

# Feasibility Study

## Rice Parboiling & Drying Plant



*Turn Potential into Profit*

Small & Medium Enterprise Development Authority

Government of Pakistan

[Http://www.smeda.org.pk](http://www.smeda.org.pk)

### Lahore

Small and Medium Enterprise Development Authority, 4<sup>th</sup> Floor, Building No.3, Aiwan-e-Iqbal, Egerton Road, Lahore 54792, Pakistan

Tel: 92-42-111-111-456 Fax: 92-42-36304926, Email: [helpdesk@smeda.org.pk](mailto:helpdesk@smeda.org.pk)

### Karachi

Small and Medium Enterprise Development Authority, 5th floor, Bahria Complex-II

Moulvi Tameezuddin Khan Road, Karachi

Tel : 92-21-111-111-456, 5610432, 5610536, 5610459, Fax: 92-21-5610572

Email: [helpdesk-khi@smeda.org.pk](mailto:helpdesk-khi@smeda.org.pk)

### Peshawar

Small and Medium Enterprise Development Authority, Ground Floor, Statelife Building, The Mall, Peshawar Cantt.

Tel: 92-91-111-111-456, 92-91-9213046-7 Fax: 92-91-286908, Email: [helpdesk-pew@smeda.org.pk](mailto:helpdesk-pew@smeda.org.pk)

### Quetta

Small and Medium Enterprise Development Authority, Bunglow No.15-A Chaman Housing Scheme, Airport Road, Quetta

Tel: 92-81-831702, 92-81-831623 Fax: 92-81-831922, Email: [helpdesk-qta@smeda.org.pk](mailto:helpdesk-qta@smeda.org.pk)

## EXECUTIVE SUMMARY

Rice is consumed as a major food item after wheat. Rice, which is grown on a large irrigated area in Pakistan, is an important Kharif crop. Pakistan is a major rice exporter and rice is one of the top ten commodities being exported from Pakistan to more than 70 destinations. Pakistani rice is broadly classified into IRRI and Basmati. Quality wise bulk quantities go under IRRI varieties, but value wise Basmati has major share. Pakistan has been exporting rice of all varieties i.e. Basmati, IRRI, and others. The share of Basmati and others is estimated in terms of quantity at 30:70.

One of the major agriculture based business; the rice market is currently more than 480 million metric tons of husked rice which amount to \$ 18.7 Billion annually. The largest exporter is China, India, Indonesia, Thailand, while Vietnam, USA, India and Pakistan follow in the same order. These countries exchange place at times when the production of one country is affected due to environmental or other reasons.

The world rice consumption has been increasing continuously since the last few decades and this upward trend is predicted to continue in 2018-19 specially for parboiled which is one of the most popular rice products in Europe, Saudi Arabia, South Africa and other regions of the world. It has become more important not only by the fact of improved nutritional value but also by the better cooking and processing properties which are desired from the industrial standpoint.

Rice parboiling is a process that adds more value to the rice. Word par-boil is combination of two words “Partial” and “Boiling”. Which refers to partial pre-cooking and processing of rice so in other words Parboiling of rice is a process in which rice paddy is pre-cooked before milling. After parboiling, ordinary milling process is applied to the paddy. The usual steps involved are Soaking, Cooking, Drying and Milling. During husking the rice is removed from the husk, while the rice is further refined through different machines, during the polishing process.

The share of the parboiled rice in the world market is 60% and this share is growing on annual basis. Pakistan has surplus white rice available for export which is becoming redundant due to the decreasing demand of white rice and increasing demand of parboiled rice.

This project can be initiated on the basis of the world demand for parboiled rice and will be suitable to install in rice belt areas like Shahdadkot, Qambar, Larkana and Dadu, due to the ample production of IRRI 9 in above said area. There are only few parboiling & drying plants in the cluster. However, projects of this kind could bring technology and trend change in region.

The investment for this project is approximated to be **Rs. 65.34 million.**

**Table 0-1      Total Project Investment**

<b>Total Investment</b>	<b>Rs.</b>
Capital Expenditure	42,335,403
Working Capital	23,161,279
<b>Total Project Investment</b>	<b>65,496,682</b>

The proposed debt-equity split for this project is taken as 60% to 40%

**Table 0-2      Initial Financing**

<b>Initial Financing</b>	<b>Rs.</b>
Debt	39,098,652
Equity	26,398,031

The financial model for the project is based on the information collected through our research and analysis. The financial statements of the project are presented in the annexure. Based on the financial model, the project is commercially viable with the following expected returns.

**Table 0-3      Project Returns**

<b>Project details</b>	<b>Equity</b>	<b>Project</b>
IRR	54%	35%
NPV	48,367,681	79,096,433
Payback period (years)	2.91	3.43

## **1 COMPANY PROFILE**

### **1.1 Company Legal Status**

The proposed legal status of the company is Sole proprietorship form.

### **1.2 Parboiling & Drying Plant Location**

There are a number of different varieties of rice produced in Pakistan, major varieties include the Basmati and IRRI of which the world renowned Super Basmati is only produced in Pakistan. The proposed unit would provide husking and polishing services to rice producers. Additionally, the unit would also be purchasing IRRI 9 rice paddy for de-husking and boiling the rice to sell it into the market as parboiled rice.

The project is proposed to be set up in any of the rice planting areas and big cities of Punjab and Sindh and some parts of Baluchistan and KPK. The legal status of the proposed business would be either sole proprietorship or partnership. However, this pre-feasibility assumes the legal status to be Sole Proprietorship.

The proposed project is most suitable for rice belt areas of northern Sindh because the most important feature of the proposed location is that there are only few parboiling and drying plants present in the northern Sindh. Though numbers of traditional mills are located in the said areas but they are not of international standard. They have more broken percentage and un-hygienic conditions within the milling process which is not only affecting our image but also result in low price sale; that something which is not desirable in premium quality products or in international trade.

### **Industry Overview**

Rice is consumed as a major food item after wheat. Rice, which is grown on a large irrigated area in Pakistan, is an important Kharif crop. Pakistan is a major rice exporter and rice is one of the top ten commodities being exported from Pakistan to more than 70 destinations. Pakistani rice is broadly classified into IRRI and Basmati. Quality wise bulk quantities goes to IRRI varieties, but value wise Basmati has major share. Pakistan has

been exporting rice of all varieties i.e. Basmati, IRRI, and others. The share of Basmati and others is estimated in terms of quantity at 30:70.

Unfortunately, rice milling sector in Sindh is not according to international standards. It would be not more to say that existing rice milling infrastructure, we have, is absolutely outdated.

Many of the rice processing units are of the traditional huller type and are inefficient. However, there are few parboiled plants in the region. This will not only help to bridge the gap of quality milled rice but will also help in technology transformation.

### 1.3 Parboiling & Drying Plant in Sindh Rice Cluster.

Currently there are few Parboiling & Drying Plants in rice belt areas of Sindh. Except Shikarpur and Dadu Districts, there isn't any parboiled units in other cities of northern Sindh rice growing areas. .

### 1.4 Industry Growth

World rice consumption increased 40 percent in the last 30 years, from 61.5 kg per capita to about 85.9 kg per capita (milled rice). Total world rice exports in 2016-17 was approximately 47,549,000 metric tons, higher than the 40,205,000 tons estimated for 2015-16, according to the USDA. Rice exports from Pakistan is continuously increasing and rice export shown a sizeable growth of overall 27% at the end of February 2018. Pakistan's rice production was 6849 thousand tons in 2016-17 which shows about 1% higher production as compared to the total production of 2015-16 which was recorded 6801 thousand metric tons.

**Table 1-4 Trends in world Production<sup>1</sup>**

Leading Rice Producing Countries				
Year	2015-16		2014-15	
	mMT	%	mMT	%
China	145.8	30.90%	144.6	30.20%

<sup>1</sup> United states Department of Agriculture Agricultural service.

<b>India</b>	104.4	22.10%	105.5	22.00%
<b>Indonesia</b>	36.2	7.70%	35.6	7.40%
<b>Thailand</b>	15.8	3.30%	18.8	3.90%
<b>Brazil</b>	8.1	1.70%	8.5	1.80%
<b>Pakistan</b>	6.8	1.40%	6.9	1.40%
<b>USA</b>	6.1	1.30%	7.1	1.50%
<b>Others</b>	149.8	31.70%	151.8	31.70%

Rice Crop in Sindh has been grown since centuries as its cultivation dates back even before the civilization of Moen-e-jo-Daro. There was substantial area of 487 thousand hectares under rice cultivation even before the barrages. The area further increased with the opening of Sukkur barrage in 1932 and reached upto 704 thousands hectares in 1998 and produced 1.5million tons paddy. In Sindh rice is cultivated in two different geographical areas i.e Northern or upper Sindh (comprising Larkana, Qamber-Shahdadkot, Shikarpur, Jacobabad, Kashmore and Dadu Districts) and Southern or Lower Sindh (comprising Thatta, Badin, and Tando Mohammad Khan Districts).

There are approximately 850 traditional rice mills working in Sindh-Baluchistan and approximately 700 are working in Sindh to process the paddy among 700 rice mills 300 are in Larkana and Kamber Shahdadkot region.

Larkana and Kamber Shahdadkot are highest paddy producing districts in the Sindh. Rice is grown in almost all the irrigated area of said districts. In Sindh province rice is cultivated on about 2 million acres and average rice yield is 40-50 mounds per acres which depends on the rice varieties. Punjab's share in total country's rice production is about 50.7% and the share of Sindh, Baluchistan and KPK is 38.8%, 8.09% and 2.30% respectively. This not only employed the labor force but also encouraged the export of rice from the country.

## 2 MARKET ANALYSIS

Rice parboiling comes under the category of agro based industries which is priority based industries of Pakistan. Pakistan has been considering various measures to encourage

exporters to invest more in production of par-boiled rice for its subsequent exports to many regions of the world where there is considerable demand for par-boiled rice.

Rice parboiling is very profitable and has a high margin due to the demand in local and international market especially for its taste. The share of the parboiled rice in the world market is 60% and this share is growing on annual basis. Pakistan has surplus white rice available for export which is becoming redundant due to the decreasing demand of white rice and increasing demand of parboiled rice.

Rice millers in Pakistan are still reluctant to adopt this useful technology. Rice mill owners and exporters should realize the situation and should evaluate the usefulness of parboiling the rice. According to our study there are only few parboiling unit in interior Sindh which is located in Shikarpur and Dadu. Therefore, there is huge space for investors in the business.

## **2.1 Target Customers**

The target customers for the proposed project would be Middle Eastern, African countries and local market.

## **2.2 Market Demand**

The largest exporter is China, India, Indonesia, Thailand, Brazil, Pakistan, USA, Burma, and Cambodia respectively. These countries exchange place at times when the production of one country is affected due to environmental or other reasons.

World rice consumption increased 40 percent in the last 30 years, from 61.5 kg per capita to about 85.9 kg per capita (milled rice). Usually most of the rice is consumed in the same country that produced it. This is one of the most important characteristics of the rice production chain. Domestic rice markets are, therefore, very segmented and often one of the most protected. This upward trend is predicted to continue in 2018-19 specially for parboiled which is one of the most popular rice products in Europe, Saudi Arabia, South Africa and other regions of the world. It has become more important not only by the fact

of improved nutritional value but also by the improved cooking and processing properties which is desired from the industrial standpoint.

### **2.3 Market Supply**

Total number of Parboiling & Drying Units in Sindh are only few. There is huge potential in parboiling sector as parboiled rice demand is continuously increasing not only in the international market but also in local market as well. The parboiled units installed in Sindh and even in Pakistan are the far from its demand in local and international market.

### **Crucial Factors & Steps in Decision Making For Investment**

### **2.4 Key Success Factors**

Following factors are the key in making this project profitable:

- Location of the project will play a pivotal role in the successful running of the Parboiled and Drying Plant business. Project site also serve decisive role in acquiring required amount of rice.
- Selection of proper equipment is another key factor for carrying out the successful operations of the proposed project.
- This project can be setup in first and second tier cities of Sindh and Punjab.

### **2.5 Opportunities**

The proposed project would have a number of competitive advantages:

- The project will provide quality milled rice with less broken percentage and tasty rice with delightful fragrance. Owing to its fragrance and increased size it has huge demand in local and international market.
- Opportunity to penetrate in international market is sure due to its demand and favorable government policies for rice export.



## 2.6 Threats

The proposed project will be facing the following threat:

- Maintenance and adhering to international standards and grade line for the rice.
- The product is dependent on environmental conditions as the risk of shortfall in rice procurement is there.
- Threat of competitors is always there i.e. Indian exporters of parboiled rice are extravagant in the search of market and export.

## 3 REGULATIONS LICENSES AND INCENTIVES

The Pakistan's new investment policy has long been characterized by steady moves to liberalization, deregulation, and privatization. All industries are open to investment without government permission except for the following four specified industries.

- Arms and Ammunitions
- High Explosives
- Radio Active Substances
- Security Printing, currency or mint.

Rice parboiling comes under category C & D which is priority agro based industry. Custom is livable on import of plant, machinery and equipment which is not manufactured locally for industries falling under C & D category but for this project all required machinery and equipment are locally available hence do not fall under above mentioned categories.

#### 4 MACHINERY AND EQUIPMENT REQUIREMENT

The details about the machinery and their respective origins are given below in the table. The quotation for the Rice Parboiling & Drying Plant was given by Usman Engineering Industries is as follows:

Machine Description	No of Units	Total Amount in Rs.
Mountings & Fittings		74,00,000
Stop Wall	1	
Feet Check Wall	1	
Safety Wall	1	
Blow down wall	1	
Gage glass set	1	
Pressure gage	1	
Bloor with motor	1	
Chimney	1	
Feed pump	1	
F. D Fan	1	
With husk system	1	
Rice Parboiling		85,00,000
Vehicle 8*8*6*2/8 with grinders 14*8*4 (6 tons capacity per vehicle)	6	
Belt conveyer 24*26	1	
System distributer	2	
Plate from checkered		
Worm conveyer		
Water Tank	1	
Stemming cookers double hopper	1	
Circulation heater	1	
Serhi Checkered		
Ely Wetter		-
Pre Drawing & Drawing		55,75,000
Cool tower – Chamber Dryer		
Basement Rotary System		
Heat Exchanger	1	
Elevator	1	
Motor 5 HP	1	
Double air Section Forced Fan	1	
Gear 1 HP very able	1	
Motor 12.5 HP	1	
<b>Total</b>		<b>21,475,000</b>

**HUMAN RESOURCE REQUIREMENT**

The details for staff required for proposed Parboiling & Drying Plant is given in the below table:

**Table 8-1 Details of Human Resource Requirement**

Designation	No. of Employees	Monthly Salary
CEO	01	100,000
Finance Manager	01	50,000
Plant Manager	02	40,000
Office Staff	04	25,000
Accountant	02	20,000
Clerk	01	15,000
Contract Labor	20	14,000
Security Staff	02	14,000
Good own Keeper	02	14,000

## 5 FINANCIAL ANALYSIS

### 5.1 Project Costs

Total project cost for the Parboiling is estimated to be around Rs.65.49 million. This includes costs of capital expenditure as well as working capital required for the project in the initial year.

**Table 9-1 Project Cost Details**

<b>Capital Investment</b>	<b>Rs. in actuals</b>
Land	4,000,000
Building/Infrastructure	10,640,000
Machinery & equipment	21,475,000
Furniture & fixtures	444,000
Office vehicles	2,500,000
Office equipment	371,500
Pre-operating costs	2,704,903
Training costs	200,000
<b>Total Capital Costs</b>	<b>42,335,403</b>

  

<b>Working Capital</b>	<b>Rs. in actuals</b>
Equipment spare part inventory	46,529
Raw material inventory	21,775,000
Upfront insurance payment	339,750
Cash	1,000,000
<b>Total Working Capital</b>	<b>23,161,279</b>

  

<b>Total Investment</b>	<b>65,496,682</b>
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### 5.2 Capital Structure

**Table 9-2 Capital Structure Details**

<b>Description</b>	<b>Debt/Equity Ratio</b>	<b>Amount in Rs</b>
Debt	60%	39,098,652
Equity	40%	26,398,031

### 5.3 Interest Rates

The interest rate on debt has been taken as 12% per annum. Debt tenure is 5 years with quarterly installments.

## FINANCIAL ASSUMPTIONS

The 5-year financial projections are based on the following assumptions:

### 5.4 Revenue Assumptions

#### 5.4.1 *Selling price of milled rice*

The current market price for selling 1kg is about Rs. 69.13

**Table 10-1    Annual growth rates assumed**

Price Growth Rate	10%
Annual Increase in Capacity Utilization	5%

#### 5.4.2 *Starting Capacity of Plant*

## **6 ANNEXURE:**

### **6.1 Income Statement**

### **6.2 Balance Sheet**

### **6.3 Cash Flow statement**

Calculations										SMEDA
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	247,318,422	311,361,459	346,297,516	366,054,901	384,357,646	403,575,528	423,754,304	444,942,020	467,189,121	490,548,577
<i>Cost of sales</i>										
Cost of goods irri-9	174,200,000	230,923,875	256,874,231	272,238,671	285,850,605	300,143,135	315,150,292	330,907,806	347,453,197	364,825,857
Operation costs 1 (direct labor)	3,600,000	4,694,125	5,153,985	5,708,642	6,264,443	6,874,358	7,543,656	8,278,117	9,084,086	9,968,525
Operating costs 2 (machinery maintenance)	715,833	1,039,301	1,266,197	1,469,736	1,690,196	1,943,725	2,235,284	2,570,577	2,956,163	3,399,588
Operating costs 3 (direct electricity)	6,237,324	8,268,353	9,197,519	9,747,651	10,235,034	10,746,785	11,284,124	11,848,331	12,440,747	13,062,785
Operating costs 4 (direct water)	82,667	114,803	133,786	148,540	163,394	179,733	197,706	217,477	239,225	263,147
Total cost of sales	184,835,824	245,040,456	272,625,718	289,313,239	304,203,671	319,887,737	336,411,062	353,822,307	372,173,417	391,519,901
Gross Profit	62,482,598	66,321,002	73,671,798	76,741,661	80,153,975	83,687,791	87,343,242	91,119,712	95,015,703	99,028,676
	25%	21%	21%	21%	21%	21%	21%	20%	20%	20%
<i>General administration &amp; selling expenses</i>										
Administration expense	4,332,000	4,753,770	5,216,603	5,724,499	6,281,845	6,893,454	7,564,610	8,301,111	9,109,319	9,996,216
Administration benefits expense	433,200	475,377	521,660	572,450	628,184	689,345	756,461	830,111	910,932	999,622
Electricity expense	390,390	409,910	451,925	523,160	635,904	811,593	1,087,612	1,530,379	2,261,067	3,507,657
Water expense	124,000	136,400	150,040	165,044	181,548	199,703	219,674	241,641	265,805	292,386
Travelling expense	649,800	713,065	782,491	858,675	942,277	1,034,018	1,134,692	1,245,167	1,366,398	1,499,432
Communications expense (phone, fax, mail, internet, etc.)	129,960	142,613	156,498	171,735	188,455	206,804	226,938	249,033	273,280	299,886
Office vehicles running expense	375,000	412,500	453,750	499,125	549,038	603,941	664,335	730,769	803,846	884,230
Office expenses (stationary, entertainment, janitorial services, etc.)	433,200	475,377	521,660	572,450	628,184	689,345	756,461	830,111	910,932	999,622
Promotional expense	247,318	311,361	346,298	366,055	384,358	403,576	423,754	444,942	467,189	490,549
Insurance expense	339,750	293,275	246,800	200,325	153,850	308,689	246,951	185,213	123,476	61,738
Professional fees (legal, audit, consultants, etc.)	247,318	311,361	346,298	366,055	384,358	403,576	423,754	444,942	467,189	490,549
Depreciation expense	3,261,050	3,261,050	3,261,050	3,261,050	3,261,050	3,566,305	3,566,305	3,566,305	3,566,305	3,566,305
Amortization of pre-operating costs	540,981	540,981	540,981	540,981	540,981	-	-	-	-	-
Amortization of legal, licensing, and training costs	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Bad debt expense	2,473,184	3,113,615	3,462,975	3,660,549	3,843,576	4,035,755	4,237,543	4,449,420	4,671,891	4,905,486
Miscellaneous expense 1	1,000,000	1,150,000	1,391,500	1,852,087	2,711,640	4,367,123	7,736,625	15,076,493	32,317,802	76,203,687
Subtotal	14,997,152	16,520,655	17,870,529	19,354,239	21,335,248	24,233,227	29,065,716	38,145,639	57,535,431	104,217,364
Operating Income	47,485,446	49,800,348	55,801,269	57,387,423	58,818,727	59,454,564	58,277,527	52,974,074	37,480,272	(5,188,688)
Other income (interest on cash)	25,000	139,769	848,682	2,199,695	3,692,237	5,353,110	7,188,708	8,791,860	9,825,654	14,007,021
Earnings Before Interest & Taxes	47,510,446	49,940,117	56,649,951	59,587,117	63,510,963	64,807,674	65,466,235	61,765,933	47,305,926	8,818,333
Interest on short term debt	984,902	984,902	-	-	-	-	-	-	-	-
Interest expense on long term debt (Project Loan)	3,302,161	2,782,369	2,200,202	1,548,174	817,903	-	-	-	-	-
Interest expense on long term debt (Working Capital Loan)	1,206,195	773,782	286,529	-	-	-	-	-	-	-
Subtotal	5,493,258	4,541,053	2,486,731	1,548,174	817,903	-	-	-	-	-
Earnings Before Tax	42,017,188	45,399,064	54,163,220	58,038,943	62,693,060	64,807,674	65,466,235	61,765,933	47,305,926	8,818,333
Tax	8,403,438	9,079,813	10,832,644	11,607,789	12,538,612	12,961,535	13,093,247	12,353,187	9,461,185	1,763,667
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>33,613,750</b>	<b>36,319,251</b>	<b>43,330,576</b>	<b>46,431,155</b>	<b>50,154,448</b>	<b>51,846,139</b>	<b>52,372,988</b>	<b>49,412,747</b>	<b>37,844,741</b>	<b>7,054,667</b>

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
<b>Assets</b>											
<i>Current assets</i>											
Cash & Bank	1,000,000	-	5,590,770	28,356,499	59,631,297	88,058,163	126,066,235	161,482,083	190,192,300	202,833,869	357,446,989
Accounts receivable		20,327,542	22,959,447	27,027,081	29,274,757	30,838,872	32,380,815	33,999,856	35,699,849	37,484,841	39,359,083
Finished goods inventory		33,758,899	37,662,272	41,871,585	43,965,164	46,163,422	48,471,593	50,895,173	53,439,931	56,111,928	58,917,524
Equipment spare part inventory	46,529	70,932	90,739	110,591	133,539	161,248	194,707	235,109	283,894	342,802	-
Raw material inventory	21,775,000	33,195,307	42,464,521	51,755,124	62,494,312	75,461,881	91,120,222	110,027,668	132,858,409	160,426,529	-
Pre-paid insurance	339,750	293,275	246,800	200,325	153,850	308,689	246,951	185,213	123,476	61,738	-
Total Current Assets	23,161,279	87,645,955	109,014,549	149,321,205	195,652,919	240,992,276	298,480,524	356,825,102	412,597,859	457,261,707	455,847,597
<i>Fixed assets</i>											
Land	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
Building/Infrastructure	10,640,000	10,108,000	9,576,000	9,044,000	8,512,000	7,980,000	7,448,000	6,916,000	6,384,000	5,852,000	5,320,000
Machinery & equipment	21,475,000	19,327,500	17,180,000	15,032,500	12,885,000	10,737,500	8,590,000	6,442,500	4,295,000	2,147,500	-
Furniture & fixtures	444,000	399,600	355,200	310,800	266,400	222,000	177,600	133,200	88,800	44,400	-
Office vehicles	2,500,000	2,000,000	1,500,000	1,000,000	500,000	4,026,275	3,221,020	2,415,765	1,610,510	805,255	-
Office equipment	371,500	334,350	297,200	260,050	222,900	185,750	148,600	111,450	74,300	37,150	-
Total Fixed Assets	39,430,500	36,169,450	32,908,400	29,647,350	26,386,300	27,151,525	23,585,220	20,018,915	16,452,610	12,886,305	9,320,000
<i>Intangible assets</i>											
Pre-operation costs	2,704,903	2,163,923	1,622,942	1,081,961	540,981	-	-	-	-	-	-
Legal, licensing, & training costs	200,000	180,000	160,000	140,000	120,000	100,000	80,000	60,000	40,000	20,000	-
Total Intangible Assets	2,904,903	2,343,923	1,782,942	1,221,961	660,981	100,000	80,000	60,000	40,000	20,000	-
<b>TOTAL ASSETS</b>	<b>65,496,682</b>	<b>126,159,328</b>	<b>143,705,891</b>	<b>180,190,516</b>	<b>222,700,199</b>	<b>268,243,801</b>	<b>322,145,744</b>	<b>376,904,017</b>	<b>429,090,469</b>	<b>470,168,012</b>	<b>465,167,597</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable		17,110,855	22,563,159	25,479,957	27,644,076	29,849,090	32,334,394	35,149,180	38,352,385	42,014,687	30,265,105
Short term debt	-	15,531,663	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	32,642,518	22,563,159	25,479,957	27,644,076	29,849,090	32,334,394	35,149,180	38,352,385	42,014,687	30,265,105
<i>Other liabilities</i>											
Deferred tax		2,147,500	2,147,500	2,147,500	2,147,500	2,147,500	1,718,000	1,288,500	859,000	429,500	(0)
Long term debt (Project Loan)	27,518,012	23,186,409	18,335,014	12,901,451	6,815,861	-	-	-	-	-	-
Long term debt (Working Capital Loan)	11,580,640	8,171,119	4,329,186	-	-	-	-	-	-	-	-
Total Long Term Liabilities	39,098,652	33,505,028	24,811,700	15,048,951	8,963,361	2,147,500	1,718,000	1,288,500	859,000	429,500	(0)
<i>Shareholders' equity</i>											
Paid-up capital	26,398,031	26,398,031	26,398,031	26,398,031	26,398,031	26,398,031	26,398,031	26,398,031	26,398,031	26,398,031	26,398,031
Retained earnings		33,613,750	69,933,001	113,263,577	159,694,732	209,849,180	261,695,319	314,068,307	363,481,053	401,325,795	408,380,461
Total Equity	26,398,031	60,011,781	96,331,032	139,661,608	186,092,762	236,247,210	288,093,350	340,466,337	389,879,084	427,723,825	434,778,492
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>65,496,682</b>	<b>126,159,328</b>	<b>143,705,891</b>	<b>180,190,516</b>	<b>222,700,199</b>	<b>268,243,801</b>	<b>322,145,744</b>	<b>376,904,017</b>	<b>429,090,469</b>	<b>470,168,012</b>	<b>465,043,597</b>



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		33,613,750	36,319,251	43,330,576	46,431,155	50,154,448	51,846,139	52,372,988	49,412,747	37,844,741	7,054,667
Add: depreciation expense		3,261,050	3,261,050	3,261,050	3,261,050	3,261,050	3,566,305	3,566,305	3,566,305	3,566,305	3,566,305
amortization of pre-operating costs		540,981	540,981	540,981	540,981	540,981	-	-	-	-	-
amortization of training costs		20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Deferred income tax		2,147,500	-	-	-	-	(429,500)	(429,500)	(429,500)	(429,500)	(429,500)
Accounts receivable		(20,327,542)	(2,631,906)	(4,067,634)	(2,247,676)	(1,564,115)	(1,541,944)	(1,619,041)	(1,699,993)	(1,784,992)	(1,874,242)
Finished goods inventory		(33,758,899)	(3,903,373)	(4,209,313)	(2,093,579)	(2,198,258)	(2,308,171)	(2,423,580)	(2,544,759)	(2,671,997)	(2,805,596)
Equipment inventory	(46,529)	(24,403)	(19,807)	(19,852)	(22,948)	(27,709)	(33,459)	(40,402)	(48,785)	(58,908)	342,802
Raw material inventory	(21,775,000)	(11,420,307)	(9,269,214)	(9,290,602)	(10,739,188)	(12,967,570)	(15,658,340)	(18,907,446)	(22,830,741)	(27,568,120)	160,426,529
Advance insurance premium	(339,750)	46,475	46,475	46,475	46,475	(154,839)	61,738	61,738	61,738	61,738	61,738
Accounts payable		17,110,855	5,452,304	2,916,798	2,164,119	2,205,014	2,485,303	2,814,786	3,203,205	3,662,302	(11,749,582)
Other liabilities		-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(22,161,279)	(8,790,539)	29,815,761	32,528,478	37,360,388	39,269,002	38,008,072	35,415,848	28,710,217	12,641,569	154,613,120
<i>Financing activities</i>											
Project Loan - principal repayment		(4,331,603)	(4,851,395)	(5,433,563)	(6,085,590)	(6,815,861)	-	-	-	-	-
Working Capital Loan - principal repayment		(3,409,520)	(3,841,933)	(4,329,186)	-	-	-	-	-	-	-
Short term debt principal repayment		-	(15,531,663)	-	-	-	-	-	-	-	-
Additions to Project Loan	27,518,012	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	11,580,640	-	-	-	-	-	-	-	-	-	-
Issuance of shares	26,398,031	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financing activities	65,496,682	(7,741,123)	(24,224,991)	(9,762,749)	(6,085,590)	(6,815,861)	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(42,335,403)	-	-	-	-	(4,026,275)	-	-	-	-	-
Acquisitions											
Cash (used for) / provided by investing activities	(42,335,403)	-	-	-	-	(4,026,275)	-	-	-	-	-
<b>NET CASH</b>	<b>1,000,000</b>	<b>(16,531,663)</b>	<b>5,590,770</b>	<b>22,765,729</b>	<b>31,274,798</b>	<b>28,426,866</b>	<b>38,008,072</b>	<b>35,415,848</b>	<b>28,710,217</b>	<b>12,641,569</b>	<b>154,613,120</b>
Cash balance brought forward		1,000,000	-	5,590,770	28,356,499	59,631,297	88,058,163	126,066,235	161,482,083	190,192,300	202,833,869
Cash available for appropriation	1,000,000	(15,531,663)	5,590,770	28,356,499	59,631,297	88,058,163	126,066,235	161,482,083	190,192,300	202,833,869	357,446,989
Dividend		-	-	-	-	-	-	-	-	-	-
Cash balance	1,000,000	(15,531,663)	5,590,770	28,356,499	59,631,297	88,058,163	126,066,235	161,482,083	190,192,300	202,833,869	357,446,989
Cash carried forward	1,000,000	-	5,590,770	28,356,499	59,631,297	88,058,163	126,066,235	161,482,083	190,192,300	202,833,869	357,446,989