PROJECT PROFILE ON PACKAGED DRINKING WATER

Product	**:**	**Packaged Drinking Water**
Production Capacity	**:**	**57.55 lakh bottles (` 359.68 lakh)**
Year of preparation	**:**	**2011**
Prepared by	**:**	**Chemical Division**

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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 everyday and world population is more than one billion (growing at 2-3% annually) the business opportunity is enormous and the potential is largely untapped.

The bottled water industry is estimated to be a whopping `. 1600 crores business. It has grown at a rate of 38-40% annually over the past four years. Initially bottled water brands like the French manufactured Damone were promoted at clubs, fitness centers, cinemas, department stores, malls, ice-cream parlors, cafes and retail sports outlets, besides restaurants, hotels and supermarkets with a price tag of ` 70/- for 1 liter bottle. Other brands later began pitching for the larger middle class and lower middle class markets.

PLANT CAPACITY PER ANNUM

The unit is proposed to produce 57.55 lakh bottle (1 liter) of packaged drinking water per annum.

MARKET & DEMAND ASPECTS

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. Selling – 'safety' – i.e. pure and simple water has now become one of the fastest growing industries in India despite the harsh truth it is build on the foundation of bad governance, inequality and obvious exploitation. However, bottled water provides the

distance advantages of convenient packing, consistent quality and is ubiquitous.

This particular industry in India has never looked back after the economic liberalization process of 1991-92. In fact the fastest growth in the consumption of bottled water in the world has been recorded in India according to a new study conducted by the US based earth policy institute.

According to Bureau of Indian Standards (BIS), there are 1200 bottling plants (out of which 600 are in the state of Tamilnadu) and 200 brands of packed drinking water across the country (nearly 80% of which are local) hitting over the markets which thoroughly signifies the market is big, even by international standards.

These are boom time for the Indian bottled water industry – more so because the economics are sound. India is the tenth largest bottled water consumer in the world. The consumption of smaller units of 500 ml has increased by around 140% perceptibly. Even school children are carrying the 500 ml packs in their school bags. The 20 liter bulk water jars have found phenomenal acceptance in house hold and at workplace. With the growing market size, one can imagine the employment opportunity being created with the surge in bottled water industry.

The bottled water market is dominated by major player such as Coco-cola, Pepsico, Parle K.K. Beverages, Manikkchand, Tata-Mount Everest. Although we have a large number of players, Parle was the pioneer among the major player when it was launched in India, 35 year s ago.

Market segmentation of bottled water in India

Segment	Share (%)
North	25
East	10
West	40
South	25

Source: Indiastar.com

RAW MATERIALS

The main raw material is water which is purified and made into finished product.

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

BASIS AND PRESUMPTIONS

This project has been drawn on the basis of following presumptions:

1	Working hours per shift	8
2	No. of shift /day	3
3	No. of working days /annum	300
4	Handling loss of Bottles per year	5000
5	Working efficiency	75%
6	Total Period for achieving maximum capacity utilization	From the date of commencement of production
7	Margin Money	25% pf capital investment
8	Rate of interest of capital	14% per annum
9	Constriction cost of building, coast of land, labor charges and cost of plant machinery and equipment have been considered as per prevailing rates in the market.	
10	Cost of installation and electrification of machinery and equipment has been taken at the rate of 10% of the cost of plant and machinery	

PRODUCTION CAPACITY:

It is assumed that the unit is utilizing 75% of the installed capacity.

UTILITIES:

Motive Power: 50 HP

FINANCIAL ASPECTS

A) Fixed Assets

i) Land & Building

Sl.No	*Description*	*Amount (in Rs. `)*

1	Land 0.5 acres	300000
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.	5200000
	Total	**5500000**

ii) Plant and Machinery

Sl. No.	*Description*	*Quantity*	*Amount (in Rs. `)*
1.	Alum doses 3 liter/hr dosage	1	1561906.75 Say 1562000
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	
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 fate – 1000 lit/hr	1	
9.	UV disinfectant flow rate-1000 lit/hr	1	
10.	Storage tank for pure water capacity :1000lit		
	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	1499025 say 1500000/-
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 hold in groups of 6 & moved on the conveyor together. These grouped bottles are rinsed by means of spraying pressurized water inside the bottle. After Ringing 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. 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.	1	204053
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		326605
	Total		**3592658**

ii) Other fixed Assets

Sl.No	*Description*	*Amount (in Rs.)*
1	Cost of furniture	50000
2	Cost of deep bore tube well for water reservoirs	150000
3	Security deposit to Electricity Deptt.	100000
4	Preliminary and pre-operative expenses	150000
5	Delivery van	350000
	Total	**800000**

Total Fixed Cost

Sl.No	*Description*	*Amount (in Rs.)*
1.	Land and building	5500000
2.	Plant and machinery	3592658
3.	Other fixed assets	800000
	Total	**9892658**

B) Working capital (per month)

i) Raw material

Sl.No	*Description*	*Amount (in Rs.)*
1	PET/PVC bottle including cap labels etc. 1 lit size @ 4/- 4.80 lakhs bottles	1920000
2	Chemicals and Reagents etc. (L.S.)	50000
3	Corrugated boxes, strips tap etc.	250000
	Total	**2220000**

ii) Salary and Wages Designation

Sl. No.	*Designation*	*No.*	*Salary*	*Amount (in `)*
1.	Factory Manager	1	8000	8000
2.	Clerk-cum Typist	1	6000	6000
3.	Store cum purchase officer	1	5500	5500
4.	Accountant cum cashier	1	7000	7000
5.	Sweeper	1	2000	2000
6.	Production Manager	1	10000	10000
7.	Lab Assistant	1	5000	5000
8.	Supervisor	1	6000	6000

9.	Skilled worker	4	3500	14000
10.	Unskilled worker	4	2500	10000
	Total			73500
	Perks and benefits @ 8.5% of salary and wages			6248
	Total say			**80000**

iii) Utilities

Sl.No	*Description*	*Amount (in Rs.)*
1.	Electricity	100000
2.	Fuels and others	5000
	Total	**105000**

iv) Other contingent expenses

Sl.No	*Description*	*Amount (in `)*
1.	Postage and stationery	500
2.	Telephone/Fax charges	5000
3.	Consumable stores	1000
4.	Repairing and maintenance	5000
5.	Transport Charges	2500
6.	Advertisement and Publicity	5000
7.	Insurance & Taxes	500
8.	Other Expenses	10000
	Total	**29500**

Working capital per month

Sl.No	*Description*	*Amount (in Rs.)*
1.	Raw material	222000
2.	Salaries & wages	80000
3.	Utilities	105000
4.	Other contingent expenses	29,500
	Total	**436500**

Total capital investment

Sl.No	*Description*	*Amount (in Rs.)*
1.	Fixed assets	9892658
2.	Working capital (for 3 months)	7303500
	Total	**171,96.158**

FINANCIAL ANALYSIS

A) Cost of production per annum

Sl.No	*Description*	*Amount (in Rs.)*
1.	Working capital (for 1 year)	292,14,000
2.	Depreciation on building @ 5% p.a.	2,60,000
3.	Depreciation on plant and machinery @ 10%	3,59,265
4.	Depreciation on furniture @ 20%	10,000
5.	Interest on TCI @ 14%	24,07,462
	Total	**322,50,727**
	Say	3,22,50,000

B) Turnover

Sl.No	*Description*	*Amount (in Rs.)*
1.	By sale of 57.55 lakh bottles @ 6.25/- bottle	3,59,68,750

C) Profit (per annum)

Sl.No	*Description*	*Amount (in Rs.)*
1.	Profit = Turnover- Cost of production ie; 359,68,000 – 3,22,50,000	37,18,000

D) Net Profit ratio

Sl.No	*Description*	*Value (in %)*
1.	Net Profit ratio = Profit x 100 / Turnover ie; 37,18,750 x 100 / 3,59,68,750	10.34

E) Rate of return

Sl.No	*Description*	*Value (in %)*
1.	Rate of return = Profit x 100 / Total capital investment ie; 37,18,750 x 100 / 1,71,96,158	21.63

F) Fixed Cost

Sl.No	*Description*	*Amount (in Rs.)*
1.	Depreciation on building @ 5% p.a.	2,60,000
2.	Depreciation on plant and machinery @10%	3,59,265
3.	Depreciation on furniture @20%	10,000
4.	40% of salary and wages	3,84,000
5.	40% utilities and other expenses	6,39,600
6.	Total interest	24,07,462
7.	Tax and insurance	6000
	Total	40,66,327

G) Break Even Point

Sl.No	*Description*	*Value (in %)*
1.	Break even point = Fixed cost x 100 / Fixed cost + Profit ie; 40,66,327 x 100 / 40,66,327 + 37,18,750 = 40,66,32,700 / 77,85,077	52.23

ADDRESSES OF PLANT & 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/

3. TOOL TECH
   NO.21, C. I. E. GANDHI NAGER, BALA NAGAR, HYDERABAD - 500 037,
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   MOBILE / CELL PHONE: +(91)-9849015365
   WEBSITE: HTTP://WWW.INDIAMART.COM/TOOLTECHINDIA/

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/

5. M/S. SONALIFABS
   71, BIREN ROY ROAD (WEST)
   KOLKATA-61.

6. M/S. ENVIRO TECH UTILITY,
32A, MAIN PATEL ROAD,
OPPOSITE WINGS SHOW ROOM,
WEST PATEL NAGAR,
NEW DELHI-110 008.

7. 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.

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

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

10. M/S. ALPHA ENGINEERING
158, POCKET-E-20, SECTOR-II,
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