



Pre-feasibility Study

FRUIT JAM / JELLY & MARMALADE PRODUCTION

December 2020

“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

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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Document Control

Document No.	PREF-NO 165
Prepared by	SMEDA Punjab - OS
Revision Date	December, 2020
For information	helpdesk.punjab@smeda.org.pk

2 EXECUTIVE SUMMARY

The processing of fresh fruits on commercial basis is gaining popularity among the investors in Pakistan. The proposed unit is a medium sized Fruit Jam / Jelly and Marmalade production unit, which entails to produce Apple, Strawberry, Mango and Mixed Fruit Jam / jelly and Orange Marmalade. Under the proposed project, fruit pulps (apple, mango and strawberry) and orange concentrate will be purchased from the local market and after processing it will be sold as jam and marmalade. This business venture can be started in urban cities of Pakistan.

According to the estimates of this pre-feasibility, the proposed Fruit Jam / Jelly and Marmalade Production Unit will have a maximum capacity of producing 200 kg of Jam / Jelly or Marmalade per hour and 480,000 kg per annum. The produced Jam /Jelly and Marmalade will be packed in 450 grams of bottle, so accordingly the unit has an installed capacity of producing 853,333 bottle of Jam / Jelly (213,333 bottles for each fruit i.e. Mango, Apple, Strawberry & Mixed Fruit) and 213,333 bottles for Orange Marmalade annually. The initial operational capacity is assumed at 60% (i.e. production of 640,000 bottles of Jam / Jelly and Marmalade) whereas maximum operational capacity utilization is considered as 85%. This production capacity is estimated to be economically viable and justifies the capital as well as operational costs of the project. However, complete adherence to best agronomic practices is critical to the success of this project. Therefore, technical knowledge & experience of the entrepreneur is absolutely necessary.

The total project cost for setting up the proposed unit is estimated at Rs. 9.962 million out of which Rs. 6.314 million is capital cost and Rs. 3.649 million is working capital. Considering all the assumptions on which the pre-feasibility has been built, the project generates an IRR, Payback and Net Present Value of 53%, 2.64 years and Rs. 32.931 million respectively as an equity financed business. The project will provide employment opportunities to 20 people including the Owner. The legal business status of this project is assumed to be 'Sole Proprietorship'.

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 **"Fruit Jam / Jelly & Marmalade Production Unit"** by providing them with a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

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

Fruit Jam / Jelly and Marmalade is an essential food item of almost every modern household and is widely consumed and liked by each members of the family, especially during breakfast. People use jam as the bread spread and as a filling for some cakes and cookies. Fruit jam and marmalade is basically a preserved and processed form of fruit pulp or concentrate which is ready to eat and stored in glass or plastic bottles. Primarily, jam / jelly is made of fruit with rich pulp

substance such as Mango, Apple, Strawberry etc., while marmalade is made of fruits with juicy concentrate e.g., oranges, lemon etc.

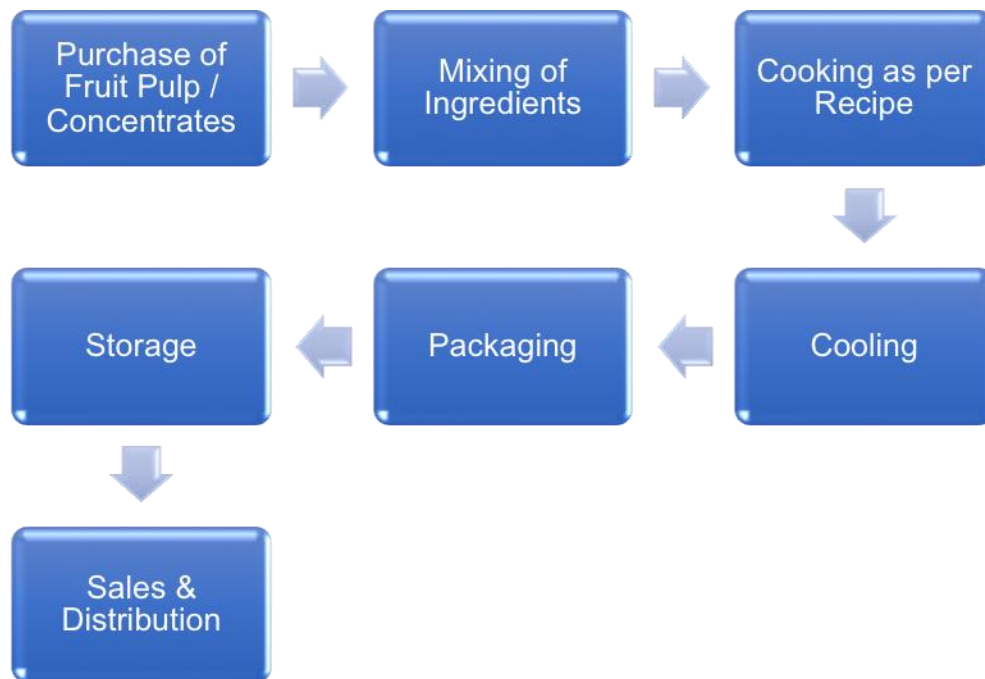
This particular pre-feasibility is about establishing a medium sized fruit jam / jelly and marmalade production unit for Mango, Apple, Strawberry and Orange. According to the proposed business model, fruit pulps of Mango, Apple & Strawberry and concentrate of orange will be purchased from local processors and suppliers. The major scope of production activities will include, Mixing, Boiling and Packaging. Accordingly, the unit will comprise of latest machines such as, Cooker, Planetary Mixer, Glass Bottle Packaging Machine.

The Fruit Processing Unit can be set-up in any major city of Pakistan with significant population such as Karachi, Hyderabad, Lahore, Rawalpindi, Islamabad, Multan, Peshawar and Quetta.

5.1 Production Process Flow

The process of producing Jam / Jelly and Marmalade is quite similar. It requires a large amount of sugar (almost equal quantities of fruit pulp / concentrate and sugar), citric acid or lemon juice and pectin. The mixture of these ingredients is boiled with fruit pulp and concentrate to attained the required consistency and moisture content.

Figure 1: Process Flow Diagram



5.2 Installed And Operational Capacities

Total installed capacity of the project is assumed at 1,066,667 Bottles of 450 grams per year. The initial operational capacity of the project will be 60% with an annual growth of 5%. Maximum capacity utilization of the project is assumed at 85%.

Table 1: Installed and Operational Capacity (No. of Bottle 450 gms)

Description	Total Production Capacity	Operational Capacity 60 % (Year 1)	Maximum Operational Capacity 85% (Year 6)
Apple Jam	213,333	128,000	181,333
Strawberry Jam	213,333	128,000	181,333
Mango Jam	213,333	128,000	181,333
Mix Fruit	213,333	128,000	181,333
Orange Marmalade	213,333	128,000	181,333
Total	1,066,665	640,000	906,665

6 CRITICAL FACTORS

Following are the factors critical for the success of this business venture;

- ⇒ Complete adherence to best agronomic practices is critical to the success of this project; therefore, technical knowledge & experience of the entrepreneur in the field of horticulture and in fruit processing business is absolutely necessary.
- ⇒ Selection of quality fruit pulps and concentrate; cost efficiency through better management.
- ⇒ Appropriate arrangements for transportation of raw materials to the processing facility.
- ⇒ Appropriate storage arrangement and internal controls for processed goods; arrangements for transportation of processed jams to local markets.
- ⇒ Properly trained staff should be engaged and comprehensive staff training programs to be adopted for capacity building.
- ⇒ Careful selection of good location and purchase of land at competitive price.

- ⇒ Effective marketing and distribution of the product particularly to the wholesale buyers.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

As per the current agricultural practices, the main orchards of mango are in South Punjab and Rural Sindh, while orchards of citrus are in Sargodha, Multan, Sahiwal, Bahawalpur and in few parts of Sindh. The apple is predominantly produced in Baluchistan. Keeping in view the varying geographical locations for different variety of fruits, it is recommended that the project may be preferably located in the vicinity of urban areas of South Punjab and Sindh for easy access and availability of the fruits pulp and concentrate. Following areas could be the most appropriate locations for the proposed unit. Multan, Lahore, Rahim Yar Khan, Sahiwal, Sargodha, Khairpur, Sakhar, Mirpur Khas, Karachi, Ghotki and etc.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

The potential target market for the produced jam / jelly and marmalades will be the general public of middle and upper-middle income group of urban cities, who generally prefer to buy their grocery items from super markets and big departmental stores. Considering to that, major cities for instance Karachi, Lahore, Peshawar, Quetta, Rawalpindi, Islamabad, Multan, Sialkot, Faisalabad, Hyderabad and etc. with large urban base would be the potential target markets for the proposed business.

In bigger cities, designated wholesalers may sell to some smaller retail shops if they do not overlap with an existing distribution agent. In smaller cities, the designated wholesaler acts as a de facto distribution agent.

9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Fruit Jam / Jelly and Marmalade Production Unit. Various costs and revenue related assumptions along with results of the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are also attached as annexure.

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 91.39 million in the year one. The capacity utilization during year one is

worked out at 60% with 5% increase in subsequent years up to the maximum capacity utilization of 85%.

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

Table 2: Project Economics

Description	Details
Internal Rate of Return (IRR)	53%
Payback Period (yrs.)	2.64
Net Present Value (Rs.)	32,931,005

Calculation of break-even analysis is as follows:

Table 3: Breakeven (100% Equity Based)

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue (Rs. Mn)	50.93	51.58	54.80	58.66	63.10	70.62	76.78	83.52	90.94	99.15
Break-Even Units (000's)	335	314	303	295	289	294	290	287	284	282
Margin of Safety	45%	54%	59%	63%	66%	67%	68%	68%	69%	69%

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 4: Project Economics Based on Debt (50%) : Equity (50%)

Description	Details
Internal Rate of Return (IRR)	53%
Payback Period (Yrs.)	2.68
Net Present Value (Rs.)	39,800,810

The financial assumptions for Debt: Equity are as follows:

Table 5: Financial Assumptions for Debt:Equity Model

Description	Details
Debt	50%

Equity	50%
Interest Rate on Debt	15%
Debt Tenure	5
Debt Payment / Year	2

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

9.2 Project Cost

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

Table 6: Project Cost

Description	Amount Rs.
Capital Cost	
Plant and Machinery	3,180,500
Furniture & Fixture	1,596,450
Motor Vehicles	1,040,890
Building Security	240,000
Pre-operating Cost	170,000
Computer equipment	82,500
Office Equipment	3,600
Total Capital Cost	6,313,940
Working Capital	
Raw Material Inventory	3,069,648
Cash	493,845
Up-front Building Rent	80,000
Equipment spare part inventory	5,301
Total Working Capital	3,648,794
Total Project Cost	9,962,734

9.3 Space Requirement

Approximately 1 kanal (4,500 sq. ft.) of land would be required for establishment of proposed unit, it is recommended that required land should be acquired on rental basis in the nearby areas of identified potential cities and urban centers. The estimated monthly rent of the purpose-built building is assumed as Rs. 80,000 per month. The infrastructural requirement is estimated considering various facilities including Management Office, Production Hall and Storage Space etc. Details of space requirement are as follows.

Table 7: Space Requirement

Description	Estimated Area (Sq. ft.)
Open Area	1,876
Production Department Rooms	768
Packing Department	360
Store Raw Material	360
Store Finished Goods	288
Accounts / Supervisors Office	232
Staff Rest Room	200
Owner / Manager Office	100
Quality Assurance Department	100
Car Parking	80
Wash Rooms	72
Kitchen	64
Total	4,500

9.4 Machinery & Equipment Requirement

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

Table 8: Machinery & Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Cooker Planetary Mixer Machine	2	409,500	819,000

Filling and Packing Machine	1	643,500	643,500
Generator	1	455,000	455,000
Miscellaneous Tools & Equipment	1	400,000	400,000
Cap Tightener and Sealing Machine	1	325,000	325,000
Miscellaneous Laboratory Equipment	1	250,000	250,000
Hand jet trolley	2	100,000	200,000
Expiry printer	1	64,000	64,000
Water Filter (Purifier)	1	24,000	24,000
Total	11		3,180,500

9.5 Furniture & Fixtures Requirement

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

Table 9: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Initial Renovation	1	1,000,000	1,000,000
Table & Chairs(Admin office)	6	20,000	120,000
Visitor Chairs(Owner)	4	25,000	100,000
Miscellaneous Furniture	1	100,000	100,000
Industrial Fan	2	35,000	70,000
Visitor Chairs(Admin Office)	12	3,500	42,000
Table & Chairs (Owner)	1	40,000	40,000
Ceiling fans	9	3,750	33,750
Table for Mixing	4	8,200	32,800
Sofa Set(Owner)	1	24,000	24,000
Cupboard (Owner)	1	15,000	15,000
Exhaust Fans	3	2,200	6,600
LED Bulbs (18 Watts)	21	300	6,300
Shelf for files(Admin Office)	1	6,000	6,000
Total	67		1,596,450

9.6 Office vehicles Requirement

Details of the office vehicles required for the project are given below.

Table 10: Office Vehicles

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Suzuki Ravi	1	1,040,890	1,040,890
Total	1		1,040,890

9.7 Office Equipment Requirement

Following office equipment will be required for the project are given below.

Table 11: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computers	2	25,000	50,000
Computer printer (s)	1	23,000	23,000
Scanner	1	9,500	9,500
Telephones	3	1,200	1,200
Total	7		83,700

9.8 Raw Material Requirement

Pulp of Mango, Apple & Strawberry and concentrate of Orange is the main raw material for the proposed business, which will be procured either directly from fruit processors or suppliers. In addition to the fruit pulp and concentrate, other material such as sugar, salt, pectin, citric acid etc., will also be required for production of jam and marmalade.

According to the estimated installed and operational capacity of the proposed plant, the quantities of raw material required during first year of operation is provided as Annexure. The raw material requirement in subsequent years will be determined according the capacity utilization of the unit. The purchasing cost of raw material is assumed to increase at 10% annually.

9.9 Human Resource Requirement

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

Table 12: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs.)
Owner/Manager (Technical Manager)	1	100,000
Selling & Distribution In charge	1	75,000
Production Supervisor	1	70,000
Food Technologist	1	55,000
Selling & Distribution Officers	2	40,000
Accountant/Cashier	1	35,000
Store Keeper & Purchase Officer	1	30,000
Skilled Workers	2	25,000
Driver	1	25,000
Helpers	5	20,000
Security Guard	2	20,000
Sweepers	2	20,000
Total	20	

9.10 Utilities and other costs

An essential cost to be borne by the project is the cost of electricity and gas. The electricity expenses are estimated to be around Rs.32,685 per month, whereas gas expenses are estimated to be 86,400 / year (including both natural gas and LPG). Furthermore, promotional expense being essential for marketing of Fruit Processing Unit is estimated as 15% of Administration Expenses.

9.11 Revenue Generation

Based on the capacity utilization of 60%, sales revenue during the first year of operations is provided in the table below.

Table 13: Revenue Generation – Year 1

Description	No. of Units Produced (No.)	Finished Goods Inventory (No.)	Units available for Sale (No.)	Sale Price / unit (Rs.)	Sales Revenue (Rs.)
Apple Jam	1,066,667	5,333	122,667	145	17,786,667
Strawberry Jam	1,066,667	5,333	122,667	145	17,786,667
Mango Jam	1,066,667	5,333	122,666	145	17,786,667
Mix Fruit Jam	1,066,667	5,333	122,666	145	17,786,666
Orange Marmalade	1,066,667	5,333	122,667	165	20,240,000
Total					91,386,667

10 CONTACT DETAILS

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

Table 14: Contact Details of Service Provider

Machinery Supplier		
Name of Supplier	Address	Phone
Khan Engineers Works	Warra Sattar Road Nai abadi Moman Pura, P.O Bhagwanpura GT Road Lahore	Mob: 0321-8484004, 0333-4123406
Raw Material Supplier		
SFA Industries	Multan Rd, 5 Kassi, Khanewal, Punjab	Mob: 0300-9117823

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
Government of Punjab	www.punjab.gov.pk
Government of Sindh	www.sindh.gov.pk
Government of Khyber Pakhtunkhwa	www.khyberpakhtunkhwa.gov.pk
Government of Baluchistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jammu 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/
Punjab Industrial Estates (PIE)	www.pie.com.pk
Punjab Food Authority	www.pfa.gop.pk
Sindh Food Authority	www.sfa.gos.pk

12 ANNEXURES

12.1 Raw Material Requirement

	Apple Jam			Strawberry Jam			Mango Jam			Mixed Fruit Jam			Orange Marmalade		
Input Material	Qty.	Rate	Amount	Qty.	Rate	Amount	Qty.	Rate	Amount	Qty.	Rate	Amount	Qty.	Rate	Amount
Fruit Pulp (Ltr)	10	70	700	10	60	600	10	110	1,100	10	82	823	10	160	1,600
Pectin (Gm)	55	26.00	1,430	55	26	1,430	55	26	1,430	55	26	1,430	55	26	1,430
Citric Acid (Gm)	45	0.88	40	45	1	40	45	1	40	45	1	40	45	1	40
Sugar (Kg)	10.0	80	800	10	80	800	10	80	800	10	80	800	10	80	800
Salt (Gm)	-	0.01	-	-	0	-	-	0	-	-	0	-	-	0	-
Ghee (Kg)	-	206	-	-	206	-	-	206	-	-	206	-	-	206	-
Till (Kg)	-	350	-	-	350	-	-	350	-	-	350	-	-	350	-
Oil (Ltr)	-	215	-	-	215	-	-	215	-	-	215	-	-	215	-
Dry Milk (Gm)	-	0.98	-	-	1	-	-	1	-	-	1	-	-	1	-
CPC Powder (Gm)	-	3.2	-	-	3	-	-	3	-	-	3	-	-	3	-
Chokker (Kg)	-	25	-	-	25	-	-	25	-	-	25	-	-	25	-
Eggs (No.)	-	10	-	-	10	-	-	10	-	-	10	-	-	10	-
Baking Powder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Essence + Food Colour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Ingredients	1	180	180	1	180	180	1	180	180	1	180	180	1	180	180
Orange Peels	-	-	-	-	-	-	-	-	-	-	-	-	1	50	50
Raw Material Cost for 36 Bottles (450 Gram)			3,150				3,050				3,550				3,273
															4,100

12.2 Income 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	91,386,667	113,273,111	134,215,889	158,214,491	185,670,655	217,035,907	239,326,081	263,258,689	289,584,558	318,543,013
<i>Cost of sales</i>										
Raw Material Cost	73,671,556	91,315,359	108,198,424	127,544,948	149,678,793	174,963,957	192,933,229	212,226,551	233,449,207	256,794,127
Direct labor	6,360,000	6,996,000	7,695,600	8,465,160	9,311,676	10,242,844	11,267,128	12,393,841	13,633,225	14,996,547
Machinery maintenance	127,220	139,942	153,936	169,330	186,263	204,889	225,378	247,916	272,707	299,978
Direct electricity	274,556	302,012	332,213	365,434	401,978	442,176	486,393	535,032	588,536	647,389
Direct water	456,933	566,366	671,079	791,072	928,353	1,085,180	1,196,630	1,316,293	1,447,923	1,592,715
Direct gas	86,400	98,280	111,132	125,024	140,026	156,217	164,028	172,229	180,841	189,883
Total cost of sales	80,976,665	99,417,959	117,162,385	137,460,968	160,647,089	187,095,262	206,272,786	226,891,863	249,572,438	274,520,640
Gross Profit	10,410,002	13,855,152	17,053,504	20,753,523	25,023,566	29,940,645	33,053,295	36,366,826	40,012,120	44,022,374
<i>General administration & selling expenses</i>										
Administration expense	2,040,000	2,244,000	2,468,400	2,715,240	2,986,764	3,285,440	3,613,984	3,975,383	4,372,921	4,810,213
Administration benefits expense	204,000	224,400	246,840	271,524	298,676	328,544	361,398	397,538	437,292	481,021
Building rental expense	960,000	1,056,000	1,161,600	1,277,760	1,405,536	1,546,090	1,700,699	1,870,768	2,057,845	2,263,630
Electricity expense	117,667	129,434	142,377	156,615	172,276	189,504	208,454	229,300	252,230	277,453
Water expense	51,000	56,100	61,710	67,881	74,669	82,136	90,350	99,385	109,323	120,255
Travelling expense	456,933	566,366	671,079	791,072	928,353	1,085,180	1,196,630	1,316,293	1,447,923	1,592,715
Communications expense (phone, fax, mail, internet, etc.)	61,200	67,320	74,052	81,457	89,603	98,563	108,420	119,261	131,188	144,306
Office vehicles running expense	83,271	91,598	100,758	110,834	121,917	134,109	147,520	162,272	178,499	196,349
Office expenses (stationary, entertainment, janitorial services, etc.)	102,000	112,200	123,420	135,762	149,338	164,272	180,699	198,769	218,646	240,511
Promotional expense Year 1-5	306,000	336,600	370,260	407,286	448,015	-	-	-	-	-
Promotional expense Year 6-10	-	-	-	-	-	328,544	361,398	397,538	437,292	481,021
Professional fees (legal, audit, consultants, etc.)	456,933	566,366	671,079	791,072	928,353	1,085,180	1,196,630	1,316,293	1,447,923	1,592,715
Depreciation expense	713,458	713,458	713,458	718,574	717,749	1,250,765	1,256,688	1,255,733	1,255,733	1,262,590
Amortization of pre-operating costs	34,000	34,000	34,000	34,000	34,000	-	-	-	-	-
Miscellaneous expense 1	102,000	112,200	123,420	135,762	149,338	164,272	180,699	198,769	218,646	240,511
Subtotal	5,688,463	6,310,041	6,962,454	7,694,840	8,504,589	9,742,599	10,603,571	11,537,304	12,565,461	13,703,290
Operating Income	4,721,539	7,545,111	10,091,050	13,058,683	16,518,977	20,198,046	22,449,724	24,829,522	27,446,659	30,319,084
Other income (interest on cash)	14,368	73,873	192,922	330,468	436,930	580,198	813,784	1,062,422	1,322,458	1,739,638
Other income 2	-	-	-	-	1,272,200	-	-	-	-	-
Gain / (loss) on sale of machinery & equipment	-	-	-	-	-	-	-	-	-	-
Gain / (loss) on sale of computer equipment	-	-	20,625	-	-	44,501	-	-	72,140	57,593
Gain / (loss) on sale of office vehicles	-	-	-	-	416,356	-	-	-	-	-
Earnings Before Interest & Taxes	4,735,907	7,618,985	10,304,597	13,389,151	18,644,463	20,822,745	23,263,508	25,891,943	28,841,257	32,116,314
Earnings Before Tax	4,735,907	7,618,985	10,304,597	13,389,151	18,644,463	20,822,745	23,263,508	25,891,943	28,841,257	32,116,314
Tax	840,772	1,786,644	2,726,609	3,806,203	5,645,562	6,407,960	7,262,227	8,182,180	9,214,440	10,360,710
NET PROFIT/(LOSS) AFTER TAX	3,895,135	5,832,340	7,577,988	9,582,949	12,998,901	14,414,785	16,001,281	17,709,764	19,626,817	21,755,605

12.3 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	493,845	655,598	5,254,270	10,179,480	16,258,000	18,696,396	27,719,469	37,383,248	47,610,484	58,186,128	80,984,888
Accounts receivable		3,755,616	4,205,338	5,085,390	6,008,843	7,066,133	8,274,792	9,377,301	10,327,084	11,359,793	12,495,772
Finished goods inventory		3,520,725	4,155,735	4,896,338	5,743,495	6,711,106	7,814,790	8,594,699	9,453,828	10,398,852	11,438,360
Equipment spare part inventory	5,301	6,122	7,071	8,168	9,433	10,896	12,585	14,535	16,788	19,390	-
Raw material inventory	3,069,648	3,804,807	4,508,268	5,314,373	6,236,616	7,290,165	8,038,885	8,842,773	9,727,050	10,699,755	-
Pre-paid building rent	80,000	88,000	96,800	106,480	117,128	128,841	141,725	155,897	171,487	188,636	-
Total Current Assets	3,648,794	11,830,868	18,227,482	25,590,229	34,373,515	39,903,536	52,002,245	64,368,454	77,306,721	90,852,553	104,919,020
<i>Fixed assets</i>											
Building Security	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000
Machinery & equipment	3,180,500	2,862,450	2,544,400	2,226,350	1,908,300	5,649,464	4,925,492	4,201,521	3,477,549	2,753,578	2,029,607
Furniture & fixtures	1,596,450	1,436,805	1,277,160	1,117,515	957,870	798,225	638,580	478,935	319,290	159,645	-
Office vehicles	1,040,890	832,712	624,534	416,356	208,178	1,676,364	1,341,091	1,005,818	670,546	335,273	-
Computer equipment	82,500	55,275	28,050	96,329	63,988	32,471	111,513	74,074	37,590	129,090	85,750
Office equipment	3,600	3,240	2,880	2,520	2,160	1,800	1,440	1,080	720	360	-
Total Fixed Assets	6,143,940	5,430,482	4,717,024	4,099,070	3,380,496	8,398,324	7,258,116	6,001,428	4,745,695	3,617,946	2,355,356
<i>Intangible assets</i>											
Pre-operation costs	170,000	136,000	102,000	68,000	34,000	-	-	-	-	-	-
Total Intangible Assets	170,000	136,000	102,000	68,000	34,000	-	-	-	-	-	-
TOTAL ASSETS	9,962,734	17,397,350	23,046,506	29,757,299	37,788,011	48,301,860	59,260,361	70,369,882	82,052,416	94,470,499	107,274,376
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		3,539,481	4,329,044	5,095,121	5,971,124	6,971,377	8,093,347	8,922,143	9,814,390	10,795,867	11,390,890
Total Current Liabilities	-	3,539,481	4,329,044	5,095,121	5,971,124	6,971,377	8,093,347	8,922,143	9,814,390	10,795,867	11,390,890
<i>Shareholders' equity</i>											
Paid-up capital	9,962,734	9,962,734	9,962,734	9,962,734	9,962,734	9,962,734	9,962,734	9,962,734	9,962,734	9,962,734	9,962,734
Retained earnings		3,895,135	8,754,728	14,699,444	21,854,154	31,367,749	41,204,280	51,485,005	62,275,292	73,711,898	85,920,752
Total Equity	9,962,734	13,857,869	18,717,462	24,662,178	31,816,887	41,330,483	51,167,014	61,447,739	72,238,026	83,674,632	95,883,486
TOTAL CAPITAL AND LIABILITIES	9,962,734	17,397,350	23,046,506	29,757,299	37,788,011	48,301,860	59,260,361	70,369,882	82,052,416	94,470,499	107,274,376

12.4 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		3,895,135	5,832,340	7,577,988	9,582,949	12,998,901	14,414,785	16,001,281	17,709,764	19,626,817	21,755,605
Add: depreciation expense		713,458	713,458	713,458	718,574	717,749	1,250,765	1,256,688	1,255,733	1,255,733	1,262,590
amortization of pre-operating costs		34,000	34,000	34,000	34,000	34,000	-	-	-	-	-
Accounts receivable		(3,755,616)	(449,721)	(880,053)	(923,453)	(1,057,290)	(1,208,659)	(1,102,509)	(949,783)	(1,032,708)	(1,135,979)
Finished goods inventory		(3,520,725)	(635,010)	(740,604)	(847,156)	(967,611)	(1,103,684)	(779,910)	(859,128)	(945,024)	(1,039,508)
Equipment inventory	(5,301)	(822)	(949)	(1,096)	(1,266)	(1,462)	(1,689)	(1,951)	(2,253)	(2,602)	19,390
Raw material inventory	(3,069,648)	(735,158)	(703,461)	(806,105)	(922,244)	(1,053,549)	(748,720)	(803,888)	(884,277)	(972,705)	10,699,755
Pre-paid building rent	(80,000)	(8,000)	(8,800)	(9,680)	(10,648)	(11,713)	(12,884)	(14,172)	(15,590)	(17,149)	188,636
Accounts payable		3,539,481	789,563	766,077	876,003	1,000,253	1,121,970	828,796	892,247	981,477	595,023
Cash provided by operations	(3,154,949)	161,753	5,571,420	6,653,986	8,506,759	11,659,279	13,711,884	15,384,335	17,146,713	18,893,839	32,345,510
<i>Financing activities</i>											
Issuance of shares	9,962,734	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	9,962,734	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(6,313,940)	-	-	(95,504)	-	(5,735,577)	(110,558)	-	-	(127,985)	-
Cash (used for) / provided by investing activities	(6,313,940)	-	-	(95,504)	-	(5,735,577)	(110,558)	-	-	(127,985)	-
NET CASH	493,845	161,753	5,571,420	6,558,482	8,506,759	5,923,702	13,601,326	15,384,335	17,146,713	18,765,855	32,345,510

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Water Expense	2.5% of Administration expenses
Communication Expenses	3% of Administration expenses
Promotional Expenses	15% of Administration expenses
Depreciation Method	Accelerated depreciation
Depreciation Rate	10% on Machinery 33% on Office Equipment 10% on Furniture & Fixture 20% on vehicles
Inflation Growth Rate	10%
Electricity Price Growth Rate	10%
Salaries Growth Rate	10%
Water Price Growth Rate	5%
Gas Price Growth Rate	5%
Wage Growth Rate	10%

13.2 Production Cost Assumptions

Description	Details
Production Capacity in First Year	60%
Percentage Increase in Production Capacity Every Year	5%
Maximum Production Capacity	85%
Finish Good Inventory Stock	15 Days

13.3 Revenue Assumptions

Description	Details
Production Capacity	200 Kgs / Hour
Operational Hours per Day	8
Number of Operational Days	300
Sale Price Growth Rate	10%

Small and Medium Enterprises Development Authority

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