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BOTTLING THE BLUE GOLD- WORRIES IN THE WATER SECTOR

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ABSTRACT

Availability of water in the desired quantity and quality at the right time and place has been the key to the survival of all civilizations. Water is the lifeblood of humanity and ground water is the drinking water source of last resort. Ground water is present in underground aquifers which are subject to annual recharge from precipitation, but the rate of recharge is impacted by human interference. The water table has been falling rapidly in many areas across the country in recent years largely due to withdrawal for agricultural, industrial and urban use in excess of annual recharge apart from increased domestic use. The decline in quantity and quality of water reduces productivity of eco system. The corporatization of water and its exploitation by the bottled water firms become relevant in the light of such water crisis faced by the world. India is the tenth largest consumer of bottled water in the world. The fast and exponential growth of the bottled water industry gives a clear snapshot of corporate conquest of this precious resource. Though a water rich state with 44 rivers, above 50 lakh wells and over 3000 small streams, water industry has flourished well in Kerala. There are more than 150 firms selling bottled water in Kerala. With hotels, offices and institutions opting for packaged drinking water for their daily needs, demand has grown by leaps and bounds. Majority of bottling units are dependent on groundwater and cause acute water stress in the areas in which they operate.

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INTRODUCTION

Natural resources like water are finite. 97.4% of water on earth is salt water and not directly usable, 2% is locked up in the form of ice and only 0.6% of total volume of water on earth is fresh water. Global consumption of water is doubling every 20 years which is more than twice the rate of population growth (Maude Barlow and Tony Clarke, 2002). The increase in water utilization levels register a rise which is more than 2.5 times the increase in population growth. With 83 million more people on earth each year, water demand will keep going up unless we change how we use it (National Geographic 2010). The annual availability of fresh water per head is expected to drop below 1700 cm which is international standard of water stress and by 2025 to below 1000 cm which is the level used to define water scarcity (Maggie Black and Rupert Talbolt 2005). Population growth has not followed the location of water resources and water is also unevenly distributed with the developed world being better endowed. Water security affects Asia and Africa the most.

The arid and semi-arid regions of the world have invested heavily on storage creation; Australia, Brazil, China and USA have a per capita storage which is 5-20 times that of India's capacity.

WATER STORAGE CREATED PER PERSON (in cubic meter)

USA	1964
AUSTRALIA	4733
BRAZIL	3145
CHINA	1111
INDIA	225

(FAO-2015)

India's poor storage capacity has caused large increases in ground water exploitation. NASA observed in 2009 that satellite images proved ground water levels in Northern India have been declining by as much as one foot per year over the

past decade. Aquifers are drained faster than natural process can replace them.

WATER SECURITY IN KERALA

Kerala, which is located in the southern tip of India accounts for 1.18% of India's population. It has 44 rivers, (11 exceeding 100 km in length) 50 lakh wells and over 3000 small streams. The state has the highest density of dug wells in the world and has an average annual rainfall of 3125 mm which is 2.8 times the National average. The average per head consumption of water is 200 litres as against the required 120 litres specified by WHO.

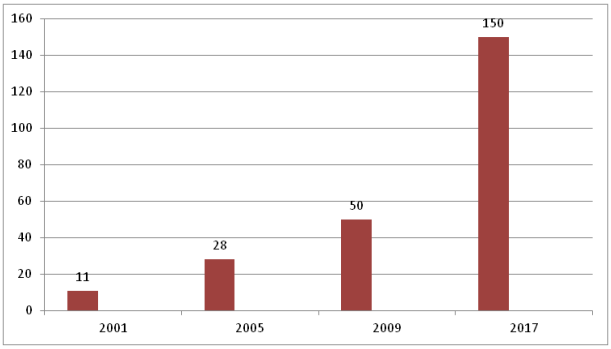
Today, Bottled water industry has flourished well in Kerala. The highly literate population who are health conscious prefer bottled water to the water supplied by civic bodies. With hotels, offices and institutions opting for packaged drinking water for their daily needs, its demand has increased by leaps and bounds. The bottled water industry is cashing in on the need for clean drinking water and ability of the urban elite to pay an exorbitant price for this very basic human need. There is the propagation of the consumerist culture even for a basic life giving resource like water. The majority of bottling plants whether they produce bottled water or soft drinks are dependent on ground water (Chandra Bhushan 2006). In recent times the exploitation of ground water by the bottling plants has received much attention. In most places, ground water is the main or only source of drinking water. Private companies can siphon out exhaust and export ground water free because the ground water law in the country is not in tune with realities of modern capitalist societies. According to the existing law the person who owns the land owns the ground water beneath. It means a person can buy one square metre of land and take all the groundwater of surrounding areas and law of land cannot object to it. The boundaries of ground water aquifers do not generally correspond to the spatial jurisdiction of any local public authorities or private holdings, nor can they be easily discernable or withdrawals be easily monitored leading to unavoidable situation of ground water being an open access resource. This is the core of the conflict between community and companies.

A PROFILE OF BOTTLED WATER INDUSTRY IN KERALA

The bottled water industry started in Kerala with the setting up of Sajo industries at Angamaly in the 1990's producing the brand 'Good Luck'. The Nest group established a bottled water plant at Trivandrum producing bottled water under the brand name 'Golden valley'. Today it has an impressive bottled water plant at Marampilly in Ernakulam district. Another early starter was the unit established by five star Aqua Minerals at Kollencherry in 1998 producing the Green Valley brand, one of the popular brands in Kerala today. The BIS standard for packaged drinking water IS 14543 was formulated and for packaged natural mineral water IS 13428 was revised in 1998. The Registration with Bureau of Indian Standards became mandatory in 2000. The FSSAI Act 2006 is the competent authority to ensure the availability of safe food for human consumption. As per FSS Regulation 2011, no person shall manufacture, sell or exhibit for sale of packaged drinking water without BIS marking or certification and FSS license. In India out of 5842 registered water packaging units, 1495 units have both BIS and FSSAI license while 4347 units have only BIS certification (Asianet Newsable June 29, 2016).

A study of growth pattern of bottled water industry in the state shows the following picture.

THE GROWTH OF BOTTLED WATER INDUSTRY IN KERALA



Source: BIS, Kesavadasapuram

Fig. 1.

GROWTH OF BW INDUSTRY IN KERALA

The study of a sample of 15 bottled water firms from Kerala between the period 2005-2010 show that multiple increase in bottled water production.

Table 1. Monthly Production of Bottled Water by Firms

No.	monthly production (2005) (in litres)	monthly production (2010) (in litres)
1.	90,200	7,92,000
2.	60,000	9,00,000
3.	66,000	1,84,800
4.	1,10,000	4,18,000
5.	88,000	1,32,000
6.	44,000	1,43,000
7.	44,000	1,10,000
8.	22,000	66,000
9.	44,000	1,32,000
10.	44,000	1,10,000
11.	88,000	3,52,000
12.	66,000	1,32,000
13.	44,000	1,32,000
14.	30,000	55,000
15.	25,000	52,000
Total	865200	37,10,800

x=57680 is to be corrected as x 2005=57680 (average production in 2005)
x=247387 is to be corrected as x 2010 =247387 (average production in 2010)
Source: Primary Data

The average monthly production of bottled water firms in Kerala was 57680 litres in 2005 which increased to 2, 47,387 litres n 2010 (a 329% increase). The above data reveal that where as production of bottled water increased manifold water consumption by the bottled water firms showed a multiple increase. The industry depends heavily on the main raw material ie water. Firms have therefore been located near water bodies like ponds, paddy fields and canals or rivers. The reason that companies do not have to bear the cost of the main raw material ie water has made the industry highly profitable. According to Devinder Sharma (2007) to manufacture one litre of bottled water, 5 litres of water is used. People pay about 4200 times more when they pay Rs15 for a bottle of water (Veerendra Kumar. M.P 2007).

Table 2. Initial and Current Annual Water Consumption by the Bottled Water Units in Kerala

Sl. No.	Initial monthly water use (2005) (in litres)	monthly water use (2010) (in litres)	Annual water use (in litres)
1	1 ,35,300	11,88,000	14256000
2	1,20,000	18,00000	21600000
3	82500	231000	2772000
4	165000	627000	7524000
5	176000	264000	3168000
6	66000	214500	2574000
7	44000	110000	1320000
8	44000	132000	1584000
9	132000	396000	4752000
10	66000	165000	1980000
11	132000	528000	6336000
12	99000	198000	2376000
13	66000	198000	2376000
14	60000	110000	1320000
15	37500	78000	936000

Source: Survey Data

Labour, establishment and marketing costs are highly variable and depends on the location and size of firms. The real cost of the industry is huge. Cost of fast depleting ground water is incalculable. Ground water is the backbone of India's water sector. It is shrinking faster than it can be replenished. In addition to it there is the cost of disposal of plastic bottles. That bottle which takes just 3 minutes to drink can take up to a thousand years to bio-degrade. The primary survey conducted on 15 bottled water firms in Kerala revealed that in 2010, 10,64 crore bottles were dumped into the environment as a result of bottled water consumption.

Rationale for Water Wisdom

Water is a natural resource vital for survival of life. Limited availability of water can impede further progress while its thoughtless exploitation can negate most of our socio-economic achievement. The sustainability of water resources and the growing imbalance between availability and demand for drinking water is a problem facing mankind. There is an imminent need to create greater social awareness about the rights and responsibilities in the use of water. Water foot-print behind commodities will become increasingly relevant in the coming years. We need to think seriously about the prudence behind the bottled water phenomenon.

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