

# Pre-Feasibility Study

## MINERAL WATER SMART FILLING SHOP



### Small and Medium Enterprises Development Authority

#### Ministry of Industries & Production

#### Government of Pakistan

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June 2015

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## 1 DISCLAIMER

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### ***Document Control***

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## 2 EXECUTIVE SUMMARY

**Mineral Water Smart Filling Shop** is a retail shop where water is purified on site. Raw water can be sourced from hydrants or underground boring. For this pre-feasibility, underground boring water is considered as source water. It has also assumed that customers bring their own bottles for filling purpose against a reasonable price.

The growing demand of clean, safe and pure drinking water in the country has generated investment opportunities in water business. This proposed Pre-feasibility study presents an investment opportunity for establishing a Mineral Water Smart Filling Shop with a capacity of **5,000 gallons per day** for providing pure drinking water. The proposed product line will consist of Mineral Water in **liters**. Total installed production capacity of purified mineral water is **2,079,000 liters per year**, where initial capacity utilization will be **70%**.

The total project cost for setting up a Mineral Water Smart Filling Shop is estimated at **Rs. 1.578 million** out of which **Rs. 1.103 million** is capital cost and **Rs. 0.475 million** is working capital. The project is proposed to be financed through **50%** debt and **50%** equity. The NPV is projected around **Rs. 1.593 million**, with an IRR of **42%** and a Payback Period of **2.73 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
  - Selection of appropriate location keeping in mind the target market.
  - Maintenance of quality & hygiene standards.
  - Build contracts / linkages with bulk suppliers / buyers, households & distributors of mineral water.
  
- Equally important factor
  - Source of raw water.
  - 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 Smart Filling Shop** 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 Smart Filling Shop is collecting raw water from a suitable source, filtration, de-mineralization, blending with salts, aeration, testing for standards conformation and then finally filling. For this Pre-feasibility, it is estimated that customers bring their own empty bottles at the smart filling shop for filling purpose at a very reasonable price.

Raw water can be acquired from hydrants through water tanker and also it can be acquired through underground boring. 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 300ft, which will cost around Rs. 225,000.

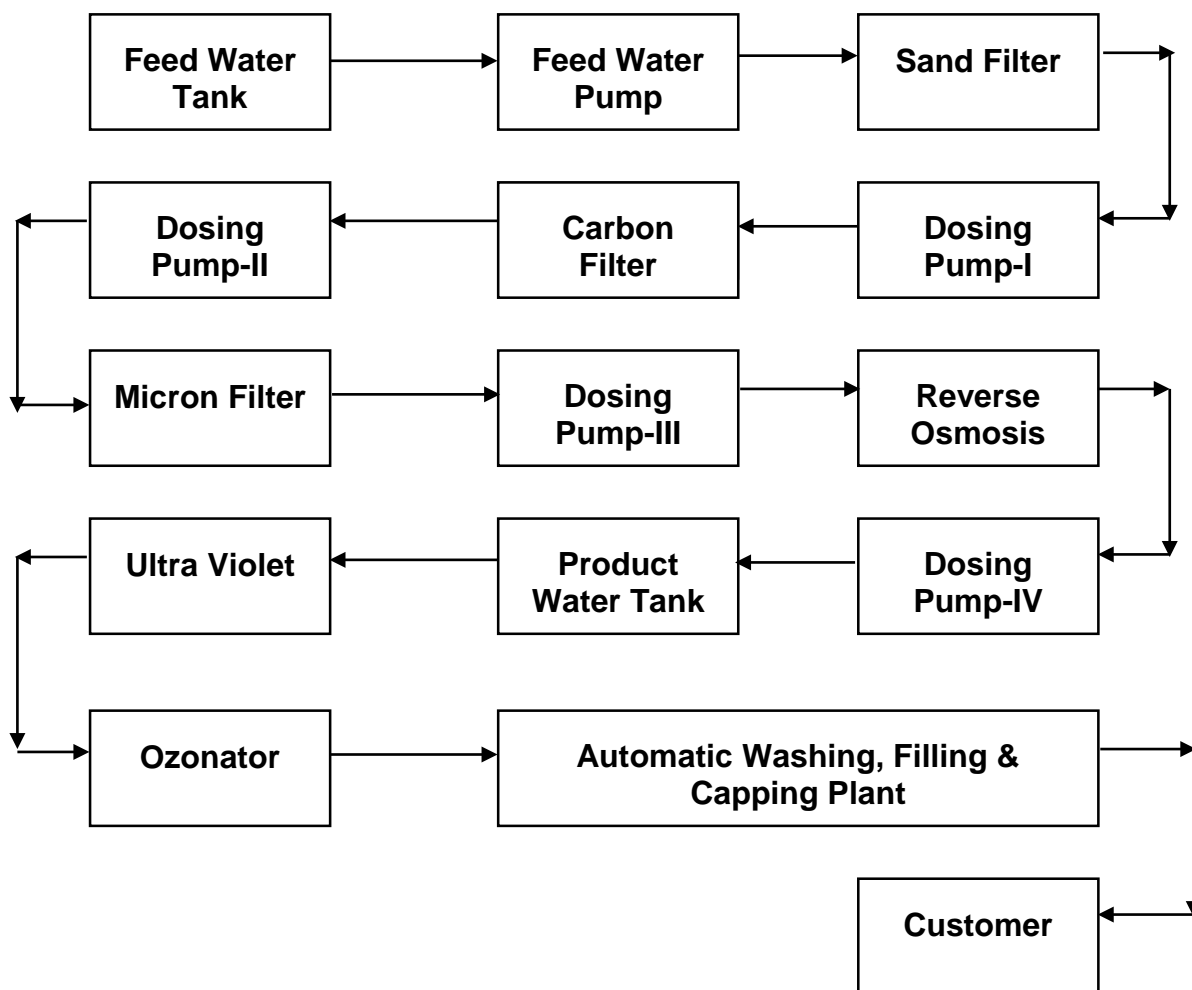
Following key parameters must be addressed as per Pre-feasibility study under preparation:

- **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.
- **Location:** Smart Shop 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:** For this particular Pre-feasibility, proposed product line will be consist of mineral water to be filled in customer's utensils / cans.
- **Target Market:** The target market for Mineral Water Smart Filling Shop consist of Bulk Suppliers, Households and distribution agencies of mineral water. Moreover the Bottled / Mineral water have been emerging as a daily preference of Upper middle, Middle & Lower middle class due to unavailability of clean / pure drinking water.
- **Employment Generation:** The proposed project will provide direct employment to 02 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 odour 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 or cans.

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 @ of 70%:

Product	Unit	Installed Capacity	First Year Production
Mineral Water	Liters	2,079,000	1,455,300



## 6 CRITICAL FACTORS

Following factors play a critical role in the successful execution of the business operations:

- Selection of appropriate location keeping in mind the target market, preferably close to the densely populated areas / markets.
- Timely supply of Raw water in case source water is from hydrants.
- Compliance with Standards and obtaining license from (PSQCA) Pakistan Standards & Quality Control Authority.
- The sale price must be according to the prevailing market price.
- Build contracts / linkages with bulk suppliers, households and distributors of mineral water.

## 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 Smart Filling Shops. 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 incomes & changing consumption habits. The potential target customers of Mineral Water Smart Filling Shop consist of Bulk suppliers, Households, Mineral water distribution agencies etc. Moreover the Bottled / Mineral water have been emerging as a daily preference of Upper middle, 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 this project. Various costs and revenue related assumptions along with results of the analysis are outlined in this section.

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

### 9.1 Project Economics

The capacity utilization during year one is worked out at 70% 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 9.1: Project Economics**

Description	Details
Internal Rate of Return (IRR)	42%
Payback Period	2.73 years
Net Present Value	Rs.1,593,693

This particular business and its profitability are highly dependent on the efficiency in sourcing of good quality water for extraction of Purified mineral water. Mineral water sales is also very important in this regard, adequate marketing & build strong linkages with bulk suppliers or distribution agencies for its sale.

### 9.2 Project Financing

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

**Table 9.2: Project Financing**

Description	Details
Total Equity (50%)	Rs.789,193
Bank Loan (50%)	Rs.789,193
Markup to the Borrower (Annual)	18%
Tenure of the Loan	5 Years

### 9.3 Project Cost

Following fixed and working capital requirements has been identified for the operation of proposed business:

**Table 9.3: Project Cost**

Description	Amount (Rs.)
<b>Capital Cost</b>	
Building / Infrastructure (Underground Boring)	225,000
Machinery & Equipment	630,000
Furniture & Fixture	30,000
Office equipment	40,000
Pre-operating cost	108,612
Legal, Licensing & Training costs	70,000
<b>Total Capital Cost</b>	<b>1,103,612</b>
<b>Working Capital</b>	
Raw Material Inventory	69,574
Up-front building rental	180,000
Up-front insurance payment	25,200
Cash	200,000
<b>Total Working Capital</b>	<b>474,774</b>
<b>Total Project Cost</b>	<b>1,578,386</b>

### 9.4 Space Requirement

The space requirement for the proposed Mineral Water Smart Filling Shop is estimated considering various facilities including Management building, Store, Ground, etc. However, the unit's operating in the industry do not follow any set pattern. Estimated rent for the proposed facility would be Rs.15,000 per month. Following table shows calculations for project space requirement:

**Table 9.4: Space Requirement**

Description	Total Estimated Area (Sq. ft.)	Unit Cost (Rs.)	Total Cost (Rs.)
Space Requirement	1500	10	15,000

## 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 are as following:

**Table 9.5: Machinery & Equipment**

Machinery Name	
Reverse Osmosis Water Purification Plant	
Feed Pump	
Multimedia Filter	
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	
<b>Total Machinery Cost</b>	<b>Rs.630,000</b>

This Pre-feasibility study proposes 1 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 Furniture & Fixtures Requirement

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

**Table 9.6: Furniture & Fixture**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Furniture Set for Office	1	10,000	10,000
Electric Wiring & Lighting	1	20,000	20,000
<b>Total</b>			<b>30,000</b>

## 9.7 Office Equipment Requirement

Following office equipment will be required for Mineral Water Smart Filling Shop:

**Table 9.7: Office Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computer	1	30,000	30,000
Printer	1	10,000	10,000
<b>Total</b>			<b>40,000</b>

## 9.8 Human Resource Requirement

In order to run operations of Mineral Water Smart Filling Shop smoothly, details of human resources required along with number of employees and monthly salary are recommended as under:

**Table 9.8: Human Resource Requirement**

Description	No. of Employees	Monthly Salary per person (Rs.)	Total Monthly Salary (Rs.)	Total Annual Salary (Rs.)
Owner / Manager	01	20,000	20,000	240,000
QC Officer / Production Officer	01	15,000	15,000	180,000
<b>Total</b>	<b>02</b>		<b>35,000</b>	<b>420,000</b>

## 9.9 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. 35,170 per month and promotional expense being essential for marketing of Mineral Water Smart Filling Shop is estimated as 1.5% of Total Revenue.

## 9.10 Revenue Generation

Based on the capacity utilization of 70% for Purified Mineral Water, sales revenue during the first year of operations is estimated as under:

**Table 9.10: Revenue Generation – Year 1**

Description	No. of Units Sold (Liters)	Sale Price / Liter (Rs.)	Sales Revenue (Rs.)
Mineral Water	1,455,300	2.0	2,910,600

## 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

<b>Name of Supplier</b>	Mr. Ayaz Attari		
<b>Address</b>	Plot #:4/33, Sector-21, Korangi Industrial Area,Karachi-74900		
<b>Phone</b>	0300-2457198	<b>Fax</b>	021-32621927
<b>E-mail</b>	www.rotack@yahoo.ca		
<b>Website</b>	www.rotackwater.com		

#### Machinery Supplier -2

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

#### Machinery Supplier -3

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

## 10.2 Raw Material Suppliers

### Raw Material Supplier -1

<b>Name of Supplier</b>	TransPak Pvt. Ltd.		
<b>Address</b>	F-31-A, S.I.T.E, Karachi-75700, Pakistan.		
<b>Phone</b>	021-32576914-15 – 32564190	<b>Fax</b>	021-32564115
<b>E-mail</b>	info@transpakpvt.com		
<b>Website</b>	www.transpakpvt.com		

### Raw Material Supplier -2

<b>Name of Supplier</b>	Mr.Nauman		
<b>Address</b>	16 km, Sheikhupura Road, Lahore		
<b>Phone</b>	0321-8458031	<b>Fax</b>	-
<b>E-mail</b>	Naumansaulat14@gmail.com		

### Raw Material Supplier -3

<b>Name of Supplier</b>	Mehran Plastic Industries (Pvt.) Ltd.		
<b>Address</b>	F-226, Near Labour Square, Site Karachi, Pakistan		
<b>Phone</b>	021-32568467	<b>Fax</b>	021-32568468
<b>E-mail</b>	info@mehranplastic.com.pk		
<b>Website</b>	www.mehranplastic.com.pk		



## 11 USEFUL WEB LINKS

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

## 12 ANNEXURES

### 12.1 Income Statement

SMEDA										
Calculations										
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	2,910,600	3,274,425	3,667,356	4,091,394	4,548,667	4,776,101	5,014,906	5,265,651	5,528,934	5,805,380
<i>Cost of sales</i>										
Cost of goods sold 1	834,883	939,243	1,051,952	1,173,584	1,304,749	1,369,987	1,438,486	1,510,410	1,585,931	1,665,228
Operation costs 1 (direct labor)	180,000	197,525	216,756	237,860	261,018	286,432	314,319	344,922	378,504	415,355
Operating costs 3 (direct electricity)	422,037	464,241	510,665	561,731	617,904	679,695	747,664	822,431	904,674	995,141
Total cost of sales	1,436,920	1,601,009	1,779,373	1,973,175	2,183,672	2,336,113	2,500,469	2,677,763	2,869,108	3,075,724
Gross Profit	1,473,680	1,673,416	1,887,983	2,118,219	2,364,995	2,439,988	2,514,436	2,587,888	2,659,825	2,729,657
	51%	51%	51%	52%	52%	51%	50%	49%	48%	47%
<i>General administration &amp; selling expenses</i>										
Administration expense	240,000	263,367	289,008	317,147	348,025	381,909	419,092	459,895	504,671	553,807
Administration benefits expense	16,800	18,436	20,231	22,200	24,362	26,734	29,336	32,193	35,327	38,766
Land lease rental expense	-	-	-	-	-	-	-	-	-	-
Building rental expense	180,000	189,000	198,450	208,373	218,791	229,731	241,217	253,278	265,942	279,239
Electricity expense	34,974	38,472	42,319	46,551	51,206	56,327	61,959	68,155	74,971	82,468
Maintenance expense	31,500	33,705	36,064	38,589	41,290	44,180	47,273	50,582	54,123	57,911
Fuel for Vehicles	-	-	-	-	-	-	-	-	-	-
Travelling expense	-	-	-	-	-	-	-	-	-	-
Communications expense (phone, fax, mail, internet, etc.)	12,000	13,168	14,450	15,857	17,401	19,095	20,955	22,995	25,234	27,690
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, entertainment, janitorial services, etc.)	9,600	10,535	11,560	12,686	13,921	15,276	16,764	18,396	20,187	22,152
Promotional expense	43,659	49,116	55,010	61,371	68,230	71,642	75,224	78,985	82,934	87,081
Insurance expense	25,200	22,680	20,160	17,640	15,120	12,600	10,080	7,560	5,040	2,520
Professional fees (legal, audit, consultants, etc.)	58,212	65,489	73,347	81,828	90,973	95,522	100,298	105,313	110,579	116,108
Depreciation expense	81,250	81,250	81,250	81,250	81,250	81,250	81,250	81,250	81,250	81,250
Amortization of pre-operating costs	21,722	21,722	21,722	21,722	21,722	21,722	-	-	-	-
Amortization of legal, licensing, and training costs	14,000	14,000	14,000	14,000	14,000	-	-	-	-	-
Bad debt expense	87,318	98,233	110,021	122,742	136,460	143,283	150,447	157,970	165,868	174,161
Miscellaneous expense 1	150,000	157,500	165,375	173,644	182,326	191,442	201,014	211,065	221,618	232,699
Subtotal	1,006,236	1,076,672	1,152,969	1,235,599	1,325,078	1,368,991	1,454,909	1,547,636	1,647,743	1,755,853
Operating Income	467,445	596,744	735,014	882,619	1,039,918	1,070,997	1,059,527	1,040,252	1,012,082	973,803
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	467,445	596,744	735,014	882,619	1,039,918	1,070,997	1,059,527	1,040,252	1,012,082	973,803
Interest on short term debt	-	-	-	-	-	-	-	-	-	-
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)	99,325	85,442	69,059	49,728	26,917	-	-	-	-	-
Interest expense on long term debt (Working Capital Loan)	23,777	-	-	-	-	-	-	-	-	-
Subtotal	123,102	85,442	69,059	49,728	26,917	-	-	-	-	-
Earnings Before Tax	344,343	511,302	665,955	832,891	1,013,001	1,070,997	1,059,527	1,040,252	1,012,082	973,803
Tax	68,869	102,260	133,191	166,578	202,600	214,199	211,905	208,050	202,416	194,761
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>275,474</b>	<b>409,042</b>	<b>532,764</b>	<b>666,313</b>	<b>810,401</b>	<b>856,798</b>	<b>847,622</b>	<b>832,202</b>	<b>809,666</b>	<b>779,042</b>
Balance brought forward		137,737	273,389	403,077	534,695	672,548	764,673	806,147	819,174	814,420
Total profit available for appropriation	275,474	546,779	806,153	1,069,390	1,345,096	1,529,345	1,612,294	1,638,349	1,628,840	1,593,462
Dividend	137,737	273,389	403,077	534,695	672,548	764,673	806,147	819,174	814,420	796,731
Balance carried forward	137,737	273,389	403,077	534,695	672,548	764,673	806,147	819,174	814,420	796,731
	9%	12%	15%	16%	18%	18%	17%	16%	15%	13%

## 12.2 Balance Sheet

SMEDA											
<b>Calculations</b>											
<b>Balance Sheet</b>											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Assets</b>											
<i>Current assets</i>											
Cash & Bank	365,000	298,266	452,217	583,038	695,622	797,081	966,310	1,084,556	1,174,004	1,245,304	1,308,865
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Finished goods inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment spare part inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	69,574	78,270	87,663	97,799	108,729	114,166	119,874	125,868	132,161	138,769	138,769
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	15,000	15,750	16,538	17,364	18,233	19,144	20,101	21,107	22,162	23,270	23,270
Pre-paid machinery & equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office vehicles lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	25,200	22,680	20,160	17,640	15,120	12,600	10,080	7,560	5,040	2,520	2,520
<b>Total Current Assets</b>	<b>474,774</b>	<b>414,966</b>	<b>576,577</b>	<b>715,841</b>	<b>837,704</b>	<b>942,991</b>	<b>1,116,365</b>	<b>1,239,090</b>	<b>1,333,367</b>	<b>1,409,863</b>	<b>1,473,424</b>
<i>Fixed assets</i>											
Land	-	-	-	-	-	-	-	-	-	-	-
Building/Infrastructure	225,000	213,750	202,500	191,250	180,000	168,750	157,500	146,250	135,000	123,750	112,500
Machinery & equipment	630,000	567,000	504,000	441,000	378,000	315,000	252,000	189,000	126,000	63,000	-
Bottles	-	-	-	-	-	-	-	-	-	-	-
Furniture & fixtures	30,000	27,000	24,000	21,000	18,000	15,000	12,000	9,000	6,000	3,000	-
Office vehicles	-	-	-	-	-	-	-	-	-	-	-
Office equipment	40,000	36,000	32,000	28,000	24,000	20,000	16,000	12,000	8,000	4,000	-
<b>Total Fixed Assets</b>	<b>925,000</b>	<b>843,750</b>	<b>762,500</b>	<b>681,250</b>	<b>600,000</b>	<b>518,750</b>	<b>437,500</b>	<b>356,250</b>	<b>275,000</b>	<b>193,750</b>	<b>112,500</b>
<i>Intangible assets</i>											
Pre-operation costs	108,612	86,890	65,167	43,445	21,722	-	-	-	-	-	-
Legal, licensing, & training costs	70,000	56,000	42,000	28,000	14,000	-	-	-	-	-	-
<b>Total Intangible Assets</b>	<b>178,612</b>	<b>142,890</b>	<b>107,167</b>	<b>71,445</b>	<b>35,722</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>1,578,386</b>	<b>1,401,606</b>	<b>1,446,244</b>	<b>1,468,535</b>	<b>1,473,426</b>	<b>1,461,741</b>	<b>1,553,865</b>	<b>1,595,340</b>	<b>1,608,367</b>	<b>1,603,613</b>	<b>1,585,924</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
<b>Total Current Liabilities</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Other liabilities</i>											
Machinery & equipment lease payable	-	-	-	-	-	-	-	-	-	-	-
Office equipment lease payable	-	-	-	-	-	-	-	-	-	-	-
Office vehicle lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	-	-	-	-	-	-	-	-	-
Long term debt (Project Loan)	551,806	474,676	383,662	276,266	149,538	-	-	-	-	-	-
Long term debt (Working Capital Loan)	237,387	-	-	-	-	-	-	-	-	-	-
<b>Total Long Term Liabilities</b>	<b>789,193</b>	<b>474,676</b>	<b>383,662</b>	<b>276,266</b>	<b>149,538</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Shareholders' equity</i>											
Paid-up capital	789,193	789,193	789,193	789,193	789,193	789,193	789,193	789,193	789,193	789,193	789,193
Retained earnings	137,737	273,389	403,077	534,695	672,548	764,673	806,147	819,174	814,420	796,731	-
<b>Total Equity</b>	<b>789,193</b>	<b>926,930</b>	<b>1,062,582</b>	<b>1,192,269</b>	<b>1,323,888</b>	<b>1,461,741</b>	<b>1,553,865</b>	<b>1,595,340</b>	<b>1,608,367</b>	<b>1,603,613</b>	<b>1,585,924</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>1,578,386</b>	<b>1,401,606</b>	<b>1,446,244</b>	<b>1,468,535</b>	<b>1,473,426</b>	<b>1,461,741</b>	<b>1,553,865</b>	<b>1,595,340</b>	<b>1,608,367</b>	<b>1,603,613</b>	<b>1,585,924</b>

## 12.3 Cash Flow Statement

SMEDA											
<b>Calculations</b>											
<b>Cash Flow Statement</b>											
	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		275,474	409,042	532,764	666,313	810,401	856,798	847,622	832,202	809,666	779,042
Add: depreciation expense		81,250	81,250	81,250	81,250	81,250	81,250	81,250	81,250	81,250	81,250
amortization of pre-operating costs		21,722	21,722	21,722	21,722	21,722	-	-	-	-	-
amortization of training costs		14,000	14,000	14,000	14,000	14,000	-	-	-	-	-
Deferred income tax		-	-	-	-	-	-	-	-	-	-
Accounts receivable		-	-	-	-	-	-	-	-	-	-
Finished goods inventory		-	-	-	-	-	-	-	-	-	-
Equipment inventory		-	-	-	-	-	-	-	-	-	-
Raw material inventory	(69,574)	(8,697)	(9,392)	(10,136)	(10,930)	(5,436)	(5,708)	(5,994)	(6,293)	(6,608)	-
Pre-paid building rent	(15,000)	(750)	(788)	(827)	(868)	(912)	(957)	(1,005)	(1,055)	(1,108)	-
Pre-paid machinery & equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office vehicles lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(25,200)	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	-
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
<b>Cash provided by operations</b>	<b>(109,774)</b>	<b>385,520</b>	<b>518,354</b>	<b>641,293</b>	<b>774,007</b>	<b>923,545</b>	<b>933,902</b>	<b>924,393</b>	<b>908,623</b>	<b>885,719</b>	<b>860,292</b>
<i>Financing activities</i>											
Project Loan - principal repayment		(77,130)	(91,014)	(107,396)	(126,727)	(149,538)	-	-	-	-	-
Working Capital Loan - principal repayment		(237,387)	-	-	-	-	-	-	-	-	-
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		-	-	-	-	-	-	-	-	-	-
Export re-finance principal repayment		-	-	-	-	-	-	-	-	-	-
Additions to export refinancing		-	-	-	-	-	-	-	-	-	-
Additions to lease financing		-	-	-	-	-	-	-	-	-	-
Additions to Project Loan	551,806	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	237,387	-	-	-	-	-	-	-	-	-	-
Issuance of shares	789,193	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares		-	-	-	-	-	-	-	-	-	-
<b>Cash provided by / (used for) financing activities</b>	<b>1,578,386</b>	<b>(314,517)</b>	<b>(91,014)</b>	<b>(107,396)</b>	<b>(126,727)</b>	<b>(149,538)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Investing activities</i>											
Capital expenditure	(1,103,612)	-	-	-	-	-	-	-	-	-	-
Acquisitions		-	-	-	-	-	-	-	-	-	-
<b>Cash (used for) / provided by investing activities</b>	<b>(1,103,612)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>NET CASH</b>	<b>365,000</b>	<b>71,003</b>	<b>427,341</b>	<b>533,897</b>	<b>647,279</b>	<b>774,007</b>	<b>933,902</b>	<b>924,393</b>	<b>908,623</b>	<b>885,719</b>	<b>860,292</b>
Cash balance brought forward		365,000	298,266	452,217	583,038	695,622	797,081	966,310	1,084,556	1,174,004	1,245,304
Cash available for appropriation	365,000	436,003	725,606	986,114	1,230,317	1,469,629	1,730,983	1,890,703	1,993,179	2,059,724	2,105,596
Dividend		137,737	273,389	403,077	534,695	672,548	764,673	806,147	819,174	814,420	796,731
Cash balance	365,000	298,266	452,217	583,038	695,622	797,081	966,310	1,084,556	1,174,004	1,245,304	1,308,865
Cash carried forward	365,000	298,266	452,217	583,038	695,622	797,081	966,310	1,084,556	1,174,004	1,245,304	1,308,865

## 13 KEY ASSUMPTIONS

### 13.1 Operating Cost Assumptions

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

### 13.2 Production Cost Assumptions

Starting Production Capacity Utilization	70%
Maximum Production Capacity Utilization	90%
Production Capacity Mineral Water Per Year (Liters)	2,079,000
Production Capacity Mineral Water Liters Per Day (1Day=8 hours)	6,300
Production of Mineral water Liters Per Year ( 70% Capacity Utilization )	1,455,300
Production Capacity Utilization Growth Rate / Yr.	5%

### 13.3 Revenue Assumptions

Sale Price of Mineral Water Per Liter	Rs.2.0
Sale Price Growth Rate	5%

### 13.4 Financial Assumptions

Debt	50%
Equity	50%
Markup to the Borrower (%age / annum)	18%
Required Rate of Return on Equity	25%
WACC	20%

### 13.5 Expense Assumptions

Description	Cost / Rate
Cost of Goods Sold Growth Rate	5.0%
Operating Costs Growth Rate	7.0%