



## PACKAGED DRINKING WATER

PRODUCT CODE	:	11043 (NIC Code)
PRODUCTION CAPACITY	:	40 LAKHS LITERS (Per Annum)
ESTIMATED ANNUAL TURNOVER	:	Rs. 3,20,00,000/-
PROJECT COST	:	Rs. 1,67,00,000/- Fixed Capital - Rs. 1,05,03,070/- Working Capital - Rs. 61,86,000/-
MONTH AND YEAR OF PREPARATION	:	February, 2021
PREPARED BY		Smt.Rekha.K Investigator (Chemical) MSME-Development Institute Govt of India, Kanjani Road, Ayyanthole P:O, Thrissur-680003 Tel: 0487-2360536; 0487-2973636, Email- <a href="mailto:dcdi-thrissur@dcmsme.gov.in">dcdi- thrissur@dcmsme.gov.in</a>

## **1. INTRODUCTION**

Water forms an essential part of every human being. Since it is a human necessity it makes best sense to do business in. As a normal human being requires an average of 2-3 liters of water every day and world population is more than one billion (growing at 2-3% annually) the business opportunity is enormous and the potential is largely untapped.

Increasing health concerns and unavailability of clean drinking water have led to the growth of the bottled water market in India. The major bottled water brands operating in India are Bisleri, Kinley, and Aquafina.

In India, bottled water is sold in four main types - one-liter bottles, two-liter bottles, 500 milliliter bottles, 250 milliliter bottles, pouches, and barrels of 15-20 liters. Among the different SKUs, one-liter bottles have acquired the largest market share, followed by 500 milliliter bottles and 250 milliliter bottles.

The bottled water industry in India, which was growing at double digits, has now hit a roadblock due to Covid-19 as sales in offices, hotels and travel remain restricted across the country. The sales volumes became down by 70% compared to Pre-Covid months. Shutting down of low-end restaurants; sparse traffic on highways and lack of public functions and business-related conferences – that account for major consumption of smaller packs, including the 250ml ones – are the other main factors that are hurting the industry.

## **2. MARKET POTENTIAL**

Earlier bottled drinking water was privileged to high class, foreign tourist and highly health conscious people but the present decade has witnessed increasing popularity among average consumers, increasing living standards, disposable income, education and awareness among the consumers domestic and foreign tourist, sophisticated business houses and offices has increased rapidly the sales of bottled water in recent years.

The growing demand for bottled water speaks volumes of the scarcity of clean drinking water and the quality of tap water. It has become an icon of healthy lifestyle emerging in India. Bottled water provides the distance advantages of convenient packing, consistent quality and is ubiquitous.

According to Bureau of Indian Standards (BIS), Kochi, the office has issued licenses for 202 units for setting up Packaged Drinking Water units in the State of Kerala.

While away-from-home consumption in channels like travel, restaurants, entertainment and hospitality may take a little longer to come back to normal, at-

home consumption is robust and growing, especially bulk jars in the packaged drinking water segment,

According to the Trade Promotion Council of India, the packaged drinking water bottle market in India was valued at \$24 billion in 2019, and was expected to reach \$60 billion by the end of 2023. However, this segment – 80% of which is unorganized – could see de-growth of over 30% due to the pandemic. Brands such as Bisleri, Aquafina and Bailley are adopting the direct-to-consumer model, by launching their own online platforms or tying up with delivery apps. Bisleri, for instance, has launched its own website, and is also taking orders for delivery through its customer care number.

Bisleri International, has tied up with Zomato, Dunzo, Big Basket and Amazon for delivery, and offline, it has ramped up its presence at pharma and milk shops. Parle Agro's Bailley, which had started delivering 20 litre jars through online channels during the lockdown months, is now looking at "aggressively" expanding it. Most of these companies have also tied up with the micro delivery app for delivery of water to residential areas. Fake packaged drinking water has been a challenge for this category, given that it's largely unorganized. However, in the current scenario, consumers are even more cautious. Due to the pandemic, consumers are keen on directly sourcing bottles from the companies.

### **3. BASIS AND PRESUMPTIONS**

- i. It is presumed that the unit will run single shift of 8 hours per day and 300 days in a year.
- ii. The rate of interest has been taken 13% on an average both for fixed investment and working capital.
- iii. To achieve full production 1 to 2 months trial production required.
- iv. The salaries and wages, cost of raw material, utilities, rent of the shed etc. are based on prevailing rates in and around local region at the time of preparation and are subject to necessary changes from time to time based on local conditions.
- v. The project preparation cost and non-refundable deposits may be considered under the head of pre-operative expenses.

#### 4. IMPLEMENTATION SCHEDULE

The approximate time required for various activities is given below. However, it may vary from place to place depending upon the local circumstances and enthusiasm of the entrepreneur:

S. No.	Activity	Period (in Months)
1.	Scheme Preparation and Approval	0-1 <sup>st</sup> Month
2.	Sanction of loan	1 <sup>st</sup> -2 <sup>nd</sup> Month
3.	Clearance from State Pollution Control Board	2 <sup>nd</sup> -3 <sup>rd</sup> Month
4.	Placement of order for machinery and delivery	3 <sup>rd</sup> -4 <sup>th</sup> Month
5.	Installation of machines& Power connection	4 <sup>th</sup> -5 <sup>th</sup> Month
6.	Trial Run	6 <sup>th</sup> - 7 <sup>th</sup> Month
7.	Commercial Production	8 <sup>th</sup> Month onwards

Due to overlapping of some activities, normally 6-8 months are required to implement the project.

#### 5. TECHNICAL ASPECTS

##### 5.1. Process of Manufacturing

The water is processed with multi stage purification processes such as – sand filter, activated carbon filter, ultraviolet disinfection, ultra filtration, Reverse Osmosis and Ozonization.

Sand filter	Eliminates load of total suspended solids in the raw water
Activated carbon filter	This filter removes most of the organic contamination and pesticide residuals from the water. It also controls taste and odor of water
Ultraviolet disinfection (UV)	Water is exposed to UV light of wavelength 245 nanometers (nm). A dosage of 16000 microwatt/sq.cm at 40° C for effective disinfection
Ultra filtration	A low pressure membrane process that removes dissolved organic macro molecules, viruses, pyrogen enzymes etc.
Reverse Osmosis	This process eliminates dissolved impurities like unwanted salts and retain minerals which are essential to human body
Ozonization	This is the strongest oxidizer and disinfection agent which acts on broad spectrum of microbiological organisms.
Filtration	This pumps water through a microscopic filter that is rated for a certain size organism. The standard size rating is the micron
Capacity flow rate	1100 lit/hour

Raw water quality (assumed)	1000 ppm as TDS
Motive power	1KW

## 5.2. Quality Control and Standards

BIS Standard (IS: 14543: 2016) & FSSAI License

## 5.3. Production Capacity

The unit is proposed to produce 40 lakh liters of packaged drinking water per annum.

## 5.4. Pollution Control

There is no major pollution problem associated with this industry except for disposal of waste water which should be managed appropriately. The entrepreneurs are advised to take "No Objection Certificate" from the State Pollution Control Board.

## 5.5. Energy Conservation

Suitable measures should be used for the appropriate use of electricity.

## 5.6. Motive Power Requirement

50 HP

## 5.7. Machinery Utilization

The capacity utilization is considered to be 80% of the total installed capacity.

## 6. FINANCIAL ASPECT

### 6.1. Fixed Capital

#### 6.1.1. Land & Building:

Sl.No	Description	Amount (in Rs)
1	Land 0.5 acres	3,00,000/-
2	Built up area required for filtration, raw material storage, packaging material storage, machinery spare parts, store, finished goods, office, QC lab, Toilets, Electrical switch room and miscellaneous etc. 6500 sq.ft. @Rs.800 per sq. ft.	55,00,000/-
	<b>Total</b>	<b>58,00,000/-</b>

#### 6.1.2. Machinery and Equipment's

Sl. No.	Description	Quantity (in numbers)	Value (in Rs.)
1.	Alum doses 3 liter/hr dosage	1	
2.	2 nos. pump (1 W +IS) (SS)	1	
3.	Activated carbon filter flow rate 2000 lit/hr	1	

4.	Pressure sand filter flow rate:2000 lit./hr	1	17,18,200/-	
5.	Softener	1		
6.	Reverse Osmosis system permeate flow 500 lit/hr consist of 5 micron filter SS-304 PP H.P. Pump with 3 HP Motor Membrane 4 nos.			
7.	Pressure vessel	4		
8.	Ozone generator Capacity - 1 gm/hr Flow rate - 1100 lit/hr	1		
9.	UV disinfectant flow rate-1100 lit/hr	1		
10.	Storage tank for pure water capacity :1100lit			
	Bottling section			
11.	Stainless Steel Conveyor: Made of S.S, 8 meter long for conveying of empty washed bottles onto the filling machine. The different operations like rinsing, filling, capping are done on the conveyor. Electrical Details: 0.5 H.P. with variable speed drive..	1		16,50,000/-
12.	Rinsing, Filling, Capping: This machine is designed to fill 24 bottles per minute for 1 ltr bottle & is capable to fill 500 ml, 1000 ml, 1500 ml bottles. Machine speed is depended on the volume to be filled. The bottles are holded in groups of 6 & moved on the conveyor together. These grouped bottles are rinsed by means of spraying pressurized water inside the bottle. After rinsing the bottles are again placed on the conveyor & are loaded on the filling & capping machine one by one. Filling & capping takes place by indexing mechanism. There are total 8 indexes.	1		
13.	Change parts for 500 ml and 1500 ml 1 set each	1 set each		
	Spare for item 2 for 2 years			
14.	Shrink Tunnel: This is fitted on the online conveyor to shrink labels and neck sleeves.	1	2,25,500/-	

	The labels & neck sleeves are to be manually inserted on the bottle. Machine will be provided with suitable capacity Heaters, Blower, Reduction Gear Box and Electric Motor, complete in all respects ready to use.		
15.	Printing Machine ( for mfg. Date & batch nos.) Semiautomatic machine is proposed. This is a table top coding machine with a printing area of 35 mm x 25 mm & capable of printing 3 variable line message on labels or caps.	1	
	Electrification and installation charges @ 10% of plant and machinery		3,59,370/-
	<b>Total</b>		<b>39,53,070/-</b>

### 6.1.3 Other fixed Assets

<i>Sl.No</i>	<i>Description</i>	<i>Amount (in Rs)</i>
1	Cost of furniture	50,000/-
2	Cost of deep bore tube well for water reservoirs	1,50,000/-
3	Security deposit to Electricity Deptt.	1,00,000/-
4	Preliminary and pre-operative expenses	1,00,000/-
5	Delivery van	3,50,000/-
	<b>Total</b>	<b>7,50,000/-</b>

#### **Total Fixed Cost**

<i>Sl.No</i>	<i>Description</i>	<i>Amount (in Rs)</i>
1.	Land and building	58,00,000/-
2.	Plant and machinery	39,53,070/-
3.	Other fixed assets	7,50,000/-
	<b>Total</b>	<b>1,05,03,070/-</b>

## 6.2. Working Capital (per annum)

### 6.2.1 Raw material

<i>Sl.No</i>	<i>Description</i>	<i>Amount (in Rs)</i>
1	PET/PVC bottle including cap labels etc. 1 lit size @ 3/- for 4 lakh bottles	12,00,000/-
2	Chemicals and Reagents etc. (L.S.)	50,000/-
3	Corrugated boxes, strips tap etc.	2,50,000/-
	<b>Total</b>	<b>15,00,000/-</b>

### 6.2.2 Salary and Wages Designation

Sl. No.	Designation	No.	Salary (in Rs)	Amount (in Rs)
1.	Factory Manager	1	10,000/-	10,000/-
2.	Clerk-cum Typist	1	10,000/-	10,000/-
3.	Store cum purchase officer	1	10,000/-	10,000/-
4.	Sweeper	1	8,000/-	8,000/-
5.	Production Manager	1	15,000/-	15,000/-
6.	Lab Assistant	1	8,000/-	8,000/-
7.	Skilled worker	3	7,000/-	21,000/-
8.	Unskilled worker	3	4,500/-	13,500/-
	Total			95,500/-
	Perks and benefits @ 8.5% of salary and wages			8,117/-
	<b>Total say</b>			<b>1,03,617/-</b>

### 6.2.3 Utilities

Sl.No	Description	Amount (in Rs)
1.	Electricity	50,000/-
2.	Fuels and others	20,000/-
	<b>Total</b>	<b>70,000/-</b>

### 6.2.4 Other contingent expenses

Sl.No	Description	Amount (in Rs)
1.	Postage and stationery	5,000/-
2.	Telephone/Fax charges	5,000/-
3.	Consumable stores	1,000/-
4.	Repairing and maintenance @ 10%	3,59,370/-
5.	Transport Charges	2,500/-
6.	Advertisement and Publicity	5,000/-
7.	Insurance & Taxes	5,000/-
8.	Other Expenses	10,000/-
	<b>Total</b>	<b>3,88,370/-</b>

### 6.2.5 Working capital per month

Sl.No	Description	Amount (in Rs)
1.	Raw material	15,00,000/-
2.	Salaries & wages	1,03,617/-
3.	Utilities	70,000/-
4.	Other contingent expenses	3,88,370/-
	<b>Total</b>	20,61,987/-
		<b>Say 20,62,000/-</b>



### 6.3 Total Capital Investment

Sl.No	Description	Amount (in Rs)
1.	Fixed assets	1,05,03,070/-
2.	Working capital (for 3 months)	61,86,000/-
	<b>Total</b>	<b>1,66,89,070/-</b> <b>Say 1,67,00,000/-</b>

## 7. FINANCIAL ANALYSIS

### 7.1. Cost of Production (per annum)

Sl.No	Description	Amount (in Rs)
1.	Working capital (for 1 year)	2,47,44,000/-
2.	Depreciation on building @ 5% p.a.	2,60,000/-
3.	Depreciation on plant and machinery @ 10%	3,59,370/-
4.	Depreciation on furniture @ 20%	1,60,000/-
5.	Interest on TCI @ 13%	21,71,000/-
	<b>Total</b>	<b>2,76,94,370/-</b>

### 7.2. Turnover (per annum)

Sl.No	Description	Amount (in Rs)
1.	By sale of 40 lakh bottles @ Rs. 8 /- bottle	3,20,00,000/-

#### Cost of producing 1 litre bottled drinking water

Cap cost	Rs.0.50
Bottle Cost	Rs.2.50-Rs.3.00
Treatment Cost	Rs.0.25-0.50
Label cost	Rs.0.25-0.50
Carton Cost	Rs.1.00
Transportation Cost	Rs.0.25-0.50
Others	Rs.0.50
Total Cost (excluding labor, marketing and tax)	Rs.5.25-6.00
Selling cost by manufacturer	Rs.8/- per bottle

*The costs are indicative only and even estimated in some heads and not absolute. Bottled drinking water in Kerala cost Rs 13/liter (maximum retail price) as packaged water is brought under the ambit of the Essential Commodities Act with a view to regulate its price.*

### 7.3.Net Profit (per annum)

<i>Sl.No</i>	<i>Description</i>	<i>Amount (in Rs)</i>
1.	Profit = Turnover- Cost of production ie; 3,20,00,000 - 2,76,94,370	43,05,630/-

### 7.4.Net Profit Ratio

<i>Sl.No</i>	<i>Description</i>	<i>Value (in %)</i>
1.	Net Profit ratio = Profit x 100 / Turnover ie; 43,05,630 x 100 / 3,20,00,000	13.45

### 7.5.Rate of Return

<i>Sl.No</i>	<i>Description</i>	<i>Value (in %)</i>
1.	Rate of return = Profit x 100 / Total capital investment ie; 43,05,630 x 100 / 1,67,00,000	25.78

### 7.6 Fixed Cost

<i>Sl.No</i>	<i>Description</i>	<i>Amount (in Rs)</i>
1.	Depreciation on building @ 5% p.a.	2,60,000/-
2.	Depreciation on plant and machinery @10%	3,59,370/-
3.	Depreciation on furniture @20%	1,60,000/-
4.	40% of salary and wages	4,97,361/-
5.	40% utilities and other expenses	22,00,176/-
6.	Total interest	21,71,000/-
7.	Tax and insurance	60,000/-
	Total	57,07,907/-

### 7.6.Break-even Point

<i>Sl.No</i>	<i>Description</i>	<i>Value (in %)</i>
1.	Break-Even point = Fixed cost x 100 / Fixed cost + Profit  ie; 57,07,907 x 100 / 57,07,907+ 43,05,630  = 57,07,90,700 / 1,00,13,537/-	57.00

## Addresses Of Machinery Suppliers

1. MR VINOD D  
V-TECH WATER TECHNOLOGIES (I) PVT LTD  
NO 10, NEAR LIONS CLUB KALYANAMANDAPAM,  
VALLUVAR STREET,SIVANANDHA COLONY,  
GANDHIPURAM,  
COIMBATORE - 641012  
TEL: +(91)-(422)-4213005 , +(91)-9842424499 FAX: +(91)-(422)-  
2493736 EMAIL: INFO@VTECHWATERTECHNOLOGIES.COM  
VTECHWATER@GMAIL.COM
2. I - TECH SYSTEMS  
473, C. S. R. BUILDING, BROUGH ROAD, ERODE - 638 001,  
INDIA  
PHONE: +(91)-(424)-2265188/2260238 FAX: +(91)-(424)-  
4020098  
MOBILE / CELL PHONE: +(91)-9787778888  
WEBSITE: [HTTP://WWW.THEWATERMILLS.COM/](http://WWW.THEWATERMILLS.COM/)
3. GEORGE V. THOMAS (CEO)  
TOOL TECH  
31-100, NANDA NAGAR, I. D. A., GANDHI NAGAR,  
BALANAGAR, HYDERABAD - 500037, TELANGANA  
TEL: 08048765172; WEBSITE-  
[HTTPS://WWW.TOOLTECHINDIA.IN/](https://WWW.TOOLTECHINDIA.IN/)
4. INNOVATIVE SOLUTIONS FOR WATER TREATMENT  
ADDRESS: 4-4-70/46, KOUNDINYA NAGAR, NACHARAM,  
RANGAREDDY - 501507, HYDERABAD - 500 076, INDIA  
MOBILE / CELL PHONE: +(91)-9885655133/9848655133  
WEBSITE: [HTTP://WWW.INDIAMART.COM/INNOVATIVE-SOLUTIONS/](http://WWW.INDIAMART.COM/INNOVATIVE-SOLUTIONS/)
5. M/S. ENVIRO TECH UTILITY,  
32A, MAIN PATEL ROAD,  
OPPOSITE WINGS SHOW ROOM,  
WEST PATEL NAGAR,  
NEW DELHI-110 008
6. M/S. WATRION WATER AND FILTER ENGG. PVT. LTD.  
1 HARSIVAN APARTMENT, GROUND  
FLOOR, (BEHIND CANARA BANK),  
WEST J.P. ROAD, ANDHERI (WEST),  
P.B. NO. 7372,  
MUMBAI-700 059

7. *M/S. RITAL AGENCIES  
55 III MAIN ROAD, GANDHI NAGAR,  
CHENNAI-700 020*

8. *M/S. ION EXCHANGE INDIA LTD.  
TICCON HOUSE,  
DR. E. HOUSES ROAD,  
MAHALAXMI,  
MUMBAI-400 011*

*M/S. ALPHA ENGINEERING  
158, POCKET-E-20, SECTOR-II,  
ROHINI, DELHI-110 085*