
Pre-Feasibility Study

THERMOFORM FOOD CONTAINER & GLASS MANUFACTURING UNIT



Small and Medium Enterprises Development Authority

**Ministry of Industries & Production
Government of Pakistan**

www.smeda.org.pk

HEAD OFFICE

4th Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road,
Lahore

Tel: (92 42) 111 111 456, Fax: (92 42) 36304926-7

helpdesk@smeda.org.pk

REGIONAL OFFICE PUNJAB	REGIONAL OFFICE SINDH	REGIONAL OFFICE KHYBER PAKHTUNKHWA	REGIONAL OFFICE BALOCHISTAN
3 rd Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road Lahore, Tel: (042) 111-111-456 Fax: (042) 36304926-7 helpdesk.punjab@smeda.org.pk	5 TH Floor, Bahria Complex II, M.T. Khan Road, Karachi. Tel: (021) 111-111-456 Fax: (021) 5610572 helpdesk-khi@smeda.org.pk	Ground Floor State Life Building The Mall, Peshawar. Tel: (091) 9213046-47 Fax: (091) 286908 helpdesk-pew@smeda.org.pk	Bungalow No. 15-A Chaman Housing Scheme Airport Road, Quetta. Tel: (081) 831623, 831702 Fax: (081) 831922 helpdesk-qta@smeda.org.pk

February 2021

TABLE OF CONTENTS

1	DISCLAIMER	2
2	EXECUTIVE SUMMARY	3
3	INTRODUCTION TO SMEDA	3
4	PURPOSE OF THE DOCUMENT	4
5	BRIEF DESCRIPTION OF PROJECT & PRODUCT	4
5.1	Production Process Flow	5
5.2	Installed and Operational Capacity.....	5
6	CRITICAL FACTORS	6
7	POTENTIAL TARGET MARKET / CUSTOMERS	6
8	GEOGRAPHICAL POTENTIAL FOR INVESTMENT	7
9	PROJECT COST SUMMARY	7
9.1	Project Economics	7
9.2	Project Cost	8
9.3	Land & Building Requirement.....	9
9.4	Machinery & Equipment Requirement.....	10
9.5	Furniture & Fixtures Requirement	10
9.6	Office Vehicles Requirement.....	11
9.7	Office Equipment Requirement	11
9.8	Raw Material Requirement.....	12
9.9	Human Resource Requirement.....	12
9.10	Utilities and Other Cost	12
9.11	Revenue Generation.....	13
10	CONTACT DETAILS.....	13
11	USEFUL WEB LINKS	13
12	ANNEXURES.....	15
12.1	Income Statement.....	15
12.2	Balance Sheet.....	16
12.3	Cash Flow Statement.....	17
13	KEY ASSUMPTIONS.....	18
13.1	Operating Cost Assumptions.....	18
13.2	Production Cost Assumptions	18
13.3	Revenue Assumptions	19

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 184
Prepared by	SMEDA Punjab – OS
Revision Date	February, 2021
For information	helpdesk.punjab@smeda.org.pk

2 EXECUTIVE SUMMARY

Thermoforming is a manufacturing process where a plastic sheet is heated to a pliable forming temperature, formed to a specific shape in a mold to create a usable product. The thermoforming is extensively used in making of disposable food containers, plates, cups and glasses. There is a huge demand of thermoform disposable items by small restaurants, cafes', canteens, outdoor eating places and at events.

This particular pre-feasibility study is for setting up a 'Thermoform Food Container and Glass Manufacturing Unit'. The focus of the business would be to manufacture quality thermoform disposable food containers and glasses for local consumption. The major target customers will be outdoor eateries, small restaurants, industrial canteens, cafes', caterers and event organizers etc.

The proposed unit has capacity to produce 20 million thermoforming food containers and 60 million glasses in a year based on 300 working days with 08 hours operational per day. However, starting operational capacity is assumed at 65% (i.e. 13 million food containers and 39 million glasses). The glasses produced can be used for both cold and hot drinks. This production capacity is estimated to be economically viable and justifies the capital as well as operational cost of the project. However, entrepreneur's knowledge of industry, competitive pricing and strong linkage with suppliers and wholesalers network are key factors for the success of this business.

The estimated total cost of the proposed 'Thermoform Food Container and Glass Manufacturing Unit' is estimated at Rs. 109.655 million, out of which Rs. 107.810 million is the capital cost and Rs. 1.845 million is for working capital. Based on an equity finance model, the project NPV is around Rs. 86.633 million, with an IRR of 32% and Payback Period of 3.81 years. The project will provide employment opportunities to 19 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 Thermoform Food Container and Glass Manufacturing business 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, which form basis of any Investment Decision.

5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

Thermoforming is a manufacturing process in which thermoplastic sheet is heated to a bendable forming temperature to form a particular shape in a mould. Thermoform plastic are light weight, leak-proof and easy to carry. Therefore, thermoform sheets are extensively used in manufacturing of disposable food items, especially food containers, plates and glasses. Generally, these thermoform items have thickness of 0.35 mm to 2 mm and very convenient for serving food in outdoors, events, takeaways, canteens, travelling and picnics etc. So, there is a growing demand of thermoform disposable items by small restaurants, cafes', canteens, outdoor eating places and at events. Moreover, the demand of disposable items are also increasing due to the changing urban lifestyles.

This particular pre-feasibility study is based on automatic thermoforming plastic sheet manufacturing technology to produce disposable food containers and glasses. The unit will be equipped with modern foam sheet extrusion line with booster pump, double screw granule maker, automatic forming and cutting machines. In addition to that air compressor and thermoplastic recycling machine is also installed in the unit. The unit

will be able to produce food container and glasses of various sizes and capacities for both hot and chilled food items as per the requirements of the customers.

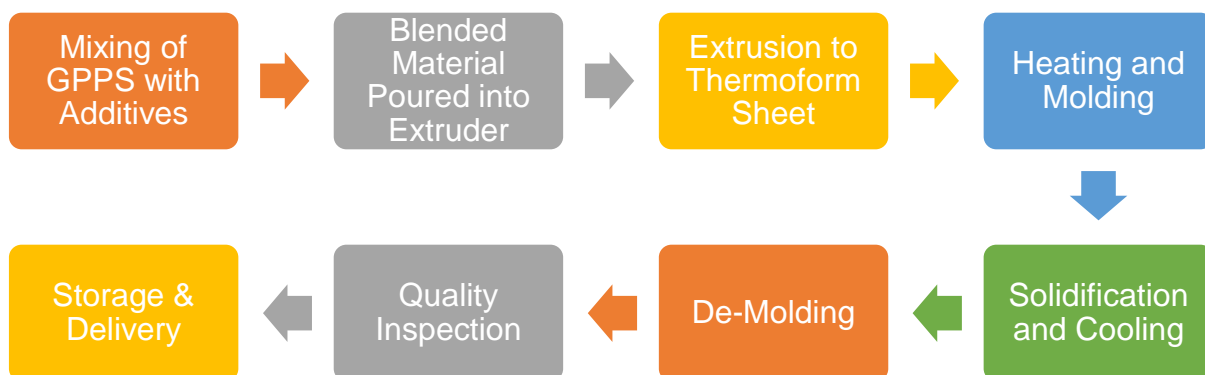
The major raw material is General Purpose Polystyrene (GPPS), which will be procured from the local market. Other than GPPS, locally procured talcum powder will also be used during the production process. According to the proposed business model unit will mainly target the fast food chains, canteens, caterers, cafes, restaurants, etc. through wholesalers as well as on order manufacturing basis.

Financial analysis shows the unit shall be profitable from the very first year of operation. The ideal location for the proposed project is any major industrial city across Pakistan. The legal business status of this project is assumed to be 'Sole Proprietorship'.

5.1 Production Process Flow

Production process starts with the mixing and blending of various additives in GPPS. The blended raw material is poured into the extrusion machine to form the thermoform sheet. Afterwards, thermoform sheet is heated to its softening point and is stretched across a single-sided mold and converted into required shape and size through solidification and cooling. The main steps of the production process flow is exhibited in the below diagram.

Figure 1: Production Process Flow



5.2 Installed and Operational Capacity

The installed and operational capacities of the paper cup manufacturing unit mainly depends upon the installed machinery.

The pre-feasibility study is based on an automatic extrusion plant that can produce 20 million food containers and 60 million glasses per annum on 08 hours single shift basis. However, during 1st year of operation unit will operate at 65% capacity, whereas maximum operation capacity is assumed at 90% in 6th year. The operational capacity is expected to grow at 5% annually.

Table 1: Installed and Operational Capacity

Description	Total Installed Capacity (Mn. No.)	Operational Capacity 65 % (Year 1)	Max. Operational Capacity 90% (Year 6)
Food Container	20	13	18
Glass	60	39	54
Total	80	52	72

6 CRITICAL FACTORS

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

- ⇒ Background knowledge and related experience of the entrepreneur in the field of plastic or polymer related manufacturing and food packaging industry.
- ⇒ Selection of quality polystyrene on the basis of best analysis of cost and revenues for a given season; cost efficiency through better management.
- ⇒ Adherence to the utilization of food graded quality raw material.
- ⇒ Awareness regarding prevailing quality standards of the paper packaging for food industry.
- ⇒ Exceed customer expectations by offering high quality products at reasonable prices with quick turnaround times.
- ⇒ Appropriate arrangement for transportation of product to the processing unit.
- ⇒ Business location is the key to success for the thermoforming plastic unit, in order to have greater reach to its customers to meet its revenue targets.
- ⇒ Effective marketing and distribution of the product.
- ⇒ Employ careful financial and accounting analysis to ensure efficiency and proper controls.

7 POTENTIAL TARGET MARKET / CUSTOMERS

The potential target customers of the proposed thermoform food containers and glasses manufacturing facility will be restaurants, fast food restaurants, cafes, caterers, and super stores. Beside that canteens situated in both factories as well as in educational institutes are also the potential target customers. The potential target customers will be directly targeted for order manufacturing basis and through network of wholesalers.

8 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Due to existence of the potential target customers of thermoform products in metropolitan cities, it is recommended that the proposed venture is to be established in any major city. Especially, cities like Lahore, Islamabad, Karachi, Gujranwala, Rawalpindi, Peshawar, Quetta etc. are the most suitable locations for erecting the proposed thermoform food containers and glasses manufacturing unit.

9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyse the commercial viability of Thermoform Food Container and Glass Manufacturing Unit. Various cost 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 attached as annexures.

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 123,987,500 in the year one. The capacity utilization during year one is worked out at 65%.

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)	32%
Payback Period (Yrs.)	3.81
Net Present Value (Rs.)	86,632,810

Calculation of break-even analysis is as follows:

Table 3: Breakeven (100% Equity-Based)

Break-Even Analysis	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue	48,728,087	47,759,830	47,460,960	47,766,086	48,488,095	49,238,580	51,301,912	53,532,308	56,028,194	58,871,023
Break-Even Units	18,563,081	16,540,201	14,942,451	13,671,378	12,616,389	11,646,966	11,031,845	10,464,967	9,957,168	9,511,261
Margin of Safety	61%	67%	73%	76%	80%	82%	83%	84%	85%	85%

However, for the purposes of further explanation the Project Economics based on Debt:Equity (i.e. 50:50) Model has also been computed. Based on 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)	32%
Payback Period (Yrs.)	3.70
Net Present Value (Rs.)	119,325,380

The financial assumptions for Debt:Equity are as follows:

Table 5: Financial Assumptions for Debt:Equity Model

Description	Details
Debt (50%)	54,989,835
Equity (50%)	54,989,835
Interest Rate on Debt	12%
Debt Tenure	5
Debt Payment / Year	2

The projected Income Statement, Cash Flow Statement and Balance Sheet attached 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	
Land	18,000,000
Building / Infrastructure	22,440,900
Machinery & Equipment	62,618,753
Pre-Operating Costs	1,315,000

Office Vehicles	1,076,240
Wapda Security	1,005,000
Furniture & Fixtures	736,200
Licensing & Legal Fee	340,000
Office Equipment	277,500
Total Capital Cost	107,809,593
Cash	578,040
Raw Material Inventory	1,221,506
Equipment Spare Part Inventory	45,921
Total Working Capital	1,845,467
Total Project Cost	109,655,061

9.3 Land & Building Requirement

Approximately 3 Kanals of land would be required for establishment of the proposed unit. It is recommended that required land should be procured in the industrial estates of identified city / area. The cost of land is estimated at the rate of Rs. 6 million per kanal.

The infrastructural requirements of the project mainly comprise the construction of various facilities including management office, production hall, store finished goods and open area, etc. Details of space requirement and cost related to land & building is given in below table:

Table 7: Land & Building Requirement

Description	Estimated Area (Sq. ft.)	Unit Cost (Rs.)	Total Cost (Rs.)
Owner / Manager Office	200	2,500	500,000
Accounts / Supervisor	120	2,500	300,000
Production Hall	9,000	2,000	18,000,000
Store Raw Material	360	2,000	720,000
Store Finished Goods	780	2,000	1,560,000
Stores and Spares Room	100	2,000	200,000
Wash Rooms	108	2,000	216,000
Security Guard Room	120	2,000	240,000

Car Parking	288	150	43,200
Open Area	2,424	50	121,200
Boundary Wall			540,500
Total Construction Cost			22,440,900
Total Cost of Land			18,000,000
Total Cost			40,440,900

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.)
Disposable Food Container & Glass Thermoforming Plant	1	54,045,353	54,045,353
Generator	1	4,300,000	4,300,000
Transformer	1	2,495,000	2,495,000
Boarding Lodging and Other Costs		820,400	820,400
Erection Labour		720,000	720,000
Industrial Fans	4	34,500	138,000
LPG Cylinders	10	5,500	55,000
Security Equipment's	1	45,000	45,000
Total			62,618,753

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.)
Table & Chairs (Owner Office)	1	35,000	35,000

Visitor Chairs (Owner Office)	2	8,000	16,000
Sofas (Owner Office)	4	12,000	48,000
Staff Table & Chairs	2	35,000	70,000
Visitor Chairs	2	8,000	16,000
Cupboard	1	15,000	15,000
Miscellaneous Furniture	1	250,000	250,000
Bracket Fans	16	3,800	60,800
Exhaust Fans	7	2,200	15,400
LED Bulbs (18 Watts)	30	1,000	30,000
Air conditioners (1.5 ton Split)	2	90,000	180,000
Total			736,200

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.)
Pickup	1	1,076,240	1,076,240
Total			1,076,240

9.7 Office Equipment Requirement

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

Table 11: Computer & Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computers	3	50,000	150,000
UPS with Batteries	1	50,000	50,000
Printers	2	23,000	46,000
Scanner	1	9,500	9,500
Telephones	2	1,500	3,000

Water Dispenser	1	19,000	19,000
Total			277,500

9.8 Raw Material Requirement

General Purpose Polystyrene (GPPS) is the main raw material for the proposed business, along with talcum powder which will also be used in the process. All these raw materials will be procured directly from the local market. The following table provides the details for the raw material requirements for first year of operations for the proposed unit.

Table 12: Raw Material Requirements (Year 1)

Description	Quantity Required (Kg)	Unit Cost per Kg (Rs.)	Total Cost (Rs.)
General Purpose Polystyrene (GPPS) including Talcum Powder	283,400	220	62,348,000
Total			62,348,000

9.9 Human Resource Requirement

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

Table 13: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs.)
Owner / Manager	1	80,000
Technical Supervisor	1	45,000
Supervisor / Accountant	1	40,000
Machine Operators	4	25,000
Helpers	10	20,000
Security Guards	2	25,000
Total	19	

9.10 Utilities and Other Cost

An essential cost to be borne by the project is the cost of electricity and gas. The electricity and gas expenses are estimated to be around Rs.1,593,104 (Direct and In

direct) and Rs.259,783 respectively per month. Furthermore, promotional expense being essential for marketing of Thermoforming Plant is estimated as 0.75% of revenue.

9.11 Revenue Generation

Based on the capacity utilization of 65%, sales revenue during the first year of operations is provided in the table below.

Table 14: Revenue Generation – Year 1

Description	No. of Units Produced (Pieces.)	Inventory in F.G and Wastage (Pieces.)	Sold During the Year (Pieces)	Sale Price / Piece (Rs.)	Sales Revenue (Rs.)
Food containers	13,000,000	1,191,667	11,808,333	4.5	53,137,500
Glasses	39,000,000	3,575,000	35,425,000	2	70,850,000
Total	52,000,000	4,766,667	47,233,333		123,987,500

10 CONTACT DETAILS

In order to facilitate potential investors, contact details of machinery supplier relevant to the proposed project is given below.

Table 15: Machinery Suppliers

Name of Supplier	Web Address / Email	Phone
Pingyang Sinoplast Machinery Co., Ltd Zhejiang, China	https://sinoplast.en.made-in-china.com sales@sinoplastmachinery.com	+86 577 6501 2596

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
Technical Education and Vocational Training Authority (TEVTA)	www.tevta.org
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Pakistan Plastic Manufacturers Association	www.pakplas.com.pk
Quaid-e-Azam Industrial Estate	www.qie.com.pk
Punjab Industrial Estate Management and Development Company (PIEMDC)	www.pie.com.pk
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	www.fiedmc.com.pk
National Industrial Parks	www.nip.com.pk
All Pakistan Restaurant Association	www.apra.org.pk

12 ANNEXURES

12.1 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	123,987,500	146,877,500	173,105,625	203,110,600	237,385,514	276,484,304	304,132,735	334,546,008	368,000,609	404,800,670	
<i>Cost of sales</i>											
Raw Material Cost	62,348,000	73,858,400	87,047,400	102,135,616	119,371,001	139,032,107	152,935,318	168,228,850	185,051,735	203,556,908	
Packing Cost	472,333	559,533	659,450	773,755	904,326	1,053,274	1,158,601	1,274,461	1,401,907	1,542,098	
Operation costs 1 (direct labor)	4,959,500	5,455,450	6,000,995	6,601,095	7,261,204	7,987,324	8,786,057	9,664,662	10,631,129	11,694,242	
Operating costs 2 (machinery maintenance)	2,361,667	2,797,667	3,297,250	3,868,773	4,521,629	5,266,368	5,793,004	6,372,305	7,009,535	7,710,489	
Operating costs 3 (direct electricity)	19,017,000	20,918,700	23,010,570	25,311,627	27,842,790	30,627,069	33,689,776	37,058,753	40,764,628	44,841,091	
Operating costs 5 (direct gas)	3,117,400	3,692,920	4,352,370	5,106,781	5,968,550	6,951,605	7,646,766	8,411,442	9,252,587	10,177,845	
Total cost of sales	92,275,900	107,282,670	124,368,035	143,797,646	165,869,500	190,917,747	210,009,522	231,010,474	254,111,521	279,522,673	
Gross Profit	31,711,600	39,594,830	48,737,590	59,312,954	71,516,014	85,566,557	94,123,213	103,535,534	113,889,088	125,277,997	
<i>General administration & selling expenses</i>											
Administration expense	480,000	528,000	580,800	638,880	702,768	773,045	850,349	935,384	1,028,923	1,131,815	
Administration benefits expense	96,000	105,600	116,160	127,776	140,554	154,609	170,070	187,077	205,785	226,363	
Electricity expense	100,246	110,270	121,297	133,427	146,770	161,447	177,591	195,351	214,886	236,374	
Water expense	49,595	54,555	60,010	66,011	72,612	79,873	87,861	96,647	106,311	116,942	
Travelling expense	72,000	79,200	87,120	95,832	105,415	115,957	127,552	140,308	154,338	169,772	
Communications expense (phone, fax, mail, internet, etc.)	74,393	81,832	90,015	99,016	108,918	119,810	131,791	144,970	159,467	175,414	
Office vehicles running expense	376,684	414,352	455,788	501,366	551,503	606,653	667,319	734,051	807,456	888,201	
Office expenses (stationary, entertainment, janitorial services, etc.)	247,975	272,773	300,050	330,055	363,060	399,366	439,303	483,233	531,556	584,712	
Promotional expense	929,906	836,916	753,224	677,902	610,111	549,100	494,190	444,771	400,294	360,265	
Professional fees (legal, audit, consultants, etc.)	619,938	734,388	865,528	1,015,553	1,186,928	1,382,422	1,520,664	1,672,730	1,840,003	2,024,003	
Depreciation expense	7,759,303	7,759,303	7,759,303	7,775,148	7,772,593	7,904,005	7,922,347	7,919,390	7,919,390	7,940,624	
Amortization of pre-operating costs	263,000	263,000	263,000	263,000	263,000	-	-	-	-	-	
Amortization of connection charges	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	
Bad debt expense	1,239,875	1,468,775	1,731,056	2,031,106	2,373,855	2,764,843	3,041,327	3,345,460	3,680,006	4,048,007	
Miscellaneous expense 1	120,000	132,000	145,200	159,720	175,692	193,261	212,587	233,846	257,231	282,954	
Subtotal	12,462,914	12,874,963	13,362,551	13,948,793	14,607,780	15,238,391	15,876,952	16,567,217	17,339,645	18,219,446	
Operating Income	19,248,686	26,719,867	35,375,039	45,364,161	56,908,235	70,328,167	78,246,261	86,968,318	96,549,443	107,058,551	
Other income (interest on cash)	233,447	707,461	1,237,607	1,820,059	2,448,233	3,144,223	3,892,325	4,639,909	5,389,996	6,297,364	
Gain / (loss) on sale of computer equipment	-	-	63,875	-	-	137,818	-	-	223,417	178,364	
Gain / (loss) on sale of office vehicles	-	-	-	-	430,496	-	-	-	-	-	
Earnings Before Interest & Taxes	19,482,133	27,427,328	36,676,520	47,184,220	59,786,964	73,610,208	82,138,586	91,608,226	102,162,856	113,534,279	
Earnings Before Tax	19,482,133	27,427,328	36,676,520	47,184,220	59,786,964	73,610,208	82,138,586	91,608,226	102,162,856	113,534,279	
Tax	5,938,746	8,719,564	11,956,782	15,634,477	20,045,437	24,883,572	27,868,505	31,182,879	34,876,999	38,856,997	
NET PROFIT/(LOSS) AFTER TAX	13,543,387	18,707,763	24,719,738	31,549,744	39,741,527	48,726,635	54,270,081	60,425,348	67,285,857	74,677,282	

12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	578,040	18,097,731	38,499,128	60,509,395	85,095,358	110,763,295	140,774,517	170,611,480	200,581,206	230,618,512	273,170,606
Accounts receivable		2,377,842	2,597,336	3,068,331	3,607,553	4,223,935	4,927,519	5,567,561	6,124,317	6,736,748	7,410,423
Equipment spare part inventory	45,921	57,119	70,685	87,084	106,868	130,693	150,951	174,348	201,372	232,585	-
Raw material inventory	1,221,506	1,591,717	2,063,547	2,663,352	3,424,072	4,386,840	5,308,076	6,422,772	7,771,554	9,403,581	-
Total Current Assets	1,845,467	22,124,409	43,230,696	66,328,162	92,233,851	119,504,764	151,161,062	182,776,161	214,678,449	246,991,426	280,581,029
<i>Fixed assets</i>											
Land	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Building/Infrastructure	22,440,900	21,318,855	20,196,810	19,074,765	17,952,720	16,830,675	15,708,630	14,586,585	13,464,540	12,342,495	11,220,450
Wapda Security	1,005,000	1,005,000	1,005,000	1,005,000	1,005,000	1,005,000	1,005,000	1,005,000	1,005,000	1,005,000	1,005,000
Machinery & equipment	62,618,753	56,356,878	50,095,003	43,833,127	37,571,252	31,309,377	25,047,501	18,785,626	12,523,751	6,261,875	0
Furniture & fixtures	736,200	662,580	588,960	515,340	441,720	368,100	294,480	220,860	147,240	73,620	-
Office vehicles	1,076,240	860,992	645,744	430,496	215,248	1,733,295	1,386,636	1,039,977	693,318	346,659	-
Computer equipment	255,500	171,185	86,870	298,328	198,168	100,563	345,352	229,404	116,414	399,788	265,564
Office equipment	22,000	19,800	17,600	15,400	13,200	11,000	8,800	6,600	4,400	2,200	-
Total Fixed Assets	106,154,593	98,395,290	90,635,987	83,172,457	75,397,308	69,358,010	61,796,400	53,874,052	45,954,663	38,431,638	30,491,014
<i>Intangible assets</i>											
Pre-operation costs	1,315,000	1,052,000	789,000	526,000	263,000	-	-	-	-	-	-
Legal, licensing, & training costs	340,000	306,000	272,000	238,000	204,000	170,000	136,000	102,000	68,000	34,000	-
Total Intangible Assets	1,655,000	1,358,000	1,061,000	764,000	467,000	170,000	136,000	102,000	68,000	34,000	-
TOTAL ASSETS	109,655,061	121,877,699	134,927,682	150,264,619	168,098,159	189,032,773	213,093,462	236,752,213	260,701,112	285,457,063	311,072,043
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		1,387,929	1,638,643	1,926,585	2,256,924	2,635,552	3,063,365	3,381,058	3,732,897	4,122,794	4,331,790
Total Current Liabilities	-	1,387,929	1,638,643	1,926,585	2,256,924	2,635,552	3,063,365	3,381,058	3,732,897	4,122,794	4,331,790
<i>Shareholders' equity</i>											
Paid-up capital	109,655,061	109,655,061	109,655,061	109,655,061	109,655,061	109,655,061	109,655,061	109,655,061	109,655,061	109,655,061	109,655,061
Retained earnings		10,834,709	23,633,978	38,682,973	56,186,174	76,742,160	100,375,036	123,716,094	147,313,153	171,679,208	197,085,192
Total Equity	109,655,061	120,489,770	133,289,039	148,338,034	165,841,234	186,397,221	210,030,097	233,371,155	256,968,214	281,334,269	306,740,253
TOTAL CAPITAL AND LIABILITIES	109,655,061	121,877,699	134,927,682	150,264,619	168,098,159	189,032,773	213,093,462	236,752,213	260,701,112	285,457,063	311,072,043

12.3 Cash Flow Statement

Calculations											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit		13,543,387	18,707,763	24,719,738	31,549,744	39,741,527	48,726,635	54,270,081	60,425,348	67,285,857	74,677,282
Add: depreciation expense		7,759,303	7,759,303	7,759,303	7,775,148	7,772,593	7,904,005	7,922,347	7,919,390	7,919,390	7,940,624
amortization of pre-operating costs		263,000	263,000	263,000	263,000	263,000	-	-	-	-	-
amortization of training costs		34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000
Accounts receivable		(2,377,842)	(219,493)	(470,996)	(539,222)	(616,382)	(703,583)	(640,042)	(556,756)	(612,432)	(673,675)
Equipment inventory	(45,921)	(11,198)	(13,566)	(16,399)	(19,784)	(23,825)	(20,257)	(23,397)	(27,024)	(31,213)	232,585
Raw material inventory	(1,221,506)	(370,210)	(471,830)	(599,804)	(760,720)	(962,768)	(921,236)	(1,114,696)	(1,348,782)	(1,632,026)	9,403,581
Accounts payable		1,387,929	250,715	287,941	330,340	378,628	427,812	317,694	351,839	389,897	208,996
Cash provided by operations	(1,267,428)	20,228,368	26,309,892	31,976,784	38,632,506	46,586,772	55,447,375	60,765,987	66,798,014	73,353,473	91,823,392
<i>Financing activities</i>											
Issuance of shares	109,655,061	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	109,655,061	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(107,809,593)	-	-	(295,773)	-	(1,733,295)	(342,394)	-	-	(396,364)	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for)/ provided by investing activities	(107,809,593)	-	-	(295,773)	-	(1,733,295)	(342,394)	-	-	(396,364)	-
NET CASH	578,040	20,228,368	26,309,892	31,681,011	38,632,506	44,853,477	55,104,981	60,765,987	66,798,014	72,957,108	91,823,392

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Travelling expense	15% of Administration Expense
Communication Expenses	1.5 % of Direct Staff Salaries
Promotional Expenses	0.75 % of Revenue
Depreciation Method	Straight Line
Depreciation Rate	5% on Building / Infrastructure 10% on Machinery & Equipment 33% on Office Equipment 10% on Furniture & Fixture 20% on vehicles
Inflation Growth Rate	10%
Electricity Price Growth Rate	10%
Salaries Growth Rate	10%
Gas Price Growth Rate	10%

13.2 Production Cost Assumptions

Description	Details
Raw Material Costs (Rs.) per Piece	Rs. 2.64 per Food Container Rs. 0.88 per Glass
Packaging Cost (Rs.) per Piece	Rs. 0.01 per Food Container Rs. 0.01 per Glass
Product Cost Growth Rate	10%

13.3 Revenue Assumptions

Description	Details
Sale Price (Year 1) Rs. Per Piece	Food Container: 4.5 Glass: 2.0
Sale Price Growth Rate	10%
Maximum Operational Capacity in Pieces	Total: 80,000,000 Food Containers: 20,000,000 Glasses: 60,000,000
Production Capacity in First Year	65%
Percentage Increase in Production Capacity (Yearly)	5%
Maximum Operational Capacity	90%
Hours Operational / Day	8
Days Operational / Year	300