
Pre-Feasibility Study

(Red Chilies Dehydration Plant)



Small and Medium Enterprises Development Authority

Ministry of Industries & Production

Government of Pakistan

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1 DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

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2 EXECUTIVE SUMMARY

Pakistan's diverse climatic condition provides an opportunity of growing condiments including spices in all seasons around the year in all provinces. Chilies are produced in large quantities in Pakistan. 85.2% of the total chilies produced, approximately 82,000 tones are grown in the province of Sindh, mostly in Districts Umerkot, Mirpurkhas, Hyderabad, Sanghar and Badin. Almost 45% of Pakistan's red chilies produce come from Kunri, District Umerkot and its vicinity. Due to non-availability of adequate dehydration / drying and storage facilities a huge part of the produce goes to waste every year.

Red Chilies Dehydration Plant is proposed to be located at locations close to Red Chilies growing areas primarily to reduce the inward transportation cost.

Product(s) include **Dehydrated Red Chili Dandicut** and **Hybrid variety**.

Capacity; Installed capacity **4000 Tons / Anum** and initial utilization **2000 Tons / Anum**, utilizing 50% capacity.

Total Cost Estimates is **Rs. 31.57 million** with fixed investment **Rs. 26.52 million** and working capital **Rs. 5.05 million**.

Given the cost assumptions IRR and payback are **48 %** and **2.77 years** respectively

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

- Most significant consideration(s)
 - Proximity to Chilies growing areas
 - Availability of Raw materials
 - Availability of Skilled resources
 - Availability of consistent & uninterrupted supply of utilities
- Equally important factor(s)
 - Consistent supply of fresh chilies
 - Availability of fresh chilies at economical rates
 - Advance contracts with the buyers & exporters for dehydrated products

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 establishing **Red Chillies Dehydration Plant** 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

Chili is an important crop which is mostly grown in the province of Sindh, especially at Kunri. More than 45% of the chili crop grown in Pakistan is produced in and around Kunri, District Umerkot. The major variety of chili grown here is Dandi cut, which is known for its pungency, color and taste. This variety occupies a prominent position in the local as well as export market. However the dried chillies in Pakistan face several problems at present, which include but are not limited to:

- presence of mould,
- high moisture content,
- aflatoxin and rodent droppings

The need for this project was mainly felt because of the fact that the chillies in Pakistan, at present are contaminated with various moulds and bacteria, including the highly toxic substance, aflatoxin. The problems primarily start with poor harvesting and drying techniques. When chillies are picked from the plant, the stem is pulled off too, leaving an opening in the pod, which lets in air, moisture and contaminations. Chillies have a thick waxy skin that prevents rapid sun drying. Sun drying takes 7-15 days to bring the moisture down to acceptable levels. The drying temperature should be below 60 °C. A final moisture content of about 10% is ideal as moisture contents above 11% encourage mould growth and below 4% causes excessive color loss. To slow color loss, which occurs naturally during storage, it is important to keep the product cool and out of light. Dehydration on the other hand brings moisture levels in chillies to 7-10% in a day without causing any color loss.

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

- **Technology:** This proposed unit with modern mechanized dehydration machines will produce clean and bacteria free dehydrated red chillies of various varieties as per the standards and according to the Phyto-sanitary regulations.
- **Location:** The unit would be located in or near red chillies producing and trading clusters such as Districts Umerkot, Mirpurkhas, Hyderabad, Sanghar and Badin in Sindh or in mid-tier cities of other provinces where access to raw material is easy.
- **Product:** The unit would dehydrate red chillies of various varieties such as Dandicut and Hybrid chillies, bringing down the moisture level up to 7-8% and preventing the production and spread of aflatoxin.
- **Target Market:** Dehydrated vegetables are used as industrial raw materials by a wide range of food manufacturing industries and also used as culinary vegetables by hotels, industrial canteens and in household. These are also used in armed forces rations and emergency rations. There is a high demand for aflatoxin free chillies in the international market. Although the local market is relatively indifferent to the aflatoxin content, but major food processors are willing to pay a slightly

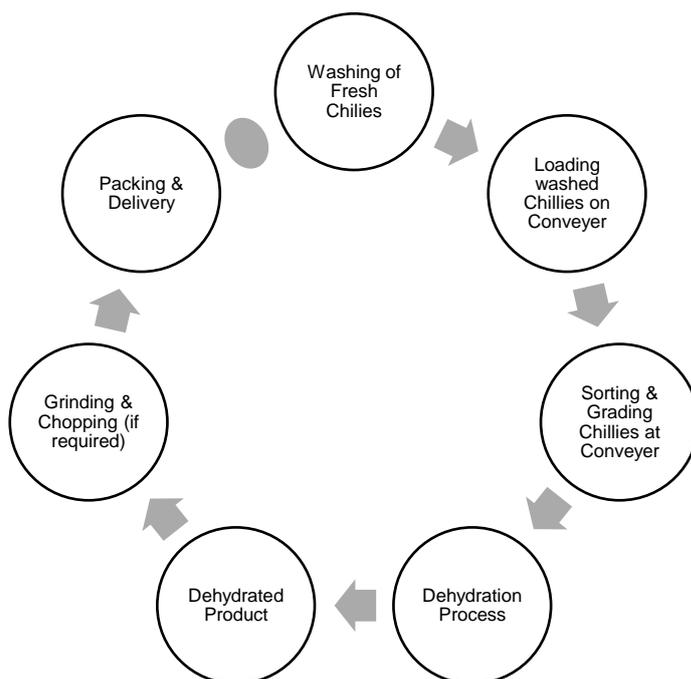
higher price for aflatoxin free product, as they can recover their costs through exports.

- **Employment Generation:** The proposed project will provide direct employment to 18 people. Financial analysis shows that the unit shall be profitable from the very first year of operation

5.1 Production Process Flow

In order to facilitate dehydration and to preserve original qualities during dehydration and storage the following process takes place:

1. Washing is recommended to remove the dust and impurities
2. Cleaned fresh chillies are loaded on conveyor
3. Manual sorting is done and damaged chillies are removed on conveyor belt.
4. Dehydration takes place in dehydration chamber for a specified time period, usually 4-6 hours depending upon the product specification.
5. Dehydrated chillies are collected at the end of dehydration chamber / tunnel.
6. Chopping or grinding is done if required.
7. Packing of Chillies in Bags.



5.2 Installed and Operational Capacities

The facility will be equipped with a dehydration system with a total input capacity of 11 tons red chillies per day. Initial Capacity utilization would be 50% therefore 5.5 tones wet chillies will be dried to 1.6 tons of chillies during twelve hours operation. The annual chillies dehydration capacity of the plant will be 4,000 tones. Natural Gas is recommended for heating the boiler as a source fuel. Wood/Coal can be used as an alternative fuel to dehydrate chillies in case of natural gas is not available.

6 CRITICAL FACTORS

The main critical success factors that affect the decision to invest in the proposed business setup are:

- Improved Quality of Product
- Potential for Export
- High demand in local food industry
- Business and Cluster Development in Rural Economy

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Pakistan produces almost 147,664¹ tons of chilies per year and exports around 2,000 tons of whole and powdered red chilies from an exportable surplus of 30,000 – 40,000 tones. There is a high demand for aflatoxin free chilies in the international market. Although the local market is relatively indifferent to the aflatoxin content, but major food processors are willing to pay a slightly higher price for aflatoxin free product, as they can recover their costs through exports. Pakistan's chili exports are currently on the rise and chilies exports from the country are mostly to Sri Lanka, UAE, Saudi Arabia, USA, Canada, Mexico, Bangladesh, Yemen, Kuwait, Bahrain and Egypt. However these exports are still a fraction of our exportable surplus and many avenues are still closed for our exports.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

Dehydrated vegetables are used as industrial raw materials by a wide range of food manufacturing industries and also used as culinary vegetables by hotels, industrial canteens and in household. These are also used in armed forces rations and emergency rations. There is a high demand for aflatoxin free chilies in the international market. In short, the market sectors which have demand for dehydrated vegetables are as follows:

1. Catering industry and armed forces mess.
2. Dried soup manufacturers.
3. Other food manufactures.
4. Retail trade in dehydrated vegetables

¹ Economic Survey of Pakistan 2014-15

5. Foreign buyers/traders
6. Garlic powder has utility in certain pharmaceuticals

9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of this project. Various costs and revenue related assumptions along with results of the analysis are outlined in this section.

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 116 million in the year one. The capacity utilization during year one is worked out at 50 % with 05 % increase in subsequent years up to the maximum capacity utilization of 75 %.

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

Table 9.1: Project Economics

Description	Details
Internal Rate of Return (IRR)	48%
Payback Period (yrs.)	2.77
Net Present Value (Rs.)	37,802,828

9.2 Project Financing

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

Table 9.2: Project Financing

Description	Details
Total Equity (50%)	Rs.31,576,550
Bank Loan (50%)	Nil

9.3 Project Cost

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

Table 9.3: Project Cost

Description	Amount Rs.
Capital Cost	
Land	2,500,000
Building / Infrastructure	12,950,000
Machinery & Equipment	8,451,000
Furniture & Fixtures	249,000
Office Equipment	167,000
Pre-operating Cost	2,212,000
Total Capital Cost	26,529,000
Working Capital	
Equipment Spare part Inventory	83,333
Raw Material Inventory	3,541,667
Up-front Insurance payment	422,550
Cash	1,000,000
Total Working Capital	5,047,550
Total Project Cost	31,576,550

9.4 Space Requirement

The space requirement for the proposed Red Chilies Dehydration plant 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 9.4: Space Requirement

Description	Estimated Area (Sq.ft.)	Unit Cost (Rs.)	Total Cost (Rs.)
Management Office	500	1800	900,000
Production Hall	2,500	2000	5,000,000

Store – Finished Goods	3,000	1200	3,600,000
Open Space / Sheds	5,000	650	3,250,000
Pavement / Driveway	2,000	100	200,000
Total	13,000		12,950,000

9.5 Machinery & Equipment Requirement

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

Table 9.5: Machinery & Equipment

Description	Unit Cost (Rs.)	Quantity	Total Cost (Rs.)
Sorting Conveyors (18 'X2')	180,000	01	180,000
Washing Tanks (6'x2-1/2x2-1/2')	100,000	02	200,000
Rotary Washing Machine-ss3 16	300,000	02	600,000
Peeling Machine	90,000	02	180,000
Chopping Machine-S.S.	150,000	02	300,000
Slicing	230,000	01	230,000
Dicing Machine	325,000	01	325,000
Blanching / Sulphiting Tank	45,000	01	45,000
Steam Blancher, Trolley Load (3' x3' x6')M.S	65,000	01	65,000
Twin Tunnel Dehydrator	1,000,000	01	1,000,000
Trolley-Dehydrator	30,000	24	720,000
Drying Trays Aluminum Frame	400	600	240,000
Finishing Chambers (13'x3.5'x7')-Complete	150,000	01	150,000
Drying Trays-Finishing Bin	400	40	16,000
Trolleys-Finishing Bin-M.S	50,000	02	100,000

Grinding Mill-S.S	200,000	01	200,000
Threshing Machine	150,000	01	150,000
Working Tables S.S (10'x4")	40,000	02	80,000
Storage Vessels (10x4)	60,000	03	180,000
Plate form Scale 200 M.T capacity	150,000	01	150,000
Steam Jacketed Kettles S.S Capacity 100 kg	45,000	02	90,000
Boiler (Steam Generator)	40,000	01	40,000
Laboratory Equipment etc.	300,000	01	300,000
Storage Conveyors SS	75,000	02	150,000
Rotto Sealer Machine	210,000	01	210,000
Poly Sealer-Paddle	50,000	01	50,000
Exhaust Fans	50,000	06	300,000
Generator 100 kVA	2,200,000	01	2,200,000
Total			8,451,000

9.6 Furniture & Fixtures Requirement

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

Table 9.6: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Tables	02	15,000	30,000
Chairs	08	3,000	24,000
Stools	20	2,000	40,000
Storage Racks	10	10,000	100,000
Air conditioners (1.5 ton)	01	55,000	55,000

Total			249,000
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9.7 Office Equipment Requirement

Following office equipment will be required for this dehydration plant.

Table 9.7: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptop	02	50,000	100,000
Computer printer (s)	01	20,000	20,000
Telephones	02	1,000	2,000
Fax machines	01	20,000	20,000
Copier & Scanner	01	25,000	25,000
Total			167,000

9.8 Human Resource Requirement

In order to run operations of the plant smoothly, details of human resources required along with number of employees and monthly salary are recommended as under:

Table 9.8: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs)	Annual Salary (Rs)
CEO	01	50,000	840,000
Operations manager	01	35,000	840,000
Supervisor	01	25,000	420,000
Quality Inspector	01	25,000	180,000
Accountant	01	25,000	84,000
Helpers	06	13,000	2,520,000
Boiler operator	02	15,000	360,000
Store Keeper	01	15,000	84,000
Electrician	01	15,000	48,000
Scale Operator	01	15,000	420,000
Guards	02	13,000	168,000
CEO	01	50,000	840,000
Total			5,964,000

9.9 Utilities and other costs

An essential cost to be borne by the project is the cost of electricity, fuel for genset and gas. The direct electricity expenses are estimated to be around Rs. 76,800 per month, whereas, fuel for genset and gas expenses are estimated to be Rs. 180,000 per month and Rs. 500,000 per month respectively. Furthermore, promotional expense being essential for marketing of Red Chillies Dehydration plant is estimated as 0.5 % of Revenue.

9.10 Revenue Generation

Based on the capacity utilization of 50 % for both varieties of red chili, sales revenue during the first year of operations is estimated as under:

Table 9.10: Revenue Generation – Year 1

Description	No. of Units Produced (Kg)	Average Sale Price / Kg (Rs.)	Sales Revenue (Rs.)
Dandicut variety	1,000,000	215	59,850,000
Hybrid variety	1,000,000	210	57,000,000
Total			116,850,000

10 CONTACT DETAILS

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

10.1 Machinery Suppliers

Machinery Supplier - 1

Name of Supplier /Organization	DGP Windsor Pakistan (Pvt.) Ltd		
Address	Plot 8/3/1 Sector 5, Block 12C, New Karachi Industrial Area, Karachi		
Phone	021-36973511-12		

Machinery Supplier - 2

Name of Supplier /Organization	Alpha Penta (Pvt.) Ltd		
Address	1006, 10 th Floor Park Avenue, 24/A PECHS Block 6, Karachi		
Phone	021-35055363-4		

Machinery Supplier - 3

Name of Supplier /Organization	A.B.S. Engineering Corporation		
Address	106, 1 st Floor, Trade Tower, Abdullah Haroon Rd, Karachi		
Phone	021-35689369		

Machinery Supplier - 4

Name of Supplier /Organization	Al-Ameen Industries		
Address	Plot No. 28, Sector 19, Korangi Industrial Area, Karachi		

Phone	021-35055363-4		
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Technical Experts / Consultant - 3

Name of Supplier /Organization	Perfect Food Industries		
Address	Shahdara Bund Road, near Jahangir's Tomb, Lahore		
Phone	042-77009486	Fax	042-7933443
E-mail	info@perfectfood.com.pk		
Website	www.perfectfood.com.pk		

11 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.livestockpunjab.gov.pk
Punjab Industrial Estates (PIE)	www.pie.com.pk
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	www.fiedmc.com.pk

12 ANNEXURES

12.1 Income Statement

Calculations										
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	116,850,000	137,532,450	160,537,878	186,090,157	214,433,119	245,832,255	263,040,512	281,453,348	301,155,083	322,235,938
<i>Cost of sales</i>										
Cost of goods sold 1	45,000,000	52,470,000	60,674,400	69,674,436	79,536,048	90,330,226	95,750,040	101,495,042	107,584,745	114,039,830
Cost of goods sold 2	40,000,000	46,640,000	53,932,800	61,932,832	70,698,710	80,293,535	85,111,147	90,217,816	95,630,884	101,368,738
Operation costs (direct labor)	4,368,000	4,793,275	5,259,955	5,772,071	6,334,048	6,950,740	7,627,474	8,370,096	9,185,020	10,079,287
Operating costs (machinery maintenance)	500,000	577,500	661,500	752,456	850,854	957,211	1,005,072	1,055,325	1,108,092	1,163,496
Operating costs (direct electricity)	921,600	1,013,760	1,115,136	1,226,650	1,349,315	1,484,246	1,632,671	1,795,938	1,975,531	2,173,085
Operating costs (direct water)	500,000	605,000	726,000	865,150	1,024,870	1,207,883	1,328,671	1,461,538	1,607,692	1,768,461
Operating costs (direct gas)	6,000,000	7,260,000	8,712,000	10,381,800	12,298,440	14,494,590	15,944,049	17,538,454	19,292,299	21,221,529
Operating costs (genset)	2,160,000	2,376,000	2,613,600	2,874,960	3,162,456	3,478,702	3,826,572	4,209,229	4,630,152	5,093,167
Total cost of sales	99,449,600	115,735,535	133,695,391	153,480,355	175,254,742	199,197,133	212,225,695	226,143,437	241,014,415	256,907,592
Gross Profit	17,400,400	21,796,915	26,842,487	32,609,802	39,178,378	46,635,122	50,814,818	55,309,911	60,140,667	65,328,347
<i>General administration & selling expenses</i>										
Administration expense	1,596,000	1,751,389	1,921,907	2,109,026	2,314,364	2,539,694	2,786,962	3,058,304	3,356,065	3,682,816
Administration benefits expense	159,600	175,139	192,191	210,903	231,436	253,969	278,696	305,830	335,607	368,282
Travelling expense	239,400	262,708	288,286	316,354	347,155	380,954	418,044	458,746	503,410	552,422
Communications expense (phone, fax, mail, internet, etc.)	79,800	87,569	96,095	105,451	115,718	126,985	139,348	152,915	167,803	184,141
Office expenses (stationary, entertainment, janitorial services, etc.)	63,840	70,056	76,876	84,361	92,575	101,588	111,478	122,332	134,243	147,313
Promotional expense	584,250	687,662	802,689	930,451	1,072,166	1,229,161	1,315,203	1,407,267	1,505,775	1,611,180
Insurance expense	422,550	380,295	338,040	295,785	253,530	211,275	169,020	126,765	84,510	42,255
Professional fees (legal, audit, consultants, etc.)	350,550	412,597	481,614	558,270	643,299	737,497	789,122	844,360	903,465	966,708
Depreciation expense	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200
Amortization of pre-operating costs	442,400	442,400	442,400	442,400	442,400	-	-	-	-	-
Bad debt expense	2,337,000	2,750,649	3,210,758	3,721,803	4,288,662	4,916,645	5,260,810	5,629,067	6,023,102	6,444,719
Subtotal	7,809,590	8,554,665	9,385,055	10,309,004	11,335,505	12,031,967	12,802,883	13,639,786	14,548,179	15,534,035
Operating Income	9,590,810	13,242,251	17,457,432	22,300,797	27,842,873	34,603,154	38,011,935	41,670,124	45,592,488	49,794,312
Other income (interest on cash)	189,797	416,012	637,011	798,984	948,067	1,090,918	1,178,208	1,228,147	1,287,985	2,066,657
Earnings Before Interest & Taxes	9,780,607	13,658,263	18,094,443	23,099,781	28,790,940	35,694,073	39,190,143	42,898,272	46,880,473	51,860,969
Subtotal	-	-	-	-	-	-	-	-	-	-
Earnings Before Tax	9,780,607	13,658,263	18,094,443	23,099,781	28,790,940	35,694,073	39,190,143	42,898,272	46,880,473	51,860,969
Tax	1,956,121	2,731,653	3,618,889	4,619,956	5,758,188	7,138,815	7,838,029	8,579,654	9,376,095	10,372,194
NET PROFIT/(LOSS) AFTER TAX	7,824,485	10,926,610	14,475,554	18,479,825	23,032,752	28,555,258	31,352,114	34,318,617	37,504,378	41,488,775
Balance brought forward		1,956,121	3,220,683	4,424,059	5,725,971	7,189,681	8,936,235	10,072,087	11,097,676	12,150,514
Total profit available for appropriation	7,824,485	12,882,731	17,696,237	22,903,884	28,758,723	35,744,939	40,288,349	44,390,705	48,602,054	53,639,289
Dividend	5,868,364	9,662,049	13,272,178	17,177,913	21,569,042	26,808,704	30,216,262	33,293,028	36,451,541	40,229,467
Balance carried forward	1,956,121	3,220,683	4,424,059	5,725,971	7,189,681	8,936,235	10,072,087	11,097,676	12,150,514	13,409,822

12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	1,000,000	2,795,934	5,524,305	7,215,912	8,763,760	10,197,583	11,620,779	11,943,379	12,619,565	13,140,136	28,193,007
Accounts receivable		9,604,110	10,454,073	12,249,466	14,244,988	16,459,861	18,915,015	20,912,579	22,376,460	23,942,812	25,618,809
Equipment spare part inventory	83,333	101,063	121,551	145,177	172,370	203,612	224,482	247,491	272,859	300,827	-
Raw material inventory	3,541,667	4,336,063	5,264,768	6,347,994	7,608,804	9,073,498	10,098,804	11,239,968	12,510,085	13,923,725	-
Pre-paid insurance	422,550	380,295	338,040	295,785	253,530	211,275	169,020	126,765	84,510	42,255	-
Total Current Assets	5,047,550	17,217,464	21,702,737	26,254,334	31,043,451	36,145,829	41,028,100	44,470,184	47,863,479	51,349,755	53,811,816
<i>Fixed assets</i>											
Land	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Building/Infrastructure	12,950,000	12,302,500	11,655,000	11,007,500	10,360,000	9,712,500	9,065,000	8,417,500	7,770,000	7,122,500	6,475,000
Machinery & equipment	8,451,000	7,605,900	6,760,800	5,915,700	5,070,600	4,225,500	3,380,400	2,535,300	1,690,200	845,100	-
Furniture & fixtures	249,000	224,100	199,200	174,300	149,400	124,500	99,600	74,700	49,800	24,900	-
Office equipment	167,000	150,300	133,600	116,900	100,200	83,500	66,800	50,100	33,400	16,700	-
Total Fixed Assets	24,317,000	22,782,800	21,248,600	19,714,400	18,180,200	16,646,000	15,111,800	13,577,600	12,043,400	10,509,200	8,975,000
<i>Intangible assets</i>											
Pre-operation costs	2,212,000	1,769,600	1,327,200	884,800	442,400	-	-	-	-	-	-
Total Intangible Assets	2,212,000	1,769,600	1,327,200	884,800	442,400	-	-	-	-	-	-
TOTAL ASSETS	31,576,550	41,769,864	44,278,537	46,853,534	49,666,051	52,791,829	56,139,900	58,047,784	59,906,879	61,858,955	62,786,816
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		7,392,092.47	8,636,204.29	10,007,825.04	11,518,429.95	13,180,497.76	14,951,034.91	15,892,086.45	16,894,613.23	17,962,871.75	17,800,443.57
Total Current Liabilities	-	7,392,092	8,636,204	10,007,825	11,518,430	13,180,498	14,951,035	15,892,086	16,894,613	17,962,872	17,800,444
<i>Other liabilities</i>											
Deferred tax		845,100	845,100	845,100	845,100	845,100	676,080	507,060	338,040	169,020	-
Total Long Term Liabilities	-	845,100	845,100	845,100	845,100	845,100	676,080	507,060	338,040	169,020	-
<i>Shareholders' equity</i>											
Paid-up capital	31,576,550	31,576,550	31,576,550	31,576,550	31,576,550	31,576,550	31,576,550	31,576,550	31,576,550	31,576,550	31,576,550
Retained earnings		1,956,121	3,220,683	4,424,059	5,725,971	7,189,681	8,936,235	10,072,087	11,097,676	12,150,514	13,409,822
Total Equity	31,576,550	33,532,671	34,797,233	36,000,609	37,302,521	38,766,231	40,512,785	41,648,637	42,674,226	43,727,064	44,986,372
TOTAL CAPITAL AND LIABILITIES	31,576,550	41,769,864	44,278,537	46,853,534	49,666,051	52,791,829	56,139,900	58,047,784	59,906,879	61,858,955	62,786,816

12.3 Cash Flow Statement

Calculations											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit		7,824,485	10,926,610	14,475,554	18,479,825	23,032,752	28,555,258	31,352,114	34,318,617	37,504,378	41,488,775
Add: depreciation expense		1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200	1,534,200
amortization of pre-operating costs		442,400	442,400	442,400	442,400	442,400	-	-	-	-	-
Deferred income tax		845,100	-	-	-	-	(169,020)	(169,020)	(169,020)	(169,020)	(169,020)
Accounts receivable		(9,604,110)	(849,964)	(1,795,392)	(1,995,522)	(2,214,873)	(2,455,155)	(1,997,564)	(1,463,881)	(1,566,352)	(1,675,997)
Equipment inventory	(83,333)	(17,729)	(20,488)	(23,626)	(27,193)	(31,242)	(20,870)	(23,009)	(25,368)	(27,968)	300,827
Raw material inventory	(3,541,667)	(794,396)	(928,706)	(1,083,226)	(1,260,809)	(1,464,695)	(1,025,305)	(1,141,165)	(1,270,116)	(1,413,640)	13,923,725
Advance insurance premium	(422,550)	42,255	42,255	42,255	42,255	42,255	42,255	42,255	42,255	42,255	42,255
Accounts payable		7,392,092	1,244,112	1,371,621	1,510,605	1,662,068	1,770,537	941,052	1,002,527	1,068,259	(162,428)
Cash provided by operations	(4,047,550)	7,664,298	12,390,419	14,963,785	18,725,760	23,002,865	28,231,900	30,538,862	33,969,214	36,972,112	55,282,337
<i>Financing activities</i>											
Issuance of shares	31,576,550	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	31,576,550	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(26,529,000)	-	-	-	-	-	-	-	-	-	-
Cash (used for)/ provided by investing activities	(26,529,000)	-	-	-	-	-	-	-	-	-	-
NET CASH	1,000,000	7,664,298	12,390,419	14,963,785	18,725,760	23,002,865	28,231,900	30,538,862	33,969,214	36,972,112	55,282,337
Cash balance brought forward		1,000,000	2,795,934	5,524,305	7,215,912	8,763,760	10,197,583	11,620,779	11,943,379	12,619,565	13,140,136
Cash available for appropriation	1,000,000	8,664,298	15,186,354	20,488,090	25,941,673	31,766,625	38,429,483	42,159,641	45,912,593	49,591,677	68,422,473
Dividend		5,868,364	9,662,049	13,272,178	17,177,913	21,569,042	26,808,704	30,216,262	33,293,028	36,451,541	40,229,467
Cash balance	1,000,000	2,795,934	5,524,305	7,215,912	8,763,760	10,197,583	11,620,779	11,943,379	12,619,565	13,140,136	28,193,007
Cash carried forward	1,000,000	2,795,934	5,524,305	7,215,912	8,763,760	10,197,583	11,620,779	11,943,379	12,619,565	13,140,136	28,193,007

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Days Operational in a Year	360
Hours Operational / Day	12 Hrs
Shift Length	12 Hrs

13.2 Production Cost Assumptions

Description	Details
Optimum Production Capacity	4,000,000 Kg
Production Capacity Utilization	50%
Production Capacity Growth	05%
Maximum Capacity Utilization	75%

13.3 Revenue Assumptions

Description	Details
Average Sales Price	Rs. 205
Sales Price Growth	07%

13.4 Financial Assumptions

Description	Details
Equity	100%