,000	822,500	705,000	587,500	470,000	352,500	235,000	117,500	-
Furniture & fixtures	119,900	107,910	95,920	83,930	71,940	59,950	47,960	35,970	23,980	11,990	-
Office vehicles	-	-	-	-	-	-	-	-	-	-	-
Office equipment	83,000	74,700	66,400	58,100	49,800	41,500	33,200	24,900	16,600	8,300	-
Total Fixed Assets	3,642,892	3,383,003	3,123,114	2,863,224	2,603,335	2,343,446	2,083,557	1,823,668	1,563,778	1,303,889	1,044,000
Intangible assets											
Pre-operation costs	12,000	9,600	7,200	4,800	2,400	-	-	-	-	-	-
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	12,000	9,600	7,200	4,800	2,400	-	-	-	-	-	-
TOTAL ASSETS	4,310,257	4,775,610	5,390,354	6,249,067	7,578,334	9,488,785	12,061,443	15,248,021	19,153,440	23,883,696	29,537,736
Liabilities & Shareholders' Equity											
Current liabilities											
Accounts payable	-	214,381	250,571	280,765	313,369	348,551	385,621	405,933	426,420	447,944	448,863
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	214,381	250,571	280,765	313,369	348,551	385,621	405,933	426,420	447,944	448,863
Other liabilities											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	120,510	249,194	249,194	249,194	249,194	201,019	152,844	104,669	56,494	-
Long term debt	1,293,077	1,250,123	1,198,724	1,137,221	1,063,625	975,561	870,184	744,089	593,204	412,655	196,610
Total Long Term Liabilities	1,293,077	1,370,633	1,447,918	1,386,415	1,312,819	1,224,755	1,071,202	896,933	697,873	469,148	196,610
Shareholders' equity											
Paid-up capital	3,017,180	3,017,180	3,017,180	3,017,180	3,017,180	3,017,180	3,017,180	3,017,180	3,017,180	3,017,180	3,017,180
Retained earnings	-	173,416	674,686	1,564,707	2,934,966	4,898,299	7,587,439	10,927,976	15,011,967	19,949,424	25,875,083
Total Equity	3,017,180	3,190,596	3,691,865	4,581,887	5,952,145	7,915,479	10,604,619	13,945,156	18,029,147	22,966,604	28,892,263
TOTAL CAPITAL AND LIABILITI	4,310,257	4,775,610	5,390,354	6,249,067	7,578,334	9,488,785	12,061,443	15,248,021	19,153,440	23,883,696	29,537,736
Note: Total assets value will differ from project cost due to first installment of leases paid at the start of year 0	-	-	-	-	-	-	-	(0)	0	(0)	0

13.3 Cash Flow Statement

Statement Summaries **SMEDA**

Cash Flow Statement

Rs. in actuals

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating activities											
Net profit	-	173,416	501,269	890,022	1,370,258	1,963,334	2,689,140	3,340,536	4,083,991	4,937,456	5,925,659
Add: depreciation expense	-	259,889	259,889	259,889	259,889	259,889	259,889	259,889	259,889	259,889	259,889
amortization expense	-	2,400	2,400	2,400	2,400	2,400	-	-	-	-	-
Deferred income tax	-	120,510	128,684	-	-	-	(48,175)	(48,175)	(48,175)	(48,175)	(56,494)
Accounts receivable	-	(158,795)	(17,975)	(34,873)	(36,201)	(41,325)	(47,112)	(43,596)	(38,425)	(41,830)	(46,013)
Finished good inventory	-	(210,620)	(24,987)	(27,068)	(29,305)	(31,710)	(34,295)	(21,554)	(22,988)	(24,528)	(26,183)
Equipment inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	(155,365)	(28,332)	(24,137)	(26,385)	(28,817)	(31,447)	(18,503)	(18,936)	(20,081)	(21,296)	373,300
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	-	-	-	-	-	-	-	-	-	-	-
Accounts payable	-	214,381	36,189	30,194	32,604	35,181	37,070	20,311	20,488	21,524	920
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(155,365)	372,850	861,332	1,094,179	1,570,828	2,156,322	2,838,015	3,488,476	4,234,699	5,083,039	6,431,078
Financing activities											
Change in long term debt	1,293,077	(42,954)	(51,399)	(61,504)	(73,595)	(88,064)	(105,378)	(126,095)	(150,885)	(180,549)	(216,045)
Change in short term debt	-	-	-	-	-	-	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Change in lease financing	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	3,017,180	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financ	4,310,257	(42,954)	(51,399)	(61,504)	(73,595)	(88,064)	(105,378)	(126,095)	(150,885)	(180,549)	(216,045)
Investing activities											
Capital expenditure	(3,654,892)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by invest	(3,654,892)	-	-	-	-	-	-	-	-	-	-
NET CASH	500,000	329,896	809,934	1,032,675	1,497,233	2,068,258	2,732,638	3,362,381	4,083,814	4,902,490	6,215,033
Cash balance brought forward		500,000	829,896	1,639,830	2,672,505	4,169,737	6,237,995	8,970,633	12,333,014	16,416,828	21,319,319
Cash available for appropriation	500,000	829,896	1,639,830	2,672,505	4,169,737	6,237,995	8,970,633	12,333,014	16,416,828	21,319,319	27,534,352
Dividend	-	-	-	-	-	-	-	-	-	-	-
Cash carried forward	500,000	829,896	1,639,830	2,672,505	4,169,737	6,237,995	8,970,633	12,333,014	16,416,828	21,319,319	27,534,352

14 KEY ASSUMPTIONS

14.1 Operating Cost Assumptions

Description	Details
Operational days per year	330
Operational hours per day	8
Shifts per day	1

14.2 Production Cost Assumptions

Description	Details
Production capacity utilization in year 1	70%
Production capacity growth rate	5%
Maximum capacity utilization	95%

14.3 Revenue Assumptions

Description	Details
Production Units	288,000
Sale price per unit	30
COGs	19.30

14.4 Financial Assumptions

Description	Details
Interest rate	20%
Debt : Equity Ratio	30:70
Project Life (Years)	10

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