
Pre-Feasibility Study

PET BOTTLES 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 KPK	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

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1 DISCLAIMER

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2 EXECUTIVE SUMMARY

The PET Bottles Manufacturing Unit is a project of Plastic Sector, which is supposed to be established at a location where utilities especially electricity, infrastructure and other provisions essential for the production process are conveniently available. All industrial zones in major big cities like Karachi, Lahore, Hyderabad, Lahore, Gujranwala, Multan, Rawalpindi, Quetta, Peshawar, Lasbela etc. are suitable locations to setup this project.

The project is assumed to manufacture PET bottles of three different sizes, i.e. 0.5, 1.5 and 6 liters, using food graded 'Polyethylene Terephthalate' in a contract-manufacturing mode. Proposed unit having 02 semi-automated pet blow machines, would have an installed capacity to manufacture around 18,171 bottles (approximately 7,680 bottles of 0.5 ltr, 7,200 bottles of 1.5 ltr, and 3,291 bottles of 6 ltr) per day on 8 hours single shift basis. However, plant is estimated to operate at 65% capacity utilization in the initial year and with 5% gradual increase will attain the maximum capacity utilization of 95%. About, 9 personnel would be required to manage the operations of the PET bottles manufacturing setup, including the owner manager. Relevant prior experience of entrepreneur in plastic industry along with selection of appropriate plant and machinery are most critical factors for success of this project.

Total cost estimates are Rs. 17.43 million with a capital investment of Rs. 15.87 million and an initial working capital requirement of Rs. 1.56 million. Projected IRR, Net Present Value (NPV) and Payback of this project are 32%, Rs. 16,669,952 and 3.88 Year years respectively. The legal business status of this project is proposed as '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 **Pet Bottles Manufacturing 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 it's successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form basis of any Investment Decision.

5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

Polyethylene terephthalate (also written as poly ethylene terephthalate), commonly abbreviated as PET, is the most common thermoplastic polymer resin of the polyester family and is used in fibers for clothing, containers for liquids and foods, thermoforming for manufacturing, and in combination with glass fiber for engineering resins.

PET Bottles have become highly popular packaging for many kind of liquid products such as soft drinks, drinking water, cooking oils and etc., mainly due to its strength, light weight, excellent dye-ability and satisfactory resistance to almost all organic solvents.

The demand of PET bottles is on a rise as most of the food manufacturers from different businesses are converting to PET bottles for the packaging of their products mainly because of lower cost and better preservation. The PET bottles / containers are commonly used for the packaging of the following:

- Soft Drinks / Carbonated Beverages
- Drinking Water
- Edible Oil
- Household Food Containers
- Detergents
- Paints
- Lubricating Oils
- Feeding Bottles for Babies

Due to high demand of PET bottles, there is a huge potential for establishing small manufacturing units of PET bottles in the main cities of Pakistan.

Accordingly, this particular project is related to setting-up a modernly equipped 'PET Bottles Manufacturing Unit' at a small and medium scale level. Proposed unit is based on 02 sets of semi automated 'Pet Blow Machines', and have an installed capacity of producing around 18,171 bottles of three different sizes, i.e. 0.5, 1.5 and 6 ltr, per day on 8 hours single shift basis. For this proposed production 'Preforms' will be outsourced, while molds of stated sizes are procured as a part of machinery. The unit will operate on contract manufacturing basis, particularly for mineral water, beverages and edible oil industries.

The PET bottles manufacturing business is assumed to operate as a sole proprietorship, however, partnership opportunities may be explored if further investment is required.

5.1 Product Mix

The proposed project will be capable of manufacturing PET bottles of three different sizes of 0.5, 1.5 and 6 ltrs, which are most common sizes in the industry. Installed plant and machinery do also have the capability of producing other sizes of bottle according to customer requirements. However, for this particular pre-feasibility manufacturing of above stated sizes of bottles is considered.

The 0.5 ltr size bottles have the highest demand followed by 1.5 ltr size bottles and 6 ltr size bottles. Accordingly, proportion of product mix of the unit is based on prevailing market demand, which is provided in the following section.

5.2 Installed and Operational Capacities

The installed and operational capacity of Pet Bottles Manufacturing business venture mainly depends on the acquired plant and machinery. This pre-feasibility study is based on 02 sets of semi automated 'Pet Blow Machines'. Accordingly, proposed unit has an installed capacity of manufacturing 18,171 bottles per day on single shift basis (i.e. for 8 hours) and will be able to produce 4,797,600 bottles annually with 350 operational days. The maximum capacity utilization of the unit is assumed at 95% however, during the first year unit will operate at 65% capacity.

Capacity utilization growth rate of 5% is considered for subsequent years. This production capacity is estimated to be economically viable and justifies the capital as well as operational costs of the project.

The details of operational and installed capacity according to product mix are provided in the table below:

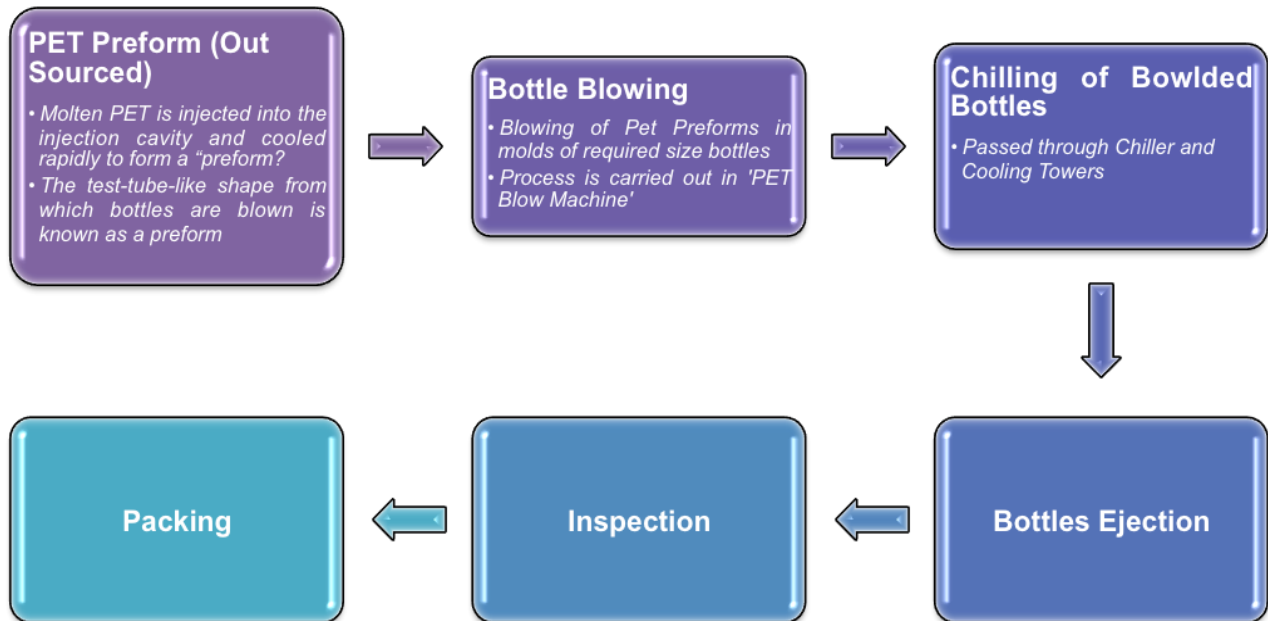
Table 1: Installed and Operational Capacity

Product Mix	Percentage Share in Production	Installed Capacity (Annually)	Maximum Production Capacity (95%)	Operational Capacity (65% - Year 1)
0.5 Liter Bottles	100% (from Machine 1)	2,688,000	2,553,600	1,747,200
1.5 Liter Bottles	70% (from Machine 2)	1,764,000	1,675,800	1,146,600
6 Liter Bottles	30% (from Machine 2)	345,600	328,320	224,640
Total		4,797,600	4,557,720	3,118,440

5.3 Production Process Flow

PET bottles manufacturing process involves two basic stages of 'Preforms Manufacturing' and 'Bottle Blow Molding'. The production operations of proposed unit mainly entails the second stage of manufacturing process, whereas 'PET Preforms' will be outsourced from the market. The practice of outsourcing 'PET Preforms' from the market is widely being practiced in the industry, particularly by small and medium scale units mainly to avoid high capital cost of required machinery and equipment for making PET Preforms.

The production process related to manufacturing of PET bottles from 'PET Preform' is provided below:



6 CRITICAL FACTORS

The commercial viability of the proposed pet bottles manufacturing unit depends on the following critical factors:

- ⇒ Technical know-how and relevant experience of entrepreneur.
- ⇒ Availability of skilled labour having technical knowledge.
- ⇒ Ability to generate work orders through industrial networking, direct marketing and negotiating long term contracts.
- ⇒ Higher return on investment and a steady growth of business is closely associated with regular training and capacity building of the entrepreneur and employees.
- ⇒ Selection of appropriate machinery, technology and human resources would be required to run project successfully.
- ⇒ Stringent supervision of the production process at every level.
- ⇒ Knowledge about local environmental regulations and compliance requirements.

- ⇒ The most important factor for the success of the project would be the quality products and customer satisfaction in order to get a comparative advantage.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

For the success of the project, it is important to find a location preferably in an industrial cluster where utilities especially electricity and other infrastructure are conveniently available. Presently, Lahore is the Pet Bottles manufacturing center of the country, followed by Karachi, Faisalabad, Hyderabad, Peshawar and Rawalpindi.

Therefore, all industrial clusters in Lahore, Karachi, Hub / Lasbela, Hyderabad, Gujranwala, Multan, Rawalpindi, Quetta and Peshawar etc. are suitable to house the project. Establishing the unit in large cities would have an advantage of being close to large buyers, which may lead to consistent orders and referrals.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

PET bottles usage, as liquid packaging material is a growing industrial segment in Pakistan relying heavily on the changing lifestyle patterns and population growth in the country. Major target market for proposed unit includes mineral water, food / beverages and edible oil industry stakeholders based in Karachi and Lahore. However, there is also a growing demand for the product in Hyderabad, Sukkur, Shikarpur, Gujranwala, Multan, Rawalpindi, Quetta and Peshawar etc.

The production of 0.5 and 1.5 liter bottles is the highest, as they are used in the beverage and mineral water industries which are the two largest consumers of PET bottles. The production of 6 liter is lower than the other two because they are mostly used in edible oil packaging.

9 PROJECT COST SUMMARY

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 24.36 million (i.e. 3,118,440 units of pet bottles) in the year one. The capacity utilization during year one is worked out at 65% with 05% 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 2: Project Economics

Description	Details
Internal Rate of Return (IRR)	32%
Payback Period (Yrs.)	3.88
Net Present Value (Rs.)	16,669,952

9.2 Project Financing

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

Table 3: Project Financing

Description	Details
Total Equity (50%)	Rs. 8,714,920
Bank Loan (50%)	Rs. 8,714,920
Markup to the Borrower (%age / annum)	14%
Tenure of the Loan (Years)	5 Years

9.3 Project Cost

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

Table 4: Project Cost Summary

Description	Amount Rs.
Capital Cost	
Plant and Machinery	3,720,000
Furniture & Fixture	262,200
Land	2,500,000
Building Infrastructure	8,403,994
Office Equipment	147,400
Pre-operating Cost	840,552
Total Capital Cost	15,874,146
Working Capital	

Raw Material Inventory	1,218,338
Cash	300,000
Total Working Capital	1,555,694
Total Project Cost	17,429,839

9.4 Space Requirement

Approximately 1 acre of land would be required for establishment of proposed unit, it is recommended that required land should be procured in the industrial estates of identified potential cities. The total cost of land is estimated at Rs. 2.5 million.

The infrastructural requirements of the project mainly comprises of the construction of management office, production area, raw material store, finished goods store, loading area, workshop area etc. The cost of construction of building for the proposed unit is provided in the table below:

Table 5: Space Requirement

Description	Estimated Area (Sq. ft.)	Unit Cost (Rs.)	Total Cost (Rs.)
Management Building	300	2,500	750,000
Production Area	2,000	1,800	3,600,000
Raw Material Store	250	1,500	375,000
Finished Goods Store	510	1,500	765,000
Loading Area	700	1,800	1,260,000
Workshop Area	740	1,800	1,332,000
Boundary Wall (Running Foot)	268	1,200	321,994
Total Construction Cost			8,403,994

9.5 Machinery & Equipment Requirement

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

Table 6: Machinery & Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Pet Blow Machine HZ-880 Semi Automatic	2	750,000	1,500,000
Chiller 4 Ton along with Cooling Tower	1	540,000	540,000

Bottle Mold - 0.5 liters	1	100,000	100,000
Bottle Mold - 1.5 liters	1	110,000	110,000
Bottle Mold - 6 liters	1	130,000	130,000
Generator	1	650,000	650,000
Compressor	2	275,000	550,000
Pipes Fitting	1	30,000	30,000
Electric Wiring	1	10,000	10,000
Miscellaneous	1	100,000	100,000
Total Cost		2,695,000	3,720,000

9.6 Furniture & Fixtures Requirement

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

Table 7: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Executive Table	1	25,000	25,000
Executive Chair	1	12,000	12,000
Other Table	1	8,000	8,000
Other Chairs	6	4,000	24,000
File Cabinet	2	6,000	12,000
Fire Extinguishers	4	28,00	11,200
Air Conditioners	2	60,000	120,000
Electric Wiring & Lighting		50,000	50,000
Total			262,200

9.7 Office Equipment Requirement

Following office equipment will be required for Pet Bottles Manufacturing unit:

Table 8: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptop / Computer	2	50,000	100,000
Desktop Computers with UPS	1	25,000	25,000
Telephone Sets	2	1,200	2,400
Fax Machine	1	20,000	20,000

Total			147,400
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9.8 Human Resource Requirement

In order to run operations of Pet Bottles Manufacturing unit smoothly, details of human resources required along with monthly salary are recommended as under:

Table 9: Human Resource Requirement

Description	Number of Personnel	Monthly Salary / Person (Rs.)	Annual Salaries (Rs.)
CEO	1	60,000	720,000
Operation Manager	1	30,000	360,000
Accountant	1	25,000	300,000
Machine Operators	2	20,000	480,000
Helpers	2	13,000	312,000
Guards	2	15,000	360,000
Total	9		2,532,000

9.9 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.500,368 in year one. Furthermore, promotional expense being essential for marketing of Pet Bottles Manufacturing unit is estimated as 0.5% of revenue i.e.Rs.121,790.

9.10 Revenue Generation

Based on the 65% capacity utilization, sales revenue during the first year of operations is estimated as under:

Table 10: Revenue Generation – Year 1

Product Mix	Year 1 Production (No of Bottles)	Finished Goods Inventory	Product Quantity to be Sold	Year 1 Sale Price / Bottle	Sales Revenue (Rs.)
0.5 Liter Bottles	1,747,200	(72,800)	1,674,400	4.5	7,862,400
1.5 Liter Bottles	1,146,600	(47,775)	1,098,825	11.0	12,612,600
6 Liter Bottles	224,640	(9,360)	215,280	22.0	4,942,080
Total	3,118,440	129,935	2,988,505		24,358,035

10 CONTACT DETAILS

In order to facilitate potential investors, contact details of Machinery and PET Preforms suppliers is provided below:

Name of Supplier	Address	Phone / Fax	E-mail / Website
KNC International	Suit No.1, 5th Floor Sharja Centre 62- Shadman Market Lahore Pakistan	(92 42) 753 2157-58 (92 42) 753 2159	info@knc.com.pk www.knc.com.pk
Universal Resources & Traders	387 A, Geo Plaza near Picking Hotel, Model Town, Gujranwala	(92 55) 384 0241 (92 55) 384 0241	urt@brain.net.pk
Hassan Plas Packaging	Plot #132/3,Quaid-e-Azam Industrial Estate, Kot Lakhpat, Lahore	(92 42) 351 17420	khalid@hassanplas.com www.hassanplas.com www.standardmolds.com
Gatron Industries Limited	8th Floor, Textile Plaza, M.A. Jinnah / Dunnolly Road, P.O. Box 5801,Karachi- 74000, Pakistan	(92 21) 111 71 7171 (92 21) 241 6532	headoffice@gatronova.com www.gatronova.com

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 Balochistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jamu Kashmir	www.ajk.gov.pk
Trade Development Authority of Pakistan (TDAP)	www.tdap.gov.pk
Security Commission of Pakistan (SECP)	www.secp.gov.pk

Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
State Bank of Pakistan (SBP)	www.sbp.org.pk
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Punjab Vocational Training Council (PVTC)	www.pvtc.gop.pk
Technical Education and Vocational Training Authority (TEVTA)	www.tevta.org
Punjab Industrial Estates (PIE)	www.pie.com.pk
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	www.fiedmc.com.pk
Gujranwala Tools Dies and Molds Center (GTDMC)	www.gtdmc.org.pk
Pakistan Industrial and Technical Assistance (PITAC)	www.pitac.gov.pk

12 ANNEXURES

12.1 Income Statement

Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	24,358,035	30,019,853	35,387,581	41,528,657	48,544,073	56,547,285	65,665,699	72,391,021	79,630,123	87,593,135
<i>Cost of sales</i>										
Cost of goods sold 1	12,528,100	15,440,150	18,200,941	21,359,489	24,967,737	29,084,039	33,773,925	37,232,968	40,956,265	45,051,892
Cost of goods sold 2	2,091,954	2,578,210	3,039,210	3,566,627	4,169,135	4,856,479	5,639,601	6,217,195	6,838,914	7,522,806
Operation costs 1 (direct labor)	1,104,000	1,263,429	1,390,048	1,529,319	1,682,509	1,851,013	2,036,363	2,244,922	2,469,414	2,716,356
Operating costs 2 (machinery maintenance)	448,276	552,474	651,259	764,277	893,386	1,040,674	1,208,486	1,332,256	1,465,482	1,612,030
Operating costs 3 (direct electricity)	902,253	1,111,974	1,310,801	1,538,274	1,798,134	2,094,584	2,432,341	2,681,456	2,949,601	3,244,562
Total cost of sales	17,074,582	20,946,236	24,592,259	28,757,986	33,510,902	38,926,789	45,090,715	49,708,797	54,679,677	60,147,645
Gross Profit	7,283,453	9,073,616	10,795,322	12,770,671	15,033,171	17,620,496	20,574,984	22,682,224	24,950,446	27,445,491
<i>General administration & selling expenses</i>										
Administration expense	1,380,000	1,518,000	1,669,800	1,836,780	2,020,458	2,222,504	2,444,754	2,689,230	2,958,153	3,253,968
Administration benefits expense	41,400	45,540	50,094	55,103	60,614	66,675	73,343	80,677	88,745	97,619
Electricity expense	500,368	550,404	605,445	665,989	732,588	805,847	886,432	975,075	1,072,582	1,179,841
Water expense	36,000	39,600	43,560	47,916	52,708	57,978	63,776	70,154	77,169	84,886
Travelling expense	207,000	227,700	250,470	275,517	303,069	333,376	366,713	403,384	443,723	488,095
Communications expense (phone, fax, mail, internet, etc.)	138,000	151,800	166,980	183,678	202,046	222,250	244,475	268,923	295,815	325,397
Office expenses (stationary, entertainment, janitorial services, etc.)	69,000	75,900	83,490	91,839	101,023	111,125	122,238	134,461	147,908	162,698
Promotional expense	121,790	150,099	176,938	207,643	242,720	282,736	328,328	361,955	398,151	437,966
Professional fees (legal, audit, consultants, etc.)	121,790	150,099	176,938	207,643	242,720	282,736	328,328	361,955	398,151	437,966
Depreciation expense	833,160	833,160	833,160	833,160	833,160	833,160	833,160	833,160	833,160	833,160
Amortization of pre-operating costs	168,110	168,110	168,110	168,110	168,110	-	-	-	-	-
Bad debt expense	243,580	300,199	353,876	415,287	485,441	565,473	656,657	723,910	796,301	875,931
Subtotal	3,860,198	4,210,611	4,578,860	4,988,666	5,444,656	5,783,861	6,348,205	6,902,884	7,509,857	8,177,526
Operating Income	3,423,255	4,863,005	6,216,462	7,782,006	9,588,515	11,836,635	14,226,779	15,779,339	17,440,589	19,267,964
<i>Earnings Before Interest & Taxes</i>										
Interest on short term debt	19,000	19,000	-	-	-	-	-	-	-	-
Interest expense on long term debt (Project Loan)	1,111,190	943,085	751,446	532,977	283,922	-	-	-	-	-
Interest expense on long term debt (Working Capital Loan)	60,241	-	-	-	-	-	-	-	-	-
Subtotal	1,190,431	962,085	751,446	532,977	283,922	-	-	-	-	-
Earnings Before Tax	2,232,824	3,900,920	5,465,016	7,249,029	9,304,593	11,836,635	14,226,779	15,779,339	17,440,589	19,267,964
Tax	291,065	694,730	1,159,005	1,756,659	2,476,107	3,362,322	4,198,872	4,742,268	5,323,706	5,963,287
NET PROFIT/(LOSS) AFTER TAX	1,941,760	3,206,190	4,306,012	5,492,369	6,828,486	8,474,314	10,027,907	11,037,071	12,116,884	13,304,678

12.2 Balance Sheet

Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Current assets</i>											
Cash & Bank	300,000	-	2,012,532	4,901,261	8,580,754	13,103,674	20,831,296	30,092,253	40,155,179	51,023,235	75,033,199
Accounts receivable		1,001,015	1,117,354	1,343,988	1,580,471	1,850,810	2,159,411	2,511,226	2,836,782	3,123,722	3,436,094
Finished goods inventory		742,373	875,365	1,027,532	1,201,378	1,399,718	1,625,713	1,882,909	2,071,200	2,278,320	2,506,152
Equipment spare part inventory	37,356	50,643	65,669	84,771	109,001	139,668	178,409	216,349	261,783	316,757	-
Raw material inventory	1,218,338	1,651,683	2,141,715	2,764,722	3,554,941	4,555,129	5,818,622	7,056,006	8,537,768	10,330,699	-
Total Current Assets	1,555,694	3,445,715	6,212,634	10,122,273	15,026,544	21,048,998	30,613,451	41,758,743	53,862,711	67,072,733	80,975,445
<i>Fixed assets</i>											
Land	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Building/Infrastructure	8,403,994	7,983,794	7,563,594	7,143,395	6,723,195	6,302,995	5,882,796	5,462,596	5,042,396	4,622,197	4,201,997
Machinery & equipment	3,720,000	3,348,000	2,976,000	2,604,000	2,232,000	1,860,000	1,488,000	1,116,000	744,000	372,000	-
Furniture & fixtures	262,200	235,980	209,760	183,540	157,320	131,100	104,880	78,660	52,440	26,220	-
Office equipment	147,400	132,660	117,920	103,180	88,440	73,700	58,960	44,220	29,480	14,740	-
Total Fixed Assets	15,033,594	14,200,434	13,367,274	12,534,114	11,700,955	10,867,795	10,034,635	9,201,476	8,368,316	7,535,156	6,701,997
<i>Intangible assets</i>											
Pre-operation costs	840,552	672,441	504,331	336,221	168,110	-	-	-	-	-	-
Total Intangible Assets	840,552	672,441	504,331	336,221	168,110	-	-	-	-	-	-
TOTAL ASSETS	17,429,839	18,318,590	20,084,240	22,992,608	26,895,609	31,916,793	40,648,086	50,960,219	62,231,027	74,607,889	87,677,441
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		689,205	853,899	1,016,749	1,206,343	1,427,057	1,684,037	1,968,262	2,201,999	2,461,977	2,226,852
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	236,382	-	-	-	-	-	-	-	-	-
Other liabilities											
Total Current Liabilities	-	925,587	853,899	1,016,749	1,206,343	1,427,057	1,684,037	1,968,262	2,201,999	2,461,977	2,226,852
Long term debt (Project Loan)	7,937,073	6,736,324	5,367,471	3,806,978	2,028,016	-	-	-	-	-	-
Long term debt (Working Capital Loan)	777,847	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	8,714,920	6,736,324	5,367,471	3,806,978	2,028,016	-	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	8,714,920	8,714,920	8,714,920	8,714,920	8,714,920	8,714,920	8,714,920	8,714,920	8,714,920	8,714,920	8,714,920
Retained earnings		1,941,760	5,147,950	9,453,961	14,946,331	21,774,817	30,249,130	40,277,037	51,314,109	63,430,992	76,735,670
Total Equity	8,714,920	10,656,679	13,862,869	18,168,881	23,661,250	30,489,736	38,964,050	48,991,957	60,029,028	72,145,912	85,450,590
TOTAL CAPITAL AND LIABILITIES	17,429,839	18,318,590	20,084,240	22,992,608	26,895,609	31,916,793	40,648,086	50,960,219	62,231,027	74,607,889	87,677,441

12.3 Cash Flow Statement

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		1,941,760	3,206,190	4,306,012	5,492,369	6,828,486	8,474,314	10,027,907	11,037,071	12,116,884	13,304,678
Add: depreciation expense		833,160	833,160	833,160	833,160	833,160	833,160	833,160	833,160	833,160	833,160
amortization of pre-operating costs		168,110	168,110	168,110	168,110	168,110	-	-	-	-	-
Accounts receivable		(1,001,015)	(116,339)	(226,635)	(236,482)	(270,339)	(308,602)	(351,814)	(325,556)	(286,940)	(312,372)
Finished goods inventory		(742,373)	(132,992)	(152,167)	(173,846)	(198,340)	(225,995)	(257,196)	(188,291)	(207,120)	(227,832)
Equipment inventory	(37,356)	(13,287)	(15,025)	(19,102)	(24,229)	(30,667)	(38,741)	(37,940)	(45,433)	(54,974)	316,757
Raw material inventory	(1,218,338)	(433,345)	(490,032)	(623,006)	(790,220)	(1,000,188)	(1,263,493)	(1,237,384)	(1,481,761)	(1,792,931)	10,330,699
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Accounts payable		689,205	164,694	162,850	189,593	220,715	256,980	284,225	233,737	259,979	(235,126)
Cash provided by operations	(1,255,694)	1,442,214	3,617,766	4,449,222	5,458,455	6,550,936	7,727,622	9,260,957	10,062,926	10,868,056	24,009,963
<i>Financing activities</i>											
Project Loan - principal repayment		(1,200,748)	(1,368,853)	(1,560,493)	(1,778,962)	(2,028,016)	-	-	-	-	-
Working Capital Loan - principal repayment		(777,847)	-	-	-	-	-	-	-	-	-
Short term debt principal repayment		-	(236,382)	-	-	-	-	-	-	-	-
Additions to Project Loan	7,937,073	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	777,847	-	-	-	-	-	-	-	-	-	-
Issuance of shares	8,714,920	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	17,429,839	(1,978,596)	(1,605,235)	(1,560,493)	(1,778,962)	(2,028,016)	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(15,874,145)	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activities	(15,874,145)	-	-	-	-	-	-	-	-	-	-
NET CASH	300,000	(536,382)	2,012,532	2,888,729	3,679,493	4,522,920	7,727,622	9,260,957	10,062,926	10,868,056	24,009,963

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Office Expenses (Stationery, Entertainment, Etc.)	5% Of Total Administrative Costs
Administration Benefits Expense	3% Of Admin Expense
Promotional Expenses	0.5% Of Revenue
Communication Expense	10% Of Admin Expense
Travelling Expense	15% Of Admin Expense
Professional Fees (Audit, Legal Etc.)	0.5% Of Revenue
Accounts Receivable Cycle (In Days)	30
Accounts Payable Cycle (In Days)	30
Finished Goods Inventory (In Days)	3
Depreciation On Building & Infrastructure	5%
Depreciation On Machinery & Equipment	10%
Depreciation On Furniture & Fixtures	10%

13.2 Production Cost Assumptions

Description	Details
Preforms Cost per Unit (Weighted Average)	Rs. 4.19
0.5 Liters Bottle Preform Cost	Rs. 1.23
1.5 Liters Bottle Preform Cost	Rs. 2.06
6.0 Liters Bottle Preform Cost	Rs. 0.90
Cap Cost / Bottle	Rs. 0.7
Raw Material Growth Rate	5%
Raw Material Inventory (In Days)	30
Cost Of Goods Sold Growth Rate	10% Annually

13.3 Revenue Assumptions

Description	Details
Sale Price Per Unit In Year 1 (Weighted Average)	Rs. 8.15

Sale Price 0.5 Liters Bottle	Rs. 4.5
Sale Price 1.5 Liters Bottle	Rs. 11.0
Sale Price 6 Liters Bottles	Rs. 22.0
Sales price growth rate	10%
Maximum Production Capacity Utilization	95%
Production Capacity In First Year	65%
Capacity Growth Rate (Yearly)	5%
Annual Production Capacity (Bottles)	4,797,600
First Year Utilized Production (Bottles)	3,118,440
Hours Operational Per Day	8
Days Operational Per Month	28
Days Operational Per Year	350

13.4 Financial Assumptions

Description	Details
Debt	50%
Equity	50%
Interest Rate on Debt	14%
Debt Tenure	5 Years
Debt Payment / Year	1
Project life (Years)	10