PROJECT PROFILE OF
AERATED WATER / PACKAGED DRINKING WATER

1. INTRODUCTION

Beverages are consumed by man from childhood to old age to quench the thirst as a pleasure and for specific nutritional and medicinal value. Beverage include carbonated beverages, fruit based drink, milk, any preparation from milk and stimulating beverages like coffee, tea, cocoa etc. The soft drink such as cola-type, orange, lime-lemon , ginger etc. have become very popular in recent years. Carbonated beverages are refreshing thirst quenching drink, mainly consisting of water impregnated with carbon dioxide , added sweeteners, flavour, acid, colour, preservatives and additives.

2. OBJECTIVES

The objective of the profiles is to encourage and assist prospective entrepreneurs in MSME sector in and guiding, making them aware of the opportunities of this sector. It is also being developed by the Directorate of the Food Processing Industries, Government of West Bengal to help entrepreneurs with knowledge about raw materials availability, knowledge of market, source of technology and plant and machinery suppliers. M/s ITV Agro & Food Technologies Pvt. Ltd., New Delhi has helped in developing the project profile.

3. RAW MATERIAL AVAILABILITY

The company require various raw material such as sugar, liquid glucose, citric acid, essences, colour, flavour & preservatives, carbon dioxide and activated carbon.

4. MARKET OPPORTUNITIES

The customers range from ordinary man to a five star hotel to a cinema hall to small eating place and a pan shop. The recent modernization of the soft drink industry has resulted in a healthy competition in the trade expansion, in the production and sales of the beverages, providing opportunities for new entrepreneurs to enter this trade.

With the increasing transport cost, it will be uneconomical to transport the soft drinks to long distances. This necessitates the setting up of more and more small & medium size bottling plants to cater to the nearby areas, but it should not be at the cost of the products quality.

5. PROJECT DESCRIPTION

a) Product & Its uses

The carbonated beverage industry has grown from a simple dispenser of flavoured, sweetened carbonated water at the local soda soap to a multimillion industry in the country. Several new entrepreneurs have entered into beverages market with quality products, based on indigenous expertise and using the locally available raw materials. There is still a good scope for the development of this industry on a decentralized basis to meet the increasing demand of the product in the different parts of the country.

b) Capacity

The proposed capacity of the plant is to process 3.80 lacs crates / annum of different beverages such as cola, lime, orange etc.

c) Manufacturing process

The ingredients which go into carbonated beverages are mainly water, sweeteners, acidulants, flavouring, foaming agents and preservatives .

Water constitutes the major (85-90) percent of any carbonated beverages. Water used for beverages must be clear, colourless, sterile, free from any odour or taste, free from heavy metal, organic matters and must have a low alkalinity. The method of water treatment comprises passing it through chemicals, sand and carbon filtration followed by resin treatment to eliminate undesirable mineral salts and suspendable particles.

The second most important feature is the making of sugar syrup through a process of sterilization treated with activated carbon to make into a colourless, odourless and crystal clear liquid glucose is also used depending upon the type of carbonated beverage is to be prepared. The syrup thus obtained blended with essences, preservatives, acid, colour, foaming agent, clouding agent, emulsifiers etc. as per the pre-standardized recipe. The concentrate thus prepared is chilled and is fed into the dozing machine. The treated chiller water if fed into the carbonator to mix thoroughly with the purified co. before it is fed to the main filling machine. The washed and checked bottle are fed to the syrup filling machine. The requisite quantity of the concentrate is released in each of the bottles against the counter pressure applied by the machine. Finally it is crown-corked and passed through a shaker to mix the ingredients thoroughly. Before the filled bottles are put into the crates, these are inspected to keep of dust, specks etc. The bottles containing uneven level of the contents are rejected at this stage.

6. PROJECT COMPONENTS & COST

a) Land & Building

Land 1000 sq. meter @ Rs. 500 sq. m	-	Rs. 5.0 lacs
Covered area 500 sq. meter @ Rs. 6000 sq. m.	-	Rs. 30.00 lacs

b) Plant & Machinery

		(Rs. in lacs)
1. Automatic bottle filling machine	-	Rs. 10.20
2. Bottle washing machine	-	Rs. 11.70

3.	Carbonation unit	-	Rs. 2.20
4.	Bottle collecting & revolving table	-	Rs. 3.60
5.	Steam jacket tank	-	Rs. 3.10
6.	Water treatment plant	-	Rs. 2.10
7.	Steam boiler	-	Rs. 8.40
8.	Refrigeration unit	-	Rs. 5.50
9.	Chain & chain conveyor	-	Rs. 3.70
10.	Hand operated bottle filling machine	-	Rs. 1.70
11.	Leg operated crown corking machine	-	Rs. 0.80
12.	Light screener & other accessories	-	Rs. 0.70
13.	Volume tester-cum – purifier & other	-	Rs. 0,65
	Total	**-**	**Rs. 54.40**

c) Miscellaneous Assets

Some other assets like furniture and fixtures, working tables, storage racks and bins, D. G. set, electrical etc. would cost about Rs. 29.00 lacs.

d) Utilities

Power requirement shall be 30 HP whereas per day water requirement for processing and potable and sanitation purpose will be 50,000 litres. Annual cost of utilities at 100% utilization will be Rs. 8.40 lacs**.**

e) Prel. & Pre Operative Expenses

There will be many pre-production expenses like registration, establishment & administrative & travelling expenses, interest during implementation, trial run expenses, etc for which a provision of Rs. 2.75 lacs is made.

f) Working Capital Assessment

(Rs. in lacs)

Particulars	**Period**	**Margin**	**Total**	**Bank**	**Promoters**
Stock of raw material & packing material	1 month	30%	1.23	0.86	0.37
Stock of Finished Goods	½ month	30%	3.72	2.61	1.11
Receivable	½ month	30%	5.47	3.83	1.64
Total			**10.42**	**7.30**	**3.12**

g) Project cost & Means of finance

Item	**Amount (Rs. in lacs)**
Land and Building	35.00
Plant and Machinery	54.40
Miscellaneous Assets	29.00
P & P Expenses	2.75
Contingencies @ 10% on building and plant & machinery	8.40
Working capital margin	3.12
Total	**132.67**
Means of Finance	
Promoters' contribution	53.67
Term loan from Bank FI	79.00
Total	132.67
Debt Equity Ratio	1.5:1
Promoters contribution	40%

Financial assistance in the form of grant is available from the Ministry of Food Processing Industries, Govt. of India, towards expenditure on technical civil works and plant and machinery for eligible projects subject to certain terms and conditions.

7) PROJECTED PROFITABILITY

a) Production Capacity

The rated production capacity of the plant is to manufacture 3.80 lacs crates / year of various carbonated beverages.

b) Sales Revenue at 100%

Product	**Qty (crates)**	**Selling Price (Rs. / crate)**	**Sales (Rs. in lacs)**
Cola	1,50, 000	60/-	90.00
Orange	1,00,000	60/-	60.00
Lime & Lemon	1,00,000	60/-	60.00
Soda water	30,000	30/-	9.00
		Total	**219**

c) Raw Material Required at 100%

Product	**Value (Rs. in lacs)**
Drink concentrate & sugar	12.00
Liquid glucose	5.00
Citric Acid	4.20
Essence	2.00
Co2	1.20
Active carbon	0.30
Total	24.70

d) Projected Profitability **(Rs. in lacs)**

S. No.	Particulars	1st year	2nd year
A.	**Installed capacity**	**3.80 lacs crates**	
	Capacity Utilisation	60%	75%
	Sales Realisation	131.40	164.25
B.	**Cost of Production**		
	Raw Materials	14.82	18.52
	Packing Materials	1.74	2.17
	Utilities	5.04	6.30
	Salaries	34.68	38.14
	Stores and Spares	1.80	2.25
	Repairs and Maintenance	3.00	3.75
	Selling Expenses @ 20%	26.00	32.85
	Administrative Expenses	2.40	3.00
	Total	89.48	106.98
C.	**Profit before Interest & Depreciation**	**41.92**	**57.27**
	Interest on Term Loan	7.90	6.90
	Interest on Working Capital	0.87	1.09
	Depreciation.	8.40	7.56
	Net Profit	24.75	41.72
	Income-tax @ 20%	4.95	8.34
	Profit after tax	19.80	32.88
	Cash Accruals	28.20	40.44
	Repayment of Term Loan	Nil	10.00

e) Break Even Point Analysis *(Rs. in lacs)*

S. No.	Particulars	Amount	
(A)	**Sales**		**131.40**
(B)	**Variable Costs**		
	Raw Material	14.82	
	Packing Material	1.74	
	Utilities(70%)	3.52	
	Salaries (60%)	20.80	
	Stores and Spares	1.80	
	Selling Expen. (70%)	18.20	
	Admn Expenses (50%)	1.20	
	Repair & maintenance	3.00	
	Interest on WC	0.87	**62.90**
(C)	**Contribution (A) – (B)**		**68.50**
(D)	**Fixed Costs**		**27.48**
(E)	**Break Even Point**		**41%**

f) Debt Service Coverage Ratio (DSCR) *(Rs. in lacs)*

Particulars	1st year	2nd year	3rd year
Cash Accruals	28.20	40.44	48.52
Interest on TL	7.90	6.90	5.90
Total (A)	36.10	47.34	54.42
Interest on TL	7.90	6.90	5.90
Repayment of TL	Nil	10.0	10.0
Total (B)	7.90	16.90	15.90
DSCR (A) / (B)	4.46	2.80	3.42
Average DSCR	3.59		

g) Internal Rate of Return (IRR)

Cost of the project is Rs. 132.67 lacs

(Rs. in lacs)

Year	**Cash Accruals**	**20%**	**12%**	**16%**
1	28.20	23.49	25.18	24.30
2	40.44	28.06	32.23	30.04
3	48.52	28.09	34.54	31.10
4	48.52	23.38	30. 85	26.78
5	48.52	19.40	27.51	23.09
Total	48.52	122.20	150.31	135.53

Internal Rate of Return IRR is 17%

h) Manpower requirement

Particulars	**Nos.**	**Monthly**	**Total Monthly Salary (Rs.)**
Manger	1	10,000	10,000
Sales Manager	1	8,000	8,000
Purchase Officer	1	8,000	8,000
Accountant cum cashier	1	8,000	8,000
Clerk	2	5,000	10,000
Steno-cum- Typist	2	5,000	10,000
Salesman-cum- Driver	1	5,000	5,000
Chief Chemist	1	10,000	10,000
Production Chemist	2	5,000	10,000
Maintenance Engineer	1	8,000	8,000
Laboratory Chemist	1	8,000	8,000
Mechanic	2	8,000	16,000

Skilled workers	5	7,000	35,000
Unskilled workers	10	6,000	60,000
Contact Labourers	15	5,000	75,000
Total			**2.89 lacs**

8. ASSUMPTIONS

- The plant will work for 300 days in a year.
- The operating capacity is 60% , 75%, 90 % during 1st year , 2nd year and 3rd year respectively.
- The interest on term loan is taken at 10% per annum and on working capital it is 12% per annum.
- Selling price of finished products is taken at Rs. 60.00 /crates

9. SOURCES OF TECHNOLOGY

CFTRI, Mysore, has successfully developed the technical know-how for the product. BIS has laid down quality standard. The compliance under FSSAI act is a must.

10. PLANT & MACHINERY SUPPLIERS

1. Mukund Industries
   8, Mavdi Plot, Nr. Suraj Besan Mill, Rajkot - 360004
   Ph. (0281) 2388075

2. Silvan Bolting Co.
   131/1 Shed No. A Nr. Global Health Care Dapada Vill,
   Silvassa-396230
   Ph.: (0260) 2699369/6539444