

# Pre-Feasibility Study

## MINERAL WATER PROCESSING UNIT



### Small and Medium Enterprises Development Authority

#### Ministry of Industries & Production

#### Government of Pakistan

[www.smeda.org.pk](http://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](mailto:helpdesk@smeda.org.pk)

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

May 2015

## Contents

<b>1</b>	<b>DISCLAIMER</b> .....	<b>3</b>
<b>2</b>	<b>EXECUTIVE SUMMARY</b> .....	<b>4</b>
<b>3</b>	<b>INTRODUCTION TO SMEDA</b> .....	<b>5</b>
<b>4</b>	<b>PURPOSE OF THE DOCUMENT</b> .....	<b>5</b>
<b>5</b>	<b>BRIEF DESCRIPTION OF PROJECT &amp; PRODUCT</b> .....	<b>6</b>
5.1	PRODUCTION PROCESS FLOW .....	7
5.2	INSTALLED AND OPERATIONAL CAPACITIES .....	9
<b>6</b>	<b>CRITICAL FACTORS</b> .....	<b>10</b>
<b>7</b>	<b>GEOGRAPHICAL POTENTIAL FOR INVESTMENT</b> .....	<b>10</b>
<b>8</b>	<b>POTENTIAL TARGET CUSTOMERS / MARKETS</b> .....	<b>10</b>
<b>9</b>	<b>PROJECT COST SUMMARY</b> .....	<b>11</b>
9.1	PROJECT ECONOMICS.....	11
9.2	PROJECT FINANCING .....	11
9.3	PROJECT COST .....	12
9.4	SPACE REQUIREMENT.....	12
9.5	MACHINERY & EQUIPMENT REQUIREMENT.....	13
9.6	BOTTLES REQUIREMENT .....	14
9.7	FURNITURE & FIXTURES REQUIREMENT .....	14
9.8	OFFICE EQUIPMENT REQUIREMENT .....	15
9.9	OFFICE VEHICLES REQUIREMENT .....	15
9.10	HUMAN RESOURCE REQUIREMENT .....	15
9.11	UTILITIES AND OTHER COSTS .....	16
9.12	REVENUE GENERATION.....	16
<b>10</b>	<b>CONTACT DETAILS</b> .....	<b>17</b>
10.1	MACHINERY SUPPLIERS .....	17
10.2	RAW MATERIAL SUPPLIERS .....	18
<b>11</b>	<b>USEFUL WEB LINKS</b> .....	<b>19</b>
<b>12</b>	<b>ANNEXURES</b> .....	<b>20</b>
12.1	INCOME STATEMENT .....	20
12.2	BALANCE SHEET .....	21
12.3	CASH FLOW STATEMENT .....	22
<b>13</b>	<b>KEY ASSUMPTIONS</b> .....	<b>23</b>
13.1	OPERATING ASSUMPTIONS .....	23
13.2	PRODUCTION ASSUMPTIONS .....	23
13.3	REVENUE ASSUMPTIONS .....	23
13.4	FINANCIAL ASSUMPTIONS .....	23
13.5	EXPENSE ASSUMPTIONS .....	23

## 1 DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision; including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

For more information on services offered by SMEDA, please contact our website: [www.smeda.org.pk](http://www.smeda.org.pk)

### ***Document Control***

Document No.	PREF-NO 121
Revision	No. 1
Prepared by	SMEDA-Sindh
Revision Date	May, 2015
For information	Provincial Chief (Sindh) mraza@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 presents 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 **5,000 gallons per day**. The proposed product line will consist of **19 liters bottles**. Total installed production capacity of purified bottled water is **109,421** 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. 3.022 million** out of which **Rs. 2.317 million** is capital cost and **Rs. 0.705 million** is working capital. The project is proposed to be financed through **50%** debt and **50%** equity. The NPV is projected around **Rs. 3.753 million**, with an IRR of **41%** and a Payback Period of **3.08 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 factor
  - 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 its successful management.

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

## 5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

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 300ft, 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<sup>1</sup> 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<sup>2</sup>

Year	Quantity/Liters	Value (Rs.)
2009-10	1,957,685	37,859,400
2010-11	561,033	11,593,800
2011-12	802,278	15,800,400
2012-13	590,286	10,670,400

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.

<sup>1</sup> PSQCA website

<sup>2</sup> 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 05 peoples. Financial analysis shows the unit will be profitable from the very first year of operation.

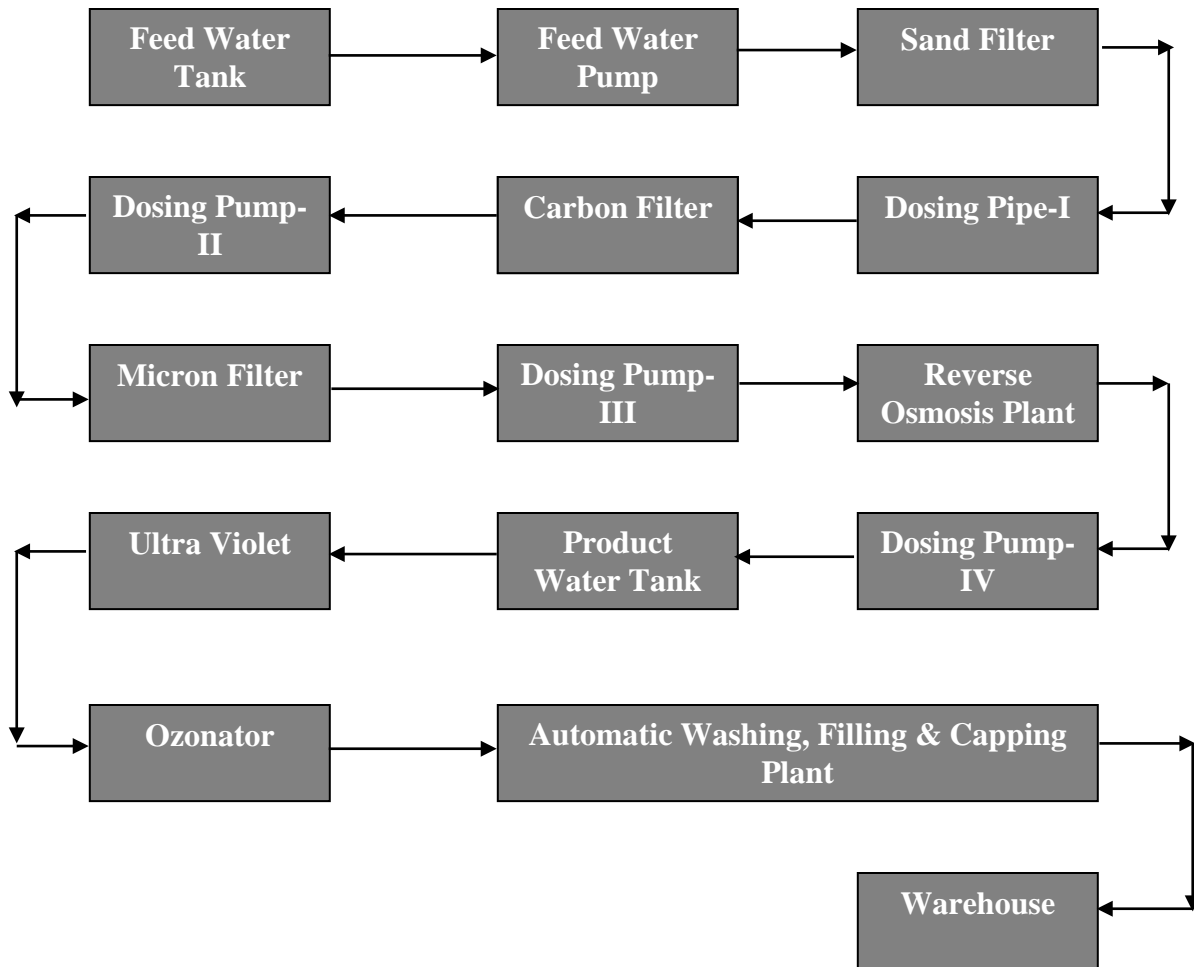
## 5.1 Production Process Flow

- 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.

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)	41%
Payback Period (yrs.)	3.08
Net Present Value (Rs.)	3,753,048

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 (50%)	1,511,307
Bank Loan (50%)	1,511,307
Markup to the Borrower (%age / annum)	18%
Tenure of the Loan (Years)	5

### 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.
<b>Capital Cost</b>	
Renovation of Building / Infrastructure Including Boring Cost	405,000
Machinery & Equipment	630,000
Bottles	275,000
Furniture & Fixture	55,000
Office Equipment	50,000
Office Vehicles	698,000
Pre-operating Costs	134,000
Legal, Licensing & Training Costs	70,000
<b>Total Capital Cost</b>	<b>2,317,000</b>
<b>Working Capital</b>	
Raw Material Inventory	217,474
Up-front Building Rent	192,000
Up-front Insurance Payment	46,140
Cash	250,000
<b>Total Working Capital</b>	<b>705,614</b>
<b>Total Project Cost</b>	<b>3,022,614</b>

### 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 Requirement**

Description	Estimated Area Sq. ft.
Management Building	200
Factory Area	600
Store	500
Ground	300
<b>Total Area</b>	<b>1,600</b>

Renovation cost is estimated to be around Rs. 180,000 and Rental expense for the space required is assumed at Rs. 16,000 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	
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 &amp; Equipment Cost</b>	<b>Rs.630,000</b>

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 )	500	550	275,000

## 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	30,000	30,000
Electric Wiring & Lighting	1	25,000	25,000
<b>Total</b>			<b>55,000</b>

## 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	30,000	30,000
Printer	1	10,000	10,000
Fax Machine	1	10,000	10,000
<b>Total</b>			<b>50,000</b>

## 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	650,000	650,000
Motor Bike	1	48,000	48,000
<b>Total</b>			<b>698,000</b>

## 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 Requirement**

Description	No. of Employees	Monthly Salary per person (Rs.)	Total Monthly Salary (Rs.)	Total Annual Salary (Rs.)
Owner / Manager	01	25,000	25,000	300,000
Sales Supervisor	01	20,000	20,000	240,000
QC Officer / Production Officer	01	15,000	15,000	180,000

Driver / Loader	01	12,000	12,000	144,000
Watchman	01	12,000	12,000	144,000
<b>Total</b>	<b>05</b>		<b>84,000</b>	<b>1,008,000</b>

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	54,711	80	4,376,842



## 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>	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		

### 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		

## 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

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	4,376,842	5,055,253	5,790,562	6,586,764	7,448,111	8,379,124	9,384,619	10,469,716	11,639,861	12,221,854	
<i>Cost of sales</i>											
Cost of goods sold 1	869,897	1,004,731	1,150,874	1,309,119	1,480,312	1,665,351	1,865,193	2,080,856	2,313,422	2,429,093	
Operation costs 1 (direct labor)	324,000	355,545	390,161	428,148	469,833	515,577	565,774	620,859	681,306	747,639	
Operating costs 3 (direct electricity)	426,195	468,815	515,696	567,266	623,992	686,391	755,030	830,533	913,587	1,004,946	
Total cost of sales	1,620,092	1,829,091	2,056,732	2,304,533	2,574,137	2,867,319	3,185,998	3,532,248	3,908,316	4,181,678	
Gross Profit	2,756,750	3,226,162	3,733,830	4,282,231	4,873,973	5,511,805	6,198,622	6,937,468	7,731,545	8,040,175	
	63%	64%	64%	65%	65%	66%	66%	66%	66%	66%	66%
<i>General administration &amp; selling expenses</i>											
Administration expense	684,000	750,595	823,674	903,868	991,870	1,088,440	1,194,412	1,310,702	1,438,314	1,578,350	
Administration benefits expense	47,880	52,542	57,657	63,271	69,431	76,191	83,609	91,749	100,682	110,484	
Building rental expense	192,000	201,600	211,680	222,264	233,377	245,046	257,298	270,163	283,671	297,855	
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	128,563	141,419	154,275	167,131	179,988	192,844	205,700	218,556	231,413	231,413	
Communications expense (phone, fax, mail, internet, etc.)	34,200	37,530	41,184	45,193	49,594	54,422	59,721	65,535	71,916	78,917	
Office vehicles running expense	104,700	115,170	126,687	139,356	153,291	168,620	185,482	204,031	224,434	246,877	
Office expenses (stationary, entertainment, janitorial services, etc.)	27,360	30,024	32,947	36,155	39,675	43,538	47,776	52,428	57,533	63,134	
Promotional expense	65,653	75,829	86,858	98,801	111,722	125,687	140,769	157,046	174,598	183,328	
Insurance expense	46,140	41,526	36,912	32,298	27,684	23,070	18,456	13,842	9,228	4,614	
Professional fees (legal, audit, consultants, etc.)	87,537	101,105	115,811	131,735	148,962	167,582	187,692	209,394	232,797	244,437	
Depreciation expense	191,050	195,175	199,919	205,374	211,648	216,745	222,610	228,250	233,677	238,994	
Amortization of pre-operating costs	26,800	26,800	26,800	26,800	26,800	26,800	-	-	-	-	
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	131,305	151,658	173,717	197,603	223,443	251,374	281,539	314,091	349,196	366,656	
Miscellaneous expense 1	200,000	210,000	220,500	231,525	243,101	255,256	268,019	281,420	295,491	310,266	
Subtotal	2,040,662	2,210,148	2,394,005	2,593,515	2,810,082	3,046,323	3,298,717	3,572,760	3,870,392	4,136,744	
Operating Income	716,088	1,016,013	1,339,826	1,688,717	2,063,892	2,465,483	2,899,905	3,364,708	3,861,153	3,903,432	
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	716,088	1,016,013	1,339,826	1,688,717	2,063,892	2,465,483	2,899,905	3,364,708	3,861,153	3,903,432	
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)	208,530	179,382	144,988	104,402	56,511	-	-	-	-	-	
Interest expense on long term debt (Working Capital Loan)	35,337	-	-	-	-	-	-	-	-	-	
Subtotal	243,867	179,382	144,988	104,402	56,511	-	-	-	-	-	
Earnings Before Tax	472,221	836,631	1,194,838	1,584,314	2,007,380	2,465,483	2,899,905	3,364,708	3,861,153	3,903,432	
Tax	94,444	167,326	238,968	316,863	401,476	493,097	579,981	672,942	772,231	780,686	
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>377,777</b>	<b>669,305</b>	<b>955,870</b>	<b>1,267,452</b>	<b>1,605,904</b>	<b>1,972,386</b>	<b>2,319,924</b>	<b>2,691,766</b>	<b>3,088,922</b>	<b>3,122,745</b>	
Balance brought forward		151,111	328,166	513,615	712,426	927,332	1,159,887	1,391,925	1,633,476	1,888,959	
Total profit available for appropriation	377,777	820,415	1,284,037	1,781,066	2,318,331	2,899,718	3,479,811	4,083,691	4,722,399	5,011,705	
Dividend	226,666	492,249	770,422	1,068,640	1,390,998	1,739,831	2,087,887	2,450,214	2,833,439	3,007,023	
Balance carried forward	151,111	328,166	513,615	712,426	927,332	1,159,887	1,391,925	1,633,476	1,888,959	2,004,682	
	9%	13%	17%	19%	22%	24%	25%	26%	27%	26%	

## 12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
Assets	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	426,000	216,076	350,827	454,137	524,216	277,023	664,309	1,044,439	1,426,777	1,848,732	2,152,409
Accounts receivable	-	-	-	-	-	-	-	-	-	-	-
Finished goods inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment spare part inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	217,474	251,183	287,719	327,280	370,078	416,338	466,298	520,214	578,356	607,273	607,273
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	16,000	16,800	17,640	18,522	19,448	20,421	21,442	22,514	23,639	24,821	24,821
Pre-paid machinery & equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office vehicles lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	46,140	41,526	36,912	32,298	27,684	23,070	18,456	13,842	9,228	4,614	4,614
<b>Total Current Assets</b>	<b>705,614</b>	<b>525,585</b>	<b>693,098</b>	<b>832,237</b>	<b>941,426</b>	<b>736,851</b>	<b>1,170,505</b>	<b>1,601,008</b>	<b>2,037,999</b>	<b>2,485,441</b>	<b>2,789,118</b>
<i>Fixed assets</i>											
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	630,000	567,000	504,000	441,000	378,000	315,000	252,000	189,000	126,000	63,000	-
Bottles	275,000	288,750	304,563	322,747	343,659	364,539	385,420	406,301	427,182	448,063	468,944
Furniture & fixtures	55,000	49,500	44,000	38,500	33,000	27,500	22,000	16,500	11,000	5,500	-
Office vehicles	698,000	628,200	558,400	488,600	418,800	349,000	279,200	209,400	139,600	69,800	-
Office equipment	50,000	45,000	40,000	35,000	30,000	25,000	20,000	15,000	10,000	5,000	-
<b>Total Fixed Assets</b>	<b>2,113,000</b>	<b>1,963,200</b>	<b>1,815,463</b>	<b>1,670,097</b>	<b>1,527,459</b>	<b>1,366,789</b>	<b>1,172,690</b>	<b>981,223</b>	<b>799,784</b>	<b>626,826</b>	<b>468,944</b>
<i>Intangible assets</i>											
Pre-operation costs	134,000	107,200	80,400	53,600	26,800	-	-	-	-	-	-
Legal, licensing, & training costs	70,000	63,000	56,000	49,000	42,000	35,000	28,000	21,000	14,000	7,000	-
<b>Total Intangible Assets</b>	<b>204,000</b>	<b>170,200</b>	<b>136,400</b>	<b>102,600</b>	<b>68,800</b>	<b>35,000</b>	<b>28,000</b>	<b>21,000</b>	<b>14,000</b>	<b>7,000</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>3,022,614</b>	<b>2,658,985</b>	<b>2,644,960</b>	<b>2,604,934</b>	<b>2,537,685</b>	<b>2,438,639</b>	<b>2,671,195</b>	<b>2,903,232</b>	<b>3,144,783</b>	<b>3,400,267</b>	<b>3,515,989</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	-	-
<i>Other liabilities</i>	-	-	-	-	-	-	-	-	-	-	-
<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)	1,158,500	996,567	805,487	580,012	313,951	-	-	-	-	-	-
Long term debt (Working Capital Loan)	352,807	-	-	-	-	-	-	-	-	-	-
<b>Total Long Term Liabilities</b>	<b>1,511,307</b>	<b>996,567</b>	<b>805,487</b>	<b>580,012</b>	<b>313,951</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Shareholders' equity</i>											
Paid-up capital	1,511,307	1,511,307	1,511,307	1,511,307	1,511,307	1,511,307	1,511,307	1,511,307	1,511,307	1,511,307	1,511,307
Retained earnings	-	151,111	328,166	513,615	712,426	927,332	1,159,887	1,391,925	1,633,476	1,888,959	2,004,682
<b>Total Equity</b>	<b>1,511,307</b>	<b>1,662,418</b>	<b>1,839,473</b>	<b>2,024,922</b>	<b>2,223,734</b>	<b>2,438,639</b>	<b>2,671,195</b>	<b>2,903,232</b>	<b>3,144,783</b>	<b>3,400,267</b>	<b>3,515,989</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>3,022,614</b>	<b>2,658,985</b>	<b>2,644,960</b>	<b>2,604,934</b>	<b>2,537,685</b>	<b>2,438,639</b>	<b>2,671,195</b>	<b>2,903,232</b>	<b>3,144,783</b>	<b>3,400,267</b>	<b>3,515,989</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		377,777	669,305	955,870	1,267,452	1,605,904	1,972,386	2,319,924	2,691,766	3,088,922	3,122,745
Add: depreciation expense		191,050	195,175	199,919	205,374	211,648	246,745	252,010	258,064	265,027	273,034
amortization of pre-operating costs		26,800	26,800	26,800	26,800	26,800	-	-	-	-	-
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		-	-	-	-	-	-	-	-	-	-
Finished goods inventory		-	-	-	-	-	-	-	-	-	-
Equipment inventory		-	-	-	-	-	-	-	-	-	-
Raw material inventory	(217,474)	(33,709)	(36,536)	(39,561)	(42,798)	(46,260)	(49,961)	(53,916)	(58,142)	(28,918)	-
Pre-paid building rent	(16,000)	(800)	(840)	(882)	(926)	(972)	(1,021)	(1,072)	(1,126)	(1,182)	-
Pre-paid machinery & equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office equipment lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid office vehicles lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(46,140)	4,614	4,614	4,614	4,614	4,614	4,614	4,614	4,614	4,614	-
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
<b>Cash provided by operations</b>	<b>(279,614)</b>	<b>572,732</b>	<b>865,518</b>	<b>1,153,760</b>	<b>1,467,515</b>	<b>1,808,734</b>	<b>2,179,764</b>	<b>2,528,560</b>	<b>2,902,177</b>	<b>3,335,464</b>	<b>3,402,779</b>
<i>Financing activities</i>											
Project Loan - principal repayment		(161,933)	(191,081)	(225,475)	(266,060)	(313,951)	-	-	-	-	-
Working Capital Loan - principal repayment		(352,807)	-	-	-	-	-	-	-	-	-
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	1,158,500	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	352,807	-	-	-	-	-	-	-	-	-	-
Issuance of shares	1,511,307	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
<b>Cash provided by / (used for) financing activities</b>	<b>3,022,614</b>	<b>(514,740)</b>	<b>(191,081)</b>	<b>(225,475)</b>	<b>(266,060)</b>	<b>(313,951)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Investing activities</i>											
Capital expenditure	(2,317,000)	(41,250)	(47,438)	(54,553)	(62,736)	(350,977)	(52,647)	(60,544)	(69,625)	(80,069)	(92,079)
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
<b>Cash (used for)/ provided by investing activities</b>	<b>(2,317,000)</b>	<b>(41,250)</b>	<b>(47,438)</b>	<b>(54,553)</b>	<b>(62,736)</b>	<b>(350,977)</b>	<b>(52,647)</b>	<b>(60,544)</b>	<b>(69,625)</b>	<b>(80,069)</b>	<b>(92,079)</b>
<b>NET CASH</b>	<b>426,000</b>	<b>16,742</b>	<b>627,000</b>	<b>873,732</b>	<b>1,138,719</b>	<b>1,143,805</b>	<b>2,127,117</b>	<b>2,468,017</b>	<b>2,832,552</b>	<b>3,255,395</b>	<b>3,310,700</b>
Cash balance brought forward		426,000	216,076	350,827	454,137	524,216	277,023	664,309	1,044,439	1,426,777	1,848,732
Cash available for appropriation	426,000	442,742	843,076	1,224,559	1,592,856	1,668,021	2,404,140	3,132,325	3,876,991	4,682,171	5,159,432
Dividend		226,666	492,249	770,422	1,068,640	1,390,998	1,739,831	2,087,887	2,450,214	2,833,439	3,007,023
Cash balance	426,000	216,076	350,827	454,137	524,216	277,023	664,309	1,044,439	1,426,777	1,848,732	2,152,409
Cash carried forward	426,000	216,076	350,827	454,137	524,216	277,023	664,309	1,044,439	1,426,777	1,848,732	2,152,409

## 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	80
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%
No. of Bottles Growth Rate / Yr.	5.0%