Pre-feasibility Study

MINERAL WATER PROCESSING UNIT

May 2023

"The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, andrevenues 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

Contents

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Document Control

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For information	Provincial Chief (Sindh) mkumar@smeda.org.pk

2 EXECUTIVE SUMMARY

Mineral Water Processing Unit is proposed to be located in any densely populated city such as Karachi, Lahore, Rawalpindi, Peshawar, Hyderabad, Multan or Quetta. These cities present an opportunity for establishment of Mineral Water Processing Unit due to high population, less availability of clean drinking water in majority of areas and awareness of hygiene with respect to drinking water. This business can also be undertaken in all small 2nd tier towns, in addition to suburban towns of large cities.

This proposed Pre-feasibility study presents an investment opportunity for establishing a Mineral Water Processing Plant with a capacity of **8,300 gallons per day**. The proposed product line will consist of **19 liters bottles**. Total installed production capacity of purified bottled water is **181,639** bottles per year, where initial capacity utilization will be **50%**.

The total project cost for setting up a Mineral Water Processing Unit is estimated at **Rs. 5.643 million** out of which **Rs. 4.33 million** is capital cost and **Rs. 1.306 million** is working capital. The project is proposed to be financed through **100%** equity. The NPV is projected around **Rs. 3.926 million**, with an IRR of **44%** and a Payback Period of **2.55 years**. The legal business status of this project is proposed as a 'Sole Proprietorship'.

The most critical considerations or factors for success of the project are:

- Most significant consideration
    - Location with respect to source of water.
    - Compliance with standards & obtaining license from (PSQCA) Pakistan Standards & Quality Control Authority.
    - Maintenance of quality and hygiene standards.
- Equally important factors
    - Efficient marketing & bulk supply to wholesalers.
    - Reasonable & competitive prices.

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 Pre-feasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the Pre-feasibility 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 **Mineral Water Processing 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

The process of Mineral Water Manufacturing Unit consist of collecting water from a suitable source, filtration, demineralization, blending with salts, aeration, testing for standards conformation, bottling and then packaging.

This Pre-feasibility study focuses on Ground / Boring Water as source of water. Initially, we recommend Resistivity or Geological survey at particular plant location, which consists of four tests and will cost around Rs. 50,000 to 90,000.This Resistivity survey report will identify the TDS (Total Dissolved Solids), time period for the availability of boring water at particular depth and composition of chemical and microbiological components from Ground / Boring water which will be more helpful for Capital Cost estimates. Boring depth as recommended by technical experts, must be at least 300 ft., which will cost around Rs. 300,000.

Before 2010 much of the mineral water was being imported. But today the demand is being met by local producers / suppliers. According to PSQCA**,** there are around 285[1] registered / licensed brands available in the market thus showing a substantial growth by the industry. Other than registered brands, it is estimated that there are hundreds of unregistered brands being supplied in the market.

Mineral Water Imports in Pakistan[2]

Year	Quantity/Liters	Value (Rs.)
2021	3,783,000	105,598,080
2020	2,270,000	66,838,268
2019	4,163,000	146,595,200
2018	3,631,000	143,574,170

Following key parameters must be addressed as per Pre-feasibility study under preparation:

- **Technology:** Most of the water purification plants being installed in the country are Reverse Osmosis based. Government also recommends RO based technology. This Pre-feasibility study is based on Reverse Osmosis technology. Most of the machinery is imported from China, Taiwan, Italy and Germany along with some local components.

[1] PSQCA website
[2] comtrade.un.org

- **Location:** Processing Unit can be set-up in any major city with significant population such as Karachi, Hyderabad, Lahore, Rawalpindi, Islamabad, Multan, Peshawar and Quetta. This business can also be done in all small second tier towns in addition to suburban towns of large cities.

- **Product:** Pakistan's Bottled Water market comprises of two main segments i.e. retail market and bulk market. The retail market consists of 0.5 liter, 1.5 liters, 3.1 liters 5.0 liters, 6.0 liters, 16 liters and 19 liters capacity bottles, whereas the bulk market consists of home and office delivering in 2, 3 and 5 gallon cans. But for this particular Feasibility proposed product line will be consist of 19 litter's bottles.

- **Target Market:** The target markets for Bottled / Mineral Water consist of Households, Hotel Industry, Hospitals, Offices, Homes, Educational Institutions, Commercial Markets and Hygiene conscious people. Moreover the Bottled / Mineral Water have been emerging as a daily preference of Upper, Middle & Lower Middle class due to unavailability of clean / pure drinking water.
- **Employment Generation:** The proposed project will provide direct employment to 13 peoples. Financial analysis shows the unit will be profitable from the very first year of operation.

5.1 Production Process Flow

i. The first step for setting up a Water Purification Plant is the analysis of source water.

ii. After the chemical analysis, the specifications of the purification plant are set. In purification plant, source water is stored into feed water tank and then passes through the sand filter for preliminary water filtration.

iii. In next stage, water passes through the dosing pump-I, where chlorine is added to kill the germs in water.

iv. After the chlorination, water passes through carbon filter. It helps in maintenance of proper odor and taste of water. It also removes chlorine from water.

v. Furthermore, water passes through dosing pump-II, where Sodium Meta Bisulphate is added. It helps in Dechlorination of water.

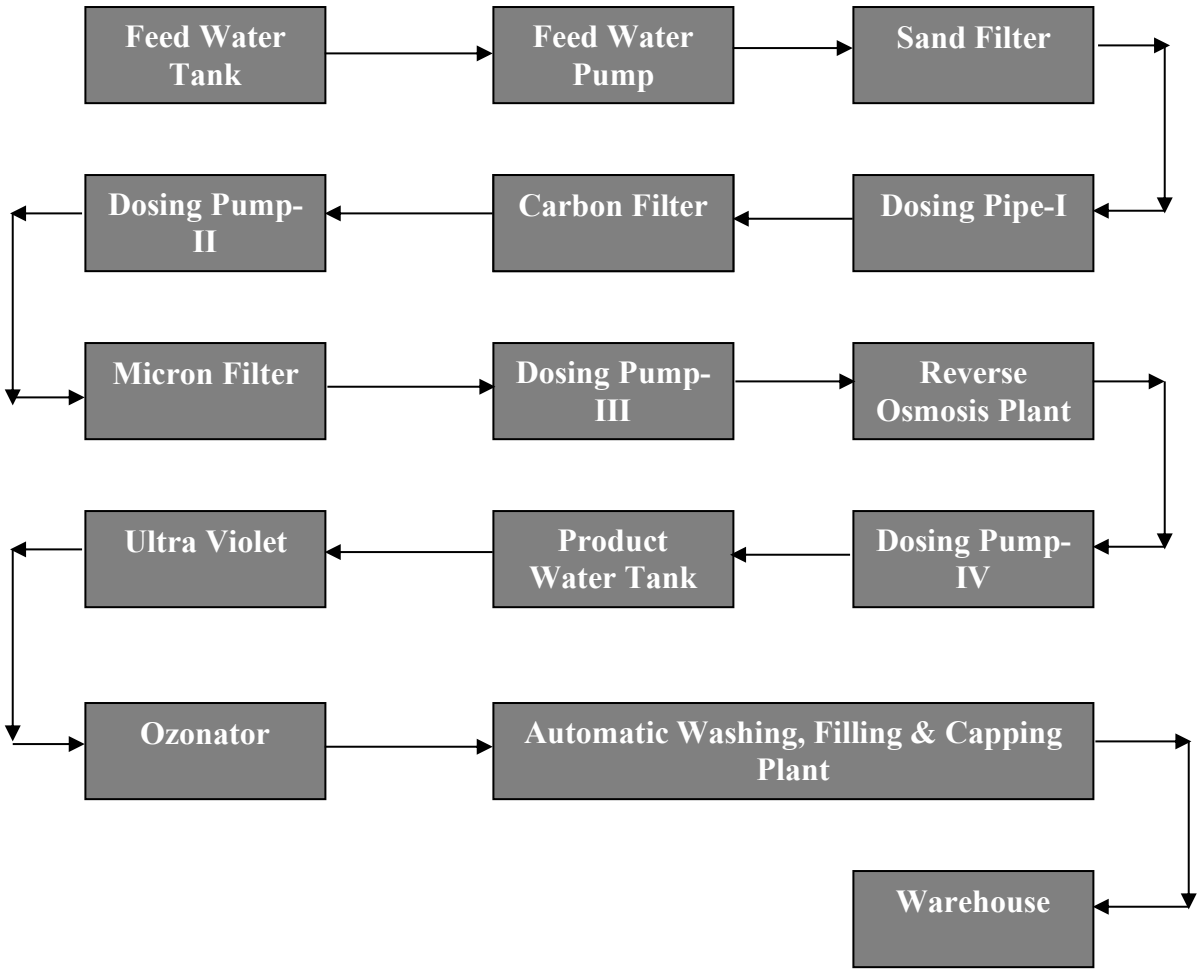
vi. Water is filtered next and passes through dosing pump-III, where Antiscalant is added. It prevents scaling of membrane from Calcium, Magnesium and Biological growth.

vii. Water, then passes through Reverse Osmosis module. This stage of the process makes water clear from all the contaminations and minute particles.

viii. In next step, water passes through dosing pump-IV, where Minerals are added for taste development. After this stage, water undergoes Ultra Violet treatment to avoid any contamination from bacteria and other microorganisms.

ix. At last stage, water passes through automatic washing, filling and capping plant. Here water is filled into bottles.

After filling, bottles are taken into the warehouse or supplied to the retailers. The complete process flow diagram is as under:



5.2 Installed and Operational Capacities

Following table provides details of installed capacities and capacity utilization for the first year of operations @ 50%:

Product	Unit	Installed Capacity	First Year Production
19 liters Bottles	Bottles	109,421	54,711

6 CRITICAL FACTORS

Following factors play a critical role in the successful execution of the business operations and impact on profitability:

- Location with respect to source of water.
- Reasonable and competitive price & understanding requirements of the target market.
- Compliance with Standards and obtaining license from (PSQCA) Pakistan Standards & Quality Control Authority.
- Maintenance of quality and hygiene standards.
- Efficient marketing & bulk supply to wholesalers.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The market for Mineral Water has been showing a mushroom growth trend over the last few years due to the increasing population in a country, less availability of clean drinking water in majority of areas and awareness of hygiene with respect to drinking water. The demand of clean-fresh water is increasing year after year. Keeping this situation in mind many individuals and companies have set up Mineral Water Processing Plants. For this particular Pre-feasibility study, proposed location is any big cities like Karachi, Hyderabad, Quetta, Lahore, Rawalpindi, Islamabad, Multan, Faisalabad and Peshawar, where Line / Boring / Tanker water is easily available and ideal for Reverse Osmosis plant.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

Pakistan has a domestic market of above 185 million consumers with growing income & changing consumption habits. The potential market for Bottled / Mineral Water consist of Households, Hotel Industry, Hospitals, Offices, Homes, Educational Institutions, Commercial Markets and Hygiene conscious people. Moreover the Bottled / Mineral Water have been emerging as a daily preference of Upper, Middle & Lower Middle class due to unavailability of clean / pure drinking water.

9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of the Mineral Water Processing Unit. Various cost and revenue related assumptions along with the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are attached in appendices.

9.1 Project Economics

The capacity utilization during year one is worked out at 50% with 5 % increase in subsequent years up to the maximum capacity utilization of 90%.

The following table shows Internal Rate of Return, Payback Period and Net Present Value of the proposed venture:

Table 1: Project Economics

Description	Details
Internal Rate of Return (IRR)	44%
Payback Period (yrs.)	2.55
Net Present Value (Rs.)	3,926,739

Returns on the business and its profitability are highly dependent on the efficiency in sourcing of good quality water for extraction of Purified Bottled Water. Mineral Water distribution is also very important in this regard, adequate marketing with strong distribution network is required for its sale.

9.2 Project Financing

Details of the equity required and variables related to bank loan are as under:

Table 2: Project Financing

Description	Details
Total Equity (100%)	5,643,100

9.3 Project Cost

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

Table 3: Project Cost

Description	Amount Rs.
Capital Cost	
Renovation of Building / Infrastructure Including Boring Cost	405,000
Machinery & Equipment	966,000
Bottles	685,000
Furniture &Fixture	110,000
Office Equipment	50,000
Office Vehicles	1,831,000
Pre-operating Costs	220,000
Legal, Licensing & Training Costs	70,000
Total Capital Cost	**4,337,000**
Working Capital	
Raw Material Inventory	386,530
Up-front Building Rent	576,000
Up-front Insurance Payment	93,570
Cash	250,000
Total Working Capital	**1,306,100**
Total Project Cost	**5,643,100**

9.4 Space Requirement

A total of 1,600 square feet area is required to start this business. Space for the Processing Unit has been calculated on the basis of space required for Factory area, Store, Management building and Ground. However, the unit's operating in the industry do not follow any set pattern. Following table shows calculations for project space requirement:

Table 4: Space Requirment

Description	Estimated Area Sq. ft.
Management Building	200
Factory Area	600
Store	500
Ground	300
Total Area	**1,600**

Renovation cost is estimated to be around Rs. 180,000 and Rental expense for the space required is assumed at Rs. 48,000 per month.

9.5 Machinery & Equipment Requirement

This Pre-feasibility study is based on Reverse Osmosis technology. Most of the machinery is imported from China, Taiwan, Italy and Germany along with some local components. Details of the machinery & equipment's are as following:

Table 5: Machinery & Equipment

Machinery Name	
Reverse Osmosis Water Purification Plant	
Storage tank	
Feeding tank	
Carbon Filter	
Antiscalant Dosing Pump	
Micron Cartridge Filter	
High Pressure Pump	
Membrane	
Membrane Housing	
Remineralization (Mineral Dosing)	
Product Water Storage Tank	
Transfer / Filling Pump	
Pressure Gauges	
Flow Meter	
Electric Control Panel	

Membrane's Cleaning / Flushing System	
TDS Meter	
Ozonator	
Ultraviolet Sterilizer	
Frame	
Pipes & Fittings	
Safety Switches (Low & High)	
Bottle's Washing / Rinsing Manual System	
Bottle's Filling Manual System	
Total Machinery & Equipment Cost	**Rs.966,000**

This Pre-feasibility study proposes 01 Reverse Osmosis plant, with a capacity to purified 5,000 gallons per day of water. This Reverse Osmosis plant is assembled locally with some imported components. These components can be Chinese, German, and Taiwanese & Italian with respect to the capital expenditure budget.

9.6 Bottles Requirement

Bottles required for the project is as follows:

Table 6: Bottles Requirement

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Bottles (Incl. printing)	550	1307	718,850

9.7 Furniture & Fixtures Requirement

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

Table 7: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Furniture Set for Office	1	75,000	75,000
Electric Wiring & Lighting	1	35,000	35,000
Total			**110,000**

9.8 Office Equipment Requirement

Following office equipment will be required for Mineral Water Processing Plant:

Table 8: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computer	1	35,000	35,000
Printer	1	15,000	15,000
Total			**50,000**

9.9 Office Vehicles Requirement

Office vehicles required for the project is as follows:

Table 9: Office Vehicles

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Suzuki Bolan	1	1741,000	1741,000
Motor Bike	1	90,000	90,000
			1831,000

9.10 Human Resource Requirement

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

Table 10: Human Resource Requirment

Description	No. of Employees	Monthly Salary per person (Rs.)	Total Monthly Salary (Rs.)	Total Annual Salary (Rs.)
Owner / Manager	01	100,000	100,000	1,200,000
Sales Supervisor	01	35,000	35,000	420,000
QC Officer / Production Officer	01	35,000	25,000	300,000

Driver / Loader	06	25,000	25,000	300,000
Watchman	01	25,000	25,000	300,000
Total	**10**		**220,000**	**2,520,000**

The above table provides details of human resource required to run the proposed unit. Owner / Manager will look after the financial, marketing and distribution matters. Sales supervisor will distribute mineral water in the market under the supervision of the Owner / Manager.

9.11 Utilities and Other Costs

An essential cost to be borne by the project is the cost of electricity and promotional expense. The electricity expenses are estimated to be around Rs. 38,431 per month and promotional expense being essential for marketing of Mineral Water is estimated as 1.5.% of Total Revenue.

9.12 Revenue Generation

Based on the capacity utilization of 50% for Purified Bottled Water, sales revenue during the first year of operations is estimated as under:

Table 11: Revenue Generation – Year 1

Description	No. of Units Sold (No.)	Sale Price / Unit (Rs.)	Sales Revenue (Rs.)
19 Liters Bottles	90,819	130	11,806,470

10 CONTACT DETAILS

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

10.1 Machinery Suppliers

Machinery Supplier-1

Name of Supplier	Ronaz Fresh		
Address	N/A		
Phone	0333-2724491	**Fax**	**-**
E-mail	N/A		
Website	N/A		

Machinery Supplier-2

Name of Supplier	Mr. Fahad		
Address	Shop No.8, Opp. Akbar Sanitary Jam Sadiq Road Gizri, Karachi.		
Phone	0322-2682235	**Fax**	-
E-mail	socleanwatercare@gmail.com		
Website	www.thewaterfiltershop.com.pk		

Machinery Supplier-3

Name of Supplier	Mr. Shafiq Lodhi		
Address	Suite.No.1, Ist Floor, Rana Plaza, Opp.Rasheed Hospital, Main Boulevard, D.H.A , Lahore		
Phone	0300-5070122	**Fax**	+92-42-36621454
E-mail	Aquaplus786@gmail.com		
Website	www.aquaplus.pk		

10.2 Raw Material Suppliers

Raw Material Supplier -1

Name of Supplier	Mehran Plastic Industries (Pvt.) Ltd.

Address	F-226, Near Labour Square, Site Karachi, Pakistan		
Phone	021-32568467	**Fax**	021-32568468
E-mail	info@mehranplastic.com.pk		
Website	www.mehranplastic.com.pk		

Raw Material Supplier -2

Name of Supplier	Mr.Nauman		
Address	16 km, Sheikhupura Road, Lahore		
Phone	0321-8458031	**Fax**	-
E-mail	Naumansaulat14@gmail.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
Ministry of Education, Training & Standards in Higher Education	http://moptt.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
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/
Livestock & Dairy Development Department, Government of Punjab.	www.livestockpunjab.gov.pk
Punjab Industrial Estates (PIE)	www.pie.com.pk
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	www.fiedmc.com.pk
Pakistan Standards and Quality Control Authority(PSQCA)	www.psqca.com.pk
Pakistan Council of Research in Water Resources	www.pcrwr.gov.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	11,806,532	13,636,544	15,620,041	17,767,797	20,091,278	22,602,688	25,315,010	28,242,058	31,398,524	32,968,450
Cost of sales										
Cost of goods sold 1	1,546,119	1,785,768	2,045,516	2,326,775	2,631,045	2,959,926	3,315,117	3,698,427	4,111,781	4,317,370
Cost of goods sold 2	-	-	-	-	-	-	-	-	-	-
Operation costs 1 (direct labor)	300,000	329,208	361,261	396,433	435,031	477,386	523,865	1,609,634	1,766,350	1,938,324
Operating costs 3 (direct electricity)	848,254	992,457	1,161,175	1,358,574	1,589,532	1,859,753	2,175,910	2,545,815	2,978,604	3,484,967
Total cost of sales	2,694,373	3,107,433	3,567,951	4,081,782	4,655,608	5,297,064	6,014,892	7,853,876	8,856,735	9,740,661
Gross Profit	9,112,158	10,529,111	12,052,090	13,686,015	15,435,670	17,305,624	19,300,118	20,388,182	22,541,789	23,227,789
	77%	77%	77%	77%	77%	77%	76%	72%	72%	70%
General administration & selling expenses										
Administration expense	3,720,000	4,082,184	4,479,632	4,915,775	5,394,382	5,919,586	6,495,926	16,786,181	18,420,507	20,213,954
Administration benefits expense	260,400	285,753	313,574	344,104	377,607	414,371	454,715	1,175,033	1,289,436	1,414,977
Building rental expense	576,000	604,800	635,040	666,792	700,132	735,138	771,895	810,490	851,014	893,565
Electricity expense	67,362	78,814	92,212	107,888	126,229	147,688	172,795	202,170	236,539	276,750
Maintainance expense	67,620	72,353	77,418	82,837	88,636	94,841	101,479	108,583	116,184	124,317
Fuel for Vehicles	402,188	442,406	482,625	522,844	563,063	603,281	643,500	683,719	723,938	723,938
Communications expense (phone, fax, mail, internet, etc.)	186,000	204,109	223,982	245,789	269,719	295,979	324,796	839,309	921,025	1,010,698
Office vehicles running expense	274,650	321,341	375,968	439,883	514,663	602,156	704,522	824,291	964,421	1,128,372
Office expenses (stationary, entertainment, janitorial services, etc.)	148,800	163,287	179,185	196,631	215,775	236,783	259,837	671,447	736,820	808,558
Promotional expense	177,098	204,548	234,301	266,517	301,369	339,040	379,725	423,631	470,978	494,527
Insurance expense	93,570	84,213	74,856	65,499	56,142	46,785	37,428	28,071	18,714	9,357
Professional fees (legal, audit, consultants, etc.)	236,131	272,731	312,401	355,356	401,826	452,054	506,300	564,841	627,970	659,369
Depreciation expense	384,450	394,725	406,541	420,130	435,757	523,182	536,296	551,377	568,720	588,664
Amortization of pre-operating costs	44,000	44,000	44,000	44,000	44,000	-	-	-	-	-
Amortization of legal, licensing, and training costs	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
Bad debt expense	354,196	409,096	468,601	533,034	602,738	678,081	759,450	847,262	941,956	989,054
Miscellaneous expense 1	200,000	210,000	220,500	231,525	243,101	255,256	268,019	281,420	295,491	310,266
Subtotal	7,199,464	7,881,361	8,627,836	9,445,604	10,342,138	11,351,222	12,423,684	24,804,824	27,190,713	29,653,364
Operating Income	1,912,694	2,647,749	3,424,254	4,240,411	5,093,532	5,954,401	6,876,434	(4,416,642)	(4,648,923)	(6,425,575)
Other income (interest on cash)	-	-	-	-	-	-	-	-	-	-
Other income 2										
Gain / (loss) on sale of machinery & equipment	-	-	-	-	-	-	-	-	-	
Gain / (loss) on sale of office equipment	-	-	-	-	-	-	-	-	-	
Gain / (loss) on sale of office vehicles	-	-	-	-	-	-	-	-	-	
Earnings Before Interest & Taxes	1,912,694	2,647,749	3,424,254	4,240,411	5,093,532	5,954,401	6,876,434	(4,416,642)	(4,648,923)	(6,425,575)
Interest on short term debt	-	-	-	-	-	-	-	-	7,561	148,563
Interest on export refinancing	-	-	-	-	-	-	-	-	-	-
Interest expense on machinery & equipment lease	-	-	-	-	-	-	-	-	-	-
Interest expense on office equipment lease	-	-	-	-	-	-	-	-	-	-
Interest expense on office vehicles lease	-	-	-	-	-	-	-	-	-	-
Interest expense on long term debt (Project Loan)	-	-	-	-	-	-	-	-	-	-
Interest expense on long term debt (Working Capital Loan)	-	-	-	-	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-	-	-	7,561	148,563
Earnings Before Tax	1,912,694	2,647,749	3,424,254	4,240,411	5,093,532	5,954,401	6,876,434	(4,416,642)	(4,656,485)	(6,574,138)
Tax	382,539	529,550	684,851	848,082	1,018,706	1,190,880	1,375,287	-	-	-
NET PROFIT/(LOSS) AFTER TAX	**1,530,155**	**2,118,200**	**2,739,403**	**3,392,329**	**4,074,825**	**4,763,521**	**5,501,147**	**(4,416,642)**	**(4,656,485)**	**(6,574,138)**

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											
Current assets											
Cash & Bank	778,000	1,588,705	2,460,853	3,269,395	4,061,823	4,156,372	5,037,093	5,928,327	1,805,852	-	-
Accounts receivable		226,427	243,975	280,543	320,157	363,032	409,394	459,485	513,561	571,896	617,218
Finished goods inventory		-	-	-	-	-	-	-	-	-	-
Equipment spare part inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	386,530	446,442	511,379	581,694	657,761	739,981	828,779	924,607	1,027,945	1,079,342	1,079,342
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	48,000	50,400	52,920	55,566	58,344	61,262	64,325	67,541	70,918	74,464	74,464
Pre-paid machinery & equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office vehicles lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	93,570	84,213	74,856	65,499	56,142	46,785	37,428	28,071	18,714	9,357	9,357
Total Current Assets	1,306,100	2,396,186	3,343,982	4,252,697	5,154,227	5,367,432	6,377,019	7,408,030	3,436,990	1,735,059	1,780,381
Fixed assets											
Land	-	-	-	-	-	-	-	-	-	-	-
Building/Infrastructure	405,000	384,750	364,500	344,250	324,000	303,750	283,500	263,250	243,000	222,750	202,500
Machinery & equipment	966,000	869,400	772,800	676,200	579,600	483,000	386,400	289,800	193,200	96,600	-
Bottles	685,000	719,250	758,638	803,933	856,023	1,610,469	1,534,375	1,464,837	1,402,840	1,349,515	1,306,162
Furniture & fixtures	110,000	99,000	88,000	77,000	66,000	55,000	44,000	33,000	22,000	11,000	-
Office vehicles	1,831,000	1,647,900	1,464,800	1,281,700	1,098,600	915,500	732,400	549,300	366,200	183,100	-
Office equipment	50,000	45,000	40,000	35,000	30,000	25,000	20,000	15,000	10,000	5,000	-
Total Fixed Assets	4,047,000	3,765,300	3,488,738	3,218,083	2,954,223	3,392,719	3,000,675	2,615,187	2,237,240	1,867,965	1,508,662
Intangible assets											
Pre-operation costs	220,000	176,000	132,000	88,000	44,000	-	-	-	-	-	-
Legal, licensing, & training costs	70,000	63,000	56,000	49,000	42,000	35,000	28,000	21,000	14,000	7,000	-
Total Intangible Assets	290,000	239,000	188,000	137,000	86,000	35,000	28,000	21,000	14,000	7,000	-
TOTAL ASSETS	**5,643,100**	**6,400,486**	**7,020,720**	**7,607,780**	**8,194,451**	**8,795,151**	**9,405,693**	**10,044,217**	**5,688,231**	**3,610,024**	**3,289,042**
Liabilities & Shareholders' Equity											
Current liabilities											
Accounts payable		38,214	44,055	50,385	57,238	64,650	72,660	81,310	90,643	99,556	103,499
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	77,307	1,441,599
Other liabilities											
Total Current Liabilities	-	38,214	44,055	50,385	57,238	64,650	72,660	81,310	90,643	176,863	1,545,097
Other liabilities											
Machinery & equipment lease payable	-	-	-	-	-	-	-	-	-	-	-
Office equipment lease payable	-	-	-	-	-	-	-	-	-	-	-
Office vehicle lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax		-	-	-	-	-	-	-	-	-	-
Long term debt (Project Loan)	-	-	-	-	-	-	-	-	-	-	-
Long term debt (Working Capital Loan)	-	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	-	-	-	-	-	-	-	-	-	-	-
Shareholders' equity											
Paid-up capital	5,643,100	5,643,100	5,643,100	5,643,100	5,643,100	5,643,100	5,643,100	5,643,100	5,643,100	5,643,100	5,872,461
Retained earnings		719,173	1,333,565	1,914,295	2,494,113	3,087,401	3,689,933	4,319,808	(45,512)	(2,209,938)	(4,128,516)
Total Equity	5,643,100	6,362,273	6,976,665	7,557,395	8,137,213	8,730,501	9,333,033	9,962,908	5,597,588	3,433,161	1,743,945
TOTAL CAPITAL AND LIABILITIES	**5,643,100**	**6,400,486**	**7,020,720**	**7,607,780**	**8,194,451**	**8,795,151**	**9,405,693**	**10,044,217**	**5,688,231**	**3,610,024**	**3,289,042**

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
Operating activities											
Net profit		1,530,155	2,118,200	2,739,403	3,392,329	4,074,825	4,763,521	5,501,147	(4,416,642)	(4,656,485)	(6,574,138)
Add: depreciation expense		384,450	394,725	406,541	420,130	435,757	523,182	536,296	551,377	568,720	588,664
amortization of pre-operating costs		44,000	44,000	44,000	44,000	44,000	-	-	-	-	-
amortization of training costs		7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
Deferred income tax		-	-	-	-	-	-	-	-	-	-
Accounts receivable		(226,427)	(17,548)	(36,568)	(39,615)	(42,875)	(46,362)	(50,091)	(54,076)	(58,335)	(45,322)
Finished goods inventory		-	-	-	-	-	-	-	-	-	-
Equipment inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	(386,530)	(59,912)	(64,937)	(70,315)	(76,068)	(82,220)	(88,798)	(95,828)	(103,338)	(51,397)	-
Pre-paid building rent	(48,000)	(2,400)	(2,520)	(2,646)	(2,778)	(2,917)	(3,063)	(3,216)	(3,377)	(3,546)	-
Pre-paid machinery & equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office vehicles lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(93,570)	9,357	9,357	9,357	9,357	9,357	9,357	9,357	9,357	9,357	-
Accounts payable		38,214	5,841	6,330	6,853	7,412	8,010	8,650	9,333	8,913	3,943
Other liabilities		-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(528,100)	1,724,437	2,494,118	3,103,103	3,761,208	4,450,339	5,172,848	5,913,315	(4,000,367)	(4,175,773)	(6,019,852)
Financing activities											
Project Loan - principal repayment		-	-	-	-	-	-	-	-	-	-
Working Capital Loan - principal repayment		-	-	-	-	-	-	-	-	-	-
Add: land lease expense		-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Machinery & equipment lease principal repayment	-	-	-	-	-	-	-	-	-	-	-
Office equipment lease principal repayment	-	-	-	-	-	-	-	-	-	-	-
Office vehicles lease principal repayment	-	-	-	-	-	-	-	-	-	-	-
Short term debt principal repayment		-	-	-	-	-	-	-	-	-	(77,307)
Export re-finance principal repayment		-	-	-	-	-	-	-	-	-	-
Additions to export refinancing	-	-	-	-	-	-	-	-	-	-	-
Additions to lease financing	-	-	-	-	-	-	-	-	-	-	-
Additions to Project Loan	-	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	5,643,100	-	-	-	-	-	-	-	-	-	229,361
Purchase of (treasury) shares											
Cash provided by / (used for) financing activities	5,643,100	-	-	-	-	-	-	-	-	-	152,054
Investing activities											
Capital expenditure	(4,337,000)	(102,750)	(118,163)	(135,887)	(156,270)	(874,253)	(131,138)	(150,809)	(173,430)	(199,444)	(229,361)
Acquisitions											
Cash (used for) / provided by investing activities	(4,337,000)	(102,750)	(118,163)	(135,887)	(156,270)	(874,253)	(131,138)	(150,809)	(173,430)	(199,444)	(229,361)
NET CASH	778,000	1,621,687	2,375,955	2,967,216	3,604,938	3,576,086	5,041,710	5,762,507	(4,173,797)	(4,375,217)	(6,097,159)

13 KEY ASSUMPTIONS

13.1 Operating Assumptions

No. of Working Days in One Year	330
No. of Working Hours in One Day	8

13.2 Production Assumptions

Starting Production Capacity Utilization	50%
Maximum Production Capacity Utilization	90%
Production Capacity Bottles Per Year (Units)	109,421
Production Capacity Bottles Per Day (1Day=8 hours)	332
Production of 19 Liters Bottles Per Year (50% Capacity Utilization)	54,711
Production Capacity Utilization Growth Rate / Yr.	5%

13.3 Revenue Assumptions

Sale Price of 19 Liters Bottles	130
Sale Price Growth Rate	5%

13.4 Financial Assumptions

Debt	0%
Equity	100%

13.5 Expense Assumptions

Description	Cost / Rate
Cost of Goods Sold Growth Rate	10.0%
Operating Costs Growth Rate	10.0%
No. of Bottles Growth Rate / Yr.	5.0%

Small and Medium Enterprises Development Authority

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

www.smeda.org.pk, **helpdesk@smeda.org.pk**

REGIONAL OFFICE PUNJAB	REGIONAL OFFICE SINDH	REGIONAL OFFICE KPK	REGIONAL OFFICE BALOCHISTAN
3rd 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	5TH 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