



Pre-feasibility Study

# APPLE TREATMENT PLANT

December 2023

“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, and revenues 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

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## 1 DISCLAIMER

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### ***Document Control***

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## 2 EXECUTIVE SUMMARY

The proposed project involves the establishment of an Apple treatment Plant strategically located in close proximity to major urban centers or areas with high Apple production. This endeavor is highly recommended, as it promises to yield significant economic advantages for the country since the main focus of the initiative is to enhance quality of locally produce apple moreover packing the product in accordance with international standards and introduction of the product in international markets, while creating both direct and indirect employment opportunities domestically. Additionally, the project's appeal is enhanced by its cost-effectiveness and relative simplicity in terms of installation.

This processing facility serves as a crucial link between international markets and local growers. People will bring their apples to this plant for processing, adding value to the fruit by bringing it up to international standards. The treated and packed apples will have an extended shelf life, resulting in lower levels of spoilage and wastage. A key feature of this initiative is the commitment to treating locally produced apples in a hygienic manner, strictly adhering to international quality and safety standards.

The proposed project consists of modern day state of the art machinery likewise washing machine and upgrade platform portion, drying portion with air fan and wax portion, heating and drying portion, automatic loader for grading machine, conveyer belt with return conveyer, single-lane electronic conveyer, single-lane electric fruit grading machine and a packing machine.

The Apple Treatment Plant has the capacity to treat approximately 4,800 tons of Apples annually and will operate for 330 days a year, 8 hours a day. Initially, the plant will operate at 75% capacity utilization, increasing by 5% annually until reaching a maximum utilization of 95%.

The proposed business requires a total investment of Rs. 102.46 million. This includes capital investment of Rs. 100.17 million and working capital of Rs. 2.28 million. The project will be established using 100% equity financing. The Net Present Value (NPV) of project is Rs. 167.20 million with an Internal Rate of Return (IRR) of 47% and Payback period of 2.78 years. The proposed project may also be established using leveraged financing. At 50% financing at a cost of 28%, the proposed business provides Net Present Value (NPV) of Rs. 143.46 million, Internal Rate of Return (IRR) of 34% and Payback period of 2.94 years.

### 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 **Apple Treatment 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 its 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**

Apple is an important crop in Balochistan in terms of people employed, the value of the output it generates. The reason behind its failure to export and no demand in the international Apple Market is mainly caused by Pakistan's failure to supply well processed, preserved, sorted, graded, waxed and packed apples as per the demand of the international market. The freshness of apples from the orchard is not retained due to the lapse period of transportation and proper treatment, which is the main requisite of the international market.

In order to earn substantial foreign exchange it is deemed important to establish Apple treatment plant. Since it is worth mentioning that Pakistan is a developing country and inflow of foreign exchange is deemed important variable in growth and development of a country.

The proposed project aims to establish a Post-Harvest Apple Treatment Plant to boost apple exports from Pakistan and simultaneously elevate domestic fruit quality. This facility will cater to both exporters and local traders, offering services to process apples to meet international standards for either export or domestic sale. By charging for these services, the project will become self-sustaining through generated revenue. The expected surge in exported volumes will not only promote investment in the horticulture sub-sector but also trigger positive improvements in production methods and growing practices throughout the industry. While addressing the critical requirements of the international market remains the primary focus, the facility will also significantly impact domestic trade by setting new quality standards within the local market.

## 6 PRODUCTION PROCESS

The production process is mainly subjected to machine/method used particular to the desired output product. Following is the process flow of the Apple Treatment Plant:

Here's a comprehensive process flow for an Apple Treatment Plant, incorporating visual elements:

### **Apple Intake & Pre-Sorting:**

- Trucks deliver apples to the facility.
- Initial visual inspection for major defects or damage.
- Removal of leaves, stems, or other extraneous materials.
- Transfer of apples to the washing line via conveyor belts.

### **Washing & Sanitation:**

- Apples are thoroughly washed with clean water and food-grade cleaning solutions.
- Gentle brushing to remove dirt and residue.
- Rinsing with clean water to eliminate any remaining contaminants.

### **Defect Removal & Quality Assessment:**

- Manual or automated inspection for visual defects (bruises, blemishes, etc.).
- Removal of defective apples from the processing line.
- Assessment of overall quality and suitability for further processing.

### **Waxing & Optional Coating:**

- Application of a thin layer of food-grade wax to enhance appearance and extend shelf life (optional).
- Potential application of alternative coatings, such as edible films or 1-MCP for additional preservation (optional).

### **Drying & Conditioning:**

- Thorough drying of apples to remove excess moisture.
- Air drying or forced-air drying systems are common.
- Temperature conditioning to optimize storage and ripening (optional).

### **Precision Grading:**

- Automated or semi-automated grading systems to categorize apples based on size, color, weight, and quality standards.
- Sorting into different grades for specific markets or end uses.

### **Packaging & Finalization:**

- Packing of apples into designated containers (boxes, crates, bags, etc.) according to grade and client requirements.
- Labeling with necessary information (variety, origin, grade, packing date, etc.).
- Palletizing and preparation for storage or transport.

## 7 INSTALLED AND OPERATIONAL CAPACITIES

The treatment plant has the capacity to treat approximately 4,800,000 kg's of Apple annually and will be operational for 330 days a year and 8 hours a day. Initially the plant will be operated at 75% of capital utilization and will increase it by 5% annually. The Maximum capacity utilization will be 95%.

## 8 CRITICAL FACTORS

- Selection of proper location, equipment and staff would be required to run project successfully.
- Continuous efforts should be made for up-gradation of the processing techniques.
- To attract large number of customers the product must be processed in accordance with international quality standards.
- Government rule and policies may be followed
- Availability of skilled human resource may produce higher profits moreover it may also increase efficiency of the plant
- High demand in local and international markets
- Intensive measure may be taken to maintain hygiene during apple treatment process to maintain freshness of the Apple.
- Low market competition may also be considered as a plus point in implementation and success of the initiative.



## 9 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Pakistan is the world's 24th largest country in apple and 34th largest by the area for apple production. Balochistan is the largest apple-producing province, followed by Khyber-Pakhtunkhwa, contributing 25% of Pakistan's total apple production. Baluchistan's Apple production area was 88,807 hectares, with an annual production of 482,819 tons. About 80% of Pakistan's apple production is contributed by Baluchistan and is mainly produced in the northern part of the province (Javad et al., 2020). Many varieties of apples are grown in Pakistan, including golden apples, red apples, kala kulu, kaja, gacha, amri, mushadi and kashmiri. The major apple-growing districts in Balochistan include Mustung, Kalat, Killa Abdullah, Killa Saifullah, Loralai, Pashin, Quetta, and Ziarat. Among these districts, Ziarat is located in the center of these districts.

The apple processing industry in Pakistan is currently operating below its optimal capacity, primarily attributed to a range of factors. These include the absence of cutting-edge technologies, limited awareness, a shortage of skilled labor, challenges in delivering inputs in the required quantities and timely manner, elevated production costs, the prevalence of adulterated materials, and a general lack of familiarity with modern technological advancements. This confluence of challenges has resulted in a significant disparity between the anticipated potential and the current operational capacity of the sector.

The introduction of strategic initiatives provides an avenue to unlock the inherent potential within the sector, facilitating a more substantial contribution to the national economy compared to conventional practices, where a considerable portion of the apple yield is typically wasted or sold at lower prices within the local market. By implementing these initiatives, there exists the opportunity to showcase the product on the international stage, potentially leading to an influx of foreign remittances. The optimal location for the proposed project is in close proximity to rural areas characterized by significant apple production. The establishment of such a facility not only holds the promise of economic advantages but also gives rise to numerous direct and indirect employment opportunities.

## 10 POTENTIAL TARGET CUSTOMERS / MARKETS

In addition to local markets in Quetta, Karachi, Lahore, Peshawar and Islamabad, Pakistani apples have the potential to meet the demand in various countries, with preferences often driven by factors such as taste, quality, and seasonal availability. Some countries that traditionally demonstrate demand for Pakistani apples or could be targeted for export include Countries in the Middle East, such as Saudi Arabia, UAE, and Qatar, have shown consistent demand for Pakistani fruits, including apples moreover European countries, including the United Kingdom, Germany, and the Netherlands, are markets that appreciate high-quality produce and may provide opportunities for Pakistani apple exports.

## 11 PROJECT COST SUMMARY

### 11.1 Project Economics

All the figures in this financial model have been calculated for estimated sales revenue of Rs. 72 million in the year one. The capacity utilization during year one is worked out at 75% 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 (100% Equity Based)**

Description	Details
Internal Rate of Return (IRR)	47%
Payback Period (Yrs.)	2.78
Net Present Value (Rs.)	167,199,415

Calculation of break-even analysis is as follows:

**Table 2: Breakeven (100% Equity Based)**

BREAKEVEN ANALYSIS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue	25,216,860	25,883,900	26,736,087	27,778,148	29,018,594	30,168,633	30,981,913	32,931,199	34,566,776	36,389,747
Break-Even (Units)	1,260,843	1,176,541	1,114,004	1,028,820	1,000,641	942,770	885,198	844,390	803,879	774,250
Margin of Safety	65%	69%	73%	76%	78%	79%	81%	81%	82%	83%

However, for the purposes of further explanation the Project Economics based on Debt: Equity (i.e. 50:50) Model has also been computed. On the basis of Debt: Equity model the Internal Rate of Return, Payback Period and Net Present Value of the proposed project are provide in the table below:

**Table 3: Project Economics Based on Debt (50%) : Equity (50%)**

Description	Details
Internal Rate of Return (IRR)	44%
Payback Period (Yrs.)	2.94
Net Present Value (Rs.)	143,467,908

The financial assumptions for Debt: Equity are as follows:

**Table 4: Financial Assumptions for Debt (50%) :Equity (50%) Model**

Description	Details
Debt	50%
Equity	50%
Interest Rate on Debt	28%
Debt Tenure	05 Years

The projected Income Statement, Cash Flow Statement and Balance Sheet enclosed as annexures are based on 100% Equity Based Business Model.

## 11.2 Project Cost

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

**Table 5: Project Cost**

Description	Amount Rs.
<b>Capital Cost</b>	
Land	8,481,600
Building/Infrastructure	47,430,000
Plant and Machinery	43,468,000
Furniture & Fixture	582,000
Office Equipment	210,000
<b>Total Capital Cost</b>	<b>100,171,600</b>
<b>Working Capital</b>	
Equipment and Spare Part Inventory	900,000
Raw Material Inventory	450,000
Upfront Insurance Payment	434,680
Cash	500,000
<b>Total Working Capital</b>	<b>2,284,680</b>
<b>Total Project Cost</b>	<b>102,456,280</b>

## 11.3 Space Requirement

The space requirement for the proposed unit is estimated considering various facilities including management office, power house, godown and open space, etc. Details of space requirement and cost related to land & building is given below;

**Table 6: Space Requirement**

Description	Estimated Area (Sqft)	Unit Cost (Rs.)	Total Cost (Rs.)
Area for Plant	7,00	3,500	26,250,000
Management Office	500	3,800	1,900,000
Ware house	4,000	3,200	12,800,000

Masjid	500	4,000	2,000,000
Guards Room	100	3,400	340,000
Washrooms	200	3,200	640,000
Boundary wall	-	3,000,000	3,000,000
Driveway/Open area	10,000	50	500,000
<b>Total</b>	<b>22,800</b>		<b>47,430,000</b>

#### 11.4 Machinery & Equipment Requirement

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

**Table 7: Machinery & Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Sorting table & Machine	1	3,800,000	3,800,000
Washing chamber with conveyor & waxing machine	1	11,403,776	11,403,776
Grading machine	1	7,200,000	7,200,000
Packing machine	1	3,196,224	3,196,224
Generator (500 KVA)	1	4,500,000	4,500,000
Tube well	1	2,500,000	2,500,000
GST @ 18%	1	5,868,000	5,868,000
Installation & misc.	1	5,000,000	5,000,000
<b>Total</b>			<b>43,468,000</b>

#### 11.5 Furniture & Fixtures Requirement

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

**Table 8: Furniture & Fixture**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Table and chairs (lump Sum)	1	350,000	350,000

Lighting and electric wiring	1	400,000	400,000
Fans	4	8,000	32,000
<b>Total</b>			<b>582,000/-</b>

## 11.6 Office Equipment Requirement

Following office equipment will be required for Apple treatment plant;

**Table 9: Office Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computer with desktop	2	75,000	150,000
3-in-1 printer	1	50,000	50,000
Telephones	1	10,000	10,000
<b>Total</b>			<b>210,000/-</b>

## 11.7 Human Resource Requirement

In order to run operations of Apple Treatment Plant smoothly, details of human resources required along with number of employees and monthly salary are recommended as under;

**Table 10: Human Resource Requirement**

Description	No. of Employees	Monthly Salary per person (Rs.)
Project Manager	1	75,000
Quality checker	1	32,000
Skilled labor	5	32,000
Semi-skilled Labor	5	30,000
Accountant	1	60,000
Guards	2	28,000
Store-keeper	2	28,000
Sweeper (Part-time)	2	25,000
Plant operator	2	35,000
<b>Total</b>	<b>21</b>	

### 11.8 Utilities and other costs

An essential cost to be borne by the project is the administrative expense which is Rs. 3,742,200 for the first year of business operations. Furthermore, promotional expense being essential for marketing of Apple treatment plant is estimated as 2% of revenue and that is Rs. 1,440,000 for year 1.

### 11.9 Revenue Generation

Based on the capacity utilization of **75%**, sales revenue during the first year of operations is estimated as under;

**Table 11: Revenue Generation – Year 1**

Description	No. of Units Treated (No.)	Finished Goods Inventory (No.)	Units available for Sale (No.)	Sale Price / unit (Rs.)	Sales Revenue (Rs.)
Apple Treatment	36,00,000	-	36,00,000	20	72,000,000

### 11.10 Raw material Requirement

The details of raw material required for this unit are provided below:

Description	Price per Kg	Cost per KG processed
Wax (food Grade	Rs. 450	Rs. 5

One kg wax is utilized for treatment 100kgs of apples

## 12 CONTACT DETAILS

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

### 12.1 Machinery Suppliers

Name of Supplier	Addresses	Phone	Fax	E-mail	Website
Longkou Fushi Packing	Langao Industrial Zone, Longkou, Shandong 265709 China	+86 152535 98316	-	fushi03@foamext-ruder.cn	



### 13 USEFUL WEB LINKS

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

## 14 ANNEXURES

### 14.1 Income Statement

Statement Summaries										SMEDA
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Rs. in actuals Year 10
Revenue	72,000,000	84,480,000	98,736,000	114,998,400	133,525,920	146,878,512	161,566,363	177,723,000	195,495,299	215,044,829
Cost of goods sold	31,944,000	36,049,355	40,567,275	45,538,234	51,006,796	54,564,314	58,399,530	62,536,223	67,000,344	71,820,218
Gross Profit	40,056,000	48,430,645	58,168,725	69,460,166	82,519,124	92,314,198	103,166,833	115,186,776	128,494,955	143,224,612
<i>General administration &amp; selling expenses</i>										
Administration expense	3,742,200	4,106,546	4,506,365	4,945,111	5,426,574	5,954,913	6,534,692	7,170,919	7,869,089	8,635,235
Rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	-	-	-	-	-	-	-	-	-	-
Travelling & Comm. expense (phone, fax, etc.)	356,400	391,100	429,178	470,963	516,817	567,135	611,176	682,945	749,437	822,403
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	178,200	195,550	214,589	235,481	258,408	283,567	311,176	341,472	374,719	411,202
Promotional expense	1,440,000	1,689,600	1,974,720	2,299,968	2,670,518	2,937,570	3,231,327	3,554,460	3,909,906	4,300,897
Insurance expense	434,680	391,212	347,744	304,276	260,808	217,340	173,872	130,404	86,936	43,468
Professional fees (legal, audit, etc.)	720,000	844,800	987,360	1,149,984	1,335,259	1,468,785	1,615,664	1,777,230	1,954,953	2,150,448
Depreciation expense	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500
Amortization expense	-	-	-	-	-	-	-	-	-	-
Property tax expense	-	-	-	-	-	-	-	-	-	-
Miscellaneous expense	360,000	422,400	493,680	574,992	667,630	734,393	807,832	888,615	977,476	1,075,224
Subtotal	14,028,980	14,838,707	15,751,135	16,778,275	17,933,514	18,961,203	19,783,238	21,343,544	22,720,016	24,236,377
Operating Income	26,027,020	33,591,938	42,417,590	52,681,891	64,585,610	73,352,995	83,383,595	93,843,232	105,774,939	118,988,235
Other income	2,042,928	6,113,458	10,863,740	16,879,966	24,420,981	33,476,543	44,090,887	56,558,030	71,126,473	88,384,159
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	28,069,948	39,705,396	53,281,330	69,561,857	89,006,590	106,829,538	127,474,482	150,401,262	176,901,412	207,372,393
Interest expense	-	-	-	-	-	-	-	-	-	-
Earnings Before Tax	28,069,948	39,705,396	53,281,330	69,561,857	89,006,590	106,829,538	127,474,482	150,401,262	176,901,412	207,372,393
Tax	8,140,285	11,514,565	15,451,586	20,172,939	25,811,911	30,980,566	36,967,600	43,616,366	51,301,410	60,137,994
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>19,929,663</b>	<b>28,190,831</b>	<b>37,829,744</b>	<b>49,388,919</b>	<b>63,194,679</b>	<b>75,848,972</b>	<b>90,506,882</b>	<b>106,784,896</b>	<b>125,600,003</b>	<b>147,234,399</b>
Balance brought forward		19,929,663	48,120,495	85,950,239	135,339,157	198,533,837	274,382,809	364,889,691	471,674,587	597,274,590
Total profit available for appropriation	19,929,663	48,120,495	85,950,239	135,339,157	198,533,837	274,382,809	364,889,691	471,674,587	597,274,590	744,508,989
Dividend	-	-	-	-	-	-	-	-	-	-
Balance carried forward	19,929,663	48,120,495	85,950,239	135,339,157	198,533,837	274,382,809	364,889,691	471,674,587	597,274,590	744,508,989

## 14.2 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
<b>Assets</b>											
<i>Current assets</i>											
Cash & Bank	500,000	33,548,804	68,342,169	112,720,169	168,612,603	238,403,743	319,538,643	415,309,472	527,324,362	658,116,857	814,952,453
Accounts receivable	-	197,260	214,356	250,981	292,787	340,444	384,116	422,527	464,780	511,258	562,384
Finished goods inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment spare part inventory	900,000	1,058,400	1,239,816	1,447,303	1,684,299	1,856,940	2,047,276	2,257,122	2,488,477	2,743,546	-
Raw material inventory	450,000	529,200	619,908	723,652	842,150	928,470	1,023,638	1,128,561	1,244,239	1,371,773	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	434,680	391,212	347,744	304,276	260,808	217,340	173,872	130,404	86,936	43,468	-
<b>Total Current Assets</b>	<b>2,284,680</b>	<b>35,724,876</b>	<b>70,763,994</b>	<b>115,446,381</b>	<b>171,692,646</b>	<b>241,746,937</b>	<b>323,167,545</b>	<b>419,248,086</b>	<b>531,608,794</b>	<b>662,786,902</b>	<b>815,514,837</b>
<i>Fixed assets</i>											
Land	8,481,600	8,481,600	8,481,600	8,481,600	8,481,600	8,481,600	8,481,600	8,481,600	8,481,600	8,481,600	8,481,600
Building/Infrastructure	47,430,000	45,058,500	42,687,000	40,315,500	37,944,000	35,572,500	33,201,000	30,829,500	28,458,000	26,086,500	23,715,000
Machinery & equipment	43,468,000	39,121,200	34,774,400	30,427,600	26,080,800	21,734,000	17,387,200	13,040,400	8,693,600	4,346,800	-
Furniture & fixtures	582,000	523,800	465,600	407,400	349,200	291,000	232,800	174,600	116,400	58,200	-
Office vehicles	-	-	-	-	-	-	-	-	-	-	-
Office equipment	210,000	189,000	168,000	147,000	126,000	105,000	84,000	63,000	42,000	21,000	-
<b>Total Fixed Assets</b>	<b>100,171,600</b>	<b>93,374,100</b>	<b>86,576,600</b>	<b>79,779,100</b>	<b>72,981,600</b>	<b>66,184,100</b>	<b>59,386,600</b>	<b>52,589,100</b>	<b>45,791,600</b>	<b>38,994,100</b>	<b>32,196,600</b>
<i>Intangible assets</i>											
Pre-operation costs	-	-	-	-	-	-	-	-	-	-	-
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
<b>Total Intangible Assets</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>102,456,280</b>	<b>129,098,976</b>	<b>157,340,594</b>	<b>195,225,481</b>	<b>244,674,246</b>	<b>307,931,037</b>	<b>382,554,145</b>	<b>471,837,186</b>	<b>577,400,394</b>	<b>701,781,002</b>	<b>847,711,437</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable	-	410,173	460,959	516,102	575,949	638,061	672,768	709,499	748,382	789,560	746,168
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
<b>Total Current Liabilities</b>	<b>-</b>	<b>410,173</b>	<b>460,959</b>	<b>516,102</b>	<b>575,949</b>	<b>638,061</b>	<b>672,768</b>	<b>709,499</b>	<b>748,382</b>	<b>789,560</b>	<b>746,168</b>
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	6,302,860	6,302,860	6,302,860	6,302,860	6,302,860	5,042,288	3,781,716	2,521,144	1,260,572	0
Long term debt	-	-	-	-	-	-	-	-	-	-	-
<b>Total Long Term Liabilities</b>	<b>-</b>	<b>6,302,860</b>	<b>6,302,860</b>	<b>6,302,860</b>	<b>6,302,860</b>	<b>6,302,860</b>	<b>5,042,288</b>	<b>3,781,716</b>	<b>2,521,144</b>	<b>1,260,572</b>	<b>0</b>
<i>Shareholders' equity</i>											
Paid-up capital	102,456,280	102,456,280	102,456,280	102,456,280	102,456,280	102,456,280	102,456,280	102,456,280	102,456,280	102,456,280	102,456,280
Retained earnings	-	19,929,663	48,120,495	85,950,239	135,339,157	198,533,837	274,382,809	364,889,691	471,674,587	597,274,590	744,508,989
<b>Total Equity</b>	<b>102,456,280</b>	<b>122,385,943</b>	<b>150,576,775</b>	<b>188,406,519</b>	<b>237,795,437</b>	<b>300,990,117</b>	<b>376,839,089</b>	<b>467,345,971</b>	<b>574,130,867</b>	<b>699,730,870</b>	<b>846,965,269</b>
<b>TOTAL CAPITAL AND LIABILITY</b>	<b>102,456,280</b>	<b>129,098,976</b>	<b>157,340,594</b>	<b>195,225,481</b>	<b>244,674,246</b>	<b>307,931,037</b>	<b>382,554,145</b>	<b>471,837,186</b>	<b>577,400,394</b>	<b>701,781,002</b>	<b>847,711,437</b>

## 14.3 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
<i>Operating activities</i>											
Net profit	-	19,929,663	28,190,831	37,829,744	49,388,919	63,194,679	75,848,972	90,506,882	106,784,896	125,600,003	147,234,399
Add: depreciation expense	-	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500	6,797,500
amortization expense	-	-	-	-	-	-	-	-	-	-	-
Deferred income tax	-	6,302,860	-	-	-	-	(1,260,572)	(1,260,572)	(1,260,572)	(1,260,572)	(1,260,572)
Accounts receivable	-	(197,260)	(17,096)	(36,625)	(41,806)	(47,657)	(43,671)	(38,412)	(42,253)	(46,478)	(51,126)
Finished good inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	(900,000)	(158,400)	(181,416)	(207,487)	(236,996)	(172,641)	(190,336)	(209,846)	(231,355)	(255,069)	2,743,546
Raw material inventory	(450,000)	(79,200)	(90,708)	(103,743)	(118,498)	(86,320)	(95,168)	(104,923)	(115,678)	(127,534)	1,371,773
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(434,680)	43,468	43,468	43,468	43,468	43,468	43,468	43,468	43,468	43,468	43,468
Accounts payable	-	410,173	50,786	55,143	59,846	62,112	34,708	36,730	38,884	41,177	(43,392)
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(1,784,680)	33,048,804	34,793,365	44,378,000	55,892,433	69,791,141	81,134,900	95,770,828	112,014,891	130,792,495	156,835,596
<i>Financing activities</i>											
Change in long term debt	-	-	-	-	-	-	-	-	-	-	-
Change in short term debt	-	-	-	-	-	-	-	-	-	-	-
Change in export re-finance facili	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Change in lease financing	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	102,456,280	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) finan	102,456,280	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(100,171,600)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by inve	(100,171,600)	-	-	-	-	-	-	-	-	-	-
<b>NET CASH</b>	<b>500,000</b>	<b>33,048,804</b>	<b>34,793,365</b>	<b>44,378,000</b>	<b>55,892,433</b>	<b>69,791,141</b>	<b>81,134,900</b>	<b>95,770,828</b>	<b>112,014,891</b>	<b>130,792,495</b>	<b>156,835,596</b>
Cash balance brought forward		500,000	33,548,804	68,342,169	112,720,169	168,612,603	238,403,743	319,538,643	415,309,472	527,324,362	658,116,857
Cash available for appropriation	500,000	33,548,804	68,342,169	112,720,169	168,612,603	238,403,743	319,538,643	415,309,472	527,324,362	658,116,857	814,952,453
Dividend	-	-	-	-	-	-	-	-	-	-	-
Cash carried forward	500,000	33,548,804	68,342,169	112,720,169	168,612,603	238,403,743	319,538,643	415,309,472	527,324,362	658,116,857	814,952,453

## 15 KEY ASSUMPTIONS

### 15.1 Operating Cost Assumptions

Description	Details
Operational Days/ year	330
Hours operational/ days	8
Shift Length (Hours)	8

### 15.2 Production Cost Assumptions

Description	Details
Initial Capital utilization	75%
Annual Capital Utilization Growth	5%
Maximum Capital Utilization	95%

### 15.3 Revenue Assumptions

Description	Details
Revenue	72,000,000
Cost of goods sold	31,944,000
Service Price/kg	20
Service provided per year (Kg)	3,600,000
service Quantity sold (Kg)	3,600,000