

Banning Bottled Water in the United States of America

Cheryl Yin Yin Fong

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Bottled water throughout the years has served other purposes besides quenching our thirst. Ever since civilizations started to roam the world in search of new land, or for political and economical reasons, water was bottled so that men could stay alive during months and months of travel (Chapelle, 2005). Bottled water not only became travel companions but also, became a source of medication. Water that was purified was bottled up to use for cleaning wounds, and also helped the sick get better. As technology advanced with time, bottled water became a fashion statement or a symbol of wealth and power. Rich people of France in the mid 19th century drank exclusively bottled water from pristine water sources like the Alps, such as from the famous French bottled water company called *Evian*. The popularity for bottled water predominantly sky rocketed during the era of *Haute Couture*.

Before the invention of plastic, water was bottled in ceramics or glass, which was not only healthier, better for the environment but a whole lot heavier. The invention of the plastic material became a turning point in the history of bottled water. It made the availability of bottled water so much convenient. Today, most of the commercialization of bottled water is sold for very different reasons. Fuelled by greed, the commercialization of bottled water poses a great potential to earn money fast. This industry has a net worth of \$60 billion dollars since the 1990s (Sabatini, 2014). Evidently from the common knowledge of people in the 21st century, everyone needs water to survive, earth's human population is growing plus people are getting busier. What makes this even more attractive is that the consumption for bottled water is increasing year by year in an average of seven percent (Rajasekaran). Meaning to say that earnings would consequently increase. To put this into action, bottled water must be made in large amounts and fast and many manufactures forget or ignore negative outcomes of this.

This rapid production of plastic bottled water has taken a toll not only on the environment but also on our health and has violated our rights as consumers. We had lived without bottled water before; we can definitely survive without it. Thus, we should not allow this propaganda of bottled water take advantage of us and be dependent on it at the same time. With current technology and technology that will be invented, I strongly believe we completely do not need the use of plastic bottled water in our society. There are many interrelated negative affects associated to using plastic bottled water and many other solutions can be used to commercialize water in the absence of a cheap vessel. Therefore, by stopping the use of it entirely will solve many problems in the long run.

The food and drink quality of the United States is remarkably famous for having high standards, especially its strict regulated municipal source of water. Coming from a foreign country known as Malaysia, my country's municipal water quality is very different. There is no such establishment like the Environmental Protection Agency (EPA) that strictly regulates water sources (Commercially Bottled Water). Instead different regions of water reservoir facilities govern the quality of water. This causes a lot of problems because there is no standardized quality as each region has their own. Corruption plays a major role in misleading the actual quality of water. Although its not openly discussed about, Malaysians know it's going on. My country's people never drink tap water directly unless in dire need and heavy relies on bottled water brand, *Spritzer* (Bottled water in Malaysia). Back in the days when life was simpler and people had more time, water was collected, boiled, and then filtered before consumption. A lot of work had to be done to obtain drinkable water. Hence, the need for bottled water in my country is understandable but the need for it in America is redundant.

The FDA is the main body of regulators that test the quality of bottled water in the U.S.A. Their standards of quality are based on the standards that the EPA follows, known as the Safe Drinking Water Act of 1974. (May, 2005). The Federal Food, Drug and Cosmetic Act was derived from that and is still used by the FDA today. These Acts protect against both naturally occurring and manmade contaminants that may be found in drinking water. Even so, the FDA's regulatory guidelines are not as strict as the EPA's (Commercially bottled water). Unfortunately manufactures take advantage of this, they loosely maintain the quality of their water products compromising the safety of the consumers. This is evidently true because other agencies such as the Natural Resources Defense Council (NRDC) had tested bottled water from various companies and found that there were contaminations of bacteria, and heavy metals or harmful chemicals that were above safe levels (Olson, 2013). This clearly goes against the conception that all bottled water is safe and clean to drink.

This misconception can be eradicated further with the following evidences. According to the article "Bad to the Last Drop", the researches from the Archives of Family Medicine found that 25% of bottled water "had significant higher bacteria levels" than in tap water from Cleveland (Standage, 2005). Katherine Sawyer, a campaign organizer at Corporate Accountability International acknowledges that, "The beverage Industry has spent millions on misleading marketing claiming bottled water is safer." (San Francisco bans). In detail, the study took 57 bottled water and tap water samples and found that 15 of the bottled water samples contained 6-4900 CFUs/mL (colony-forming unit per milliliter) while other samples ranged from 0.01-4900 CFUs/mL. As for the tap water samples, its bacterial content were only under 3 CFUs/mL (Lalumandier, 2000). However according to the EPA's website, it stated that their

regulation allow zero tolerance for all sorts of microorganisms including, protozoan parasites and viruses (National primary drinking water regulations).

There are few reasons for these, particularly when the purified tap water leaves the processing facility; it is exposed to different conditions. For example, the conditions of pipes it travels through and exposure to the environment. Hence, tap water is subjected to some partial form of contamination. Also, microorganisms thrive well in stagnant water than in flowing water for example, tap water. Tap water is not a suited environment for them because tap water is constantly in motion and is not contained in a vessel to protect microbes from external harm. Well-known allochthonous bacteria, like *Escherichia Coli* survive well in these environments (Moreira, 2013). In relation to this, Bottled water should not have any contamination at all since it goes through screening and is later enclosed in a vessel to maintain its purity. Even more surprisingly, outbreaks of contaminated bottled water occasionally happen and are often not reported (Commercially bottled water). This seriously questions the capabilities of the manufactures and their concern for quality standards. With this in mind, would you rather pay to drink the irresponsible beverage companies' contaminated bottled water or, would you drink tap water that is free and cleaner?

Furthermore in a study conducted in eastern Alabama, researches compared 25 different bottles of water. The results unexpectedly showed that most of the samples had exceeding levels of contamination in comparison to those set by the EPA. There were the presence of mercury, thallium, and thorium (Akem, 2001). Azatrine, an organic pesticide was also found in bottled water and often in high levels that surpassed state and federal standards too (May, 2005). This indicates that, bottled water companies are neglecting crucial water processing before putting their products on the market. By cutting short cuts in the manufacturing process, beverage

companies can meet the high demands of consumers quicker, which result in higher and faster earnings. Nonetheless this form of irresponsibility, arises serious problems as these heavy metals, chemicals and with the addition of microorganisms can really threaten the life of many consumers.

The appearance of bottled water can fool anyone; water in an ever so interesting packaging would make people want to try it at least once. Little did they know that so much health problems can begin from the consumption of just one single bottle of water. Based on a book titled “Water, mineral waters and health”, long periods of time exposed to contaminants like heavy metals and toxic chemicals can lead to liver and kidney damage, and an increased risk for lung and pancreas diseases (Petrucci, 2005). That’s not all; a chemical known as Bisphenol-A (BPA) from the plastic bottle itself can seep into the water. BPA is an endocrine disruptor, meaning to say that it interferes with normal hormone function especially, estrogen that is responsible for the reproductive development in women (Downey, 2014). These in combination can have adverse effects on health, which includes gastrointestinal and neurological disorders. Immunocompromised people are more prone to these illnesses, that are people with AIDS or who are weak from chemotherapy or old age. This also threatens pregnant women and young children too (Commercially bottled water). This in totality goes against the ideals of what bottled water should be when solid facts like these destroy the trust that people have for bottled water.

There is just no escaping the negative effects of bottled water, not just in health but also on the environment. No matter how careful you are in choosing brands or by just avoiding consumption completely, its presents truly has a profound effect. Plastic bottled water are not only found in stores, homes or in your bag but are typically in landfills. Landfills today are running out of space and to save space, city councils approve the act of incinerating garbage. For

example, Harrisburg City, in Pennsylvania approves this. Whatever that does not get recycled ends up at incinerators. This is the worst way of getting rid of plastic waste, as it releases toxic fumes that pollute our atmosphere, depletes the Ozone layers, poisons our lands and also cause respiratory diseases to all of us (May, 2005). It's affects are 360-degrees in all dimensions, surely this is the last straw and that its about time to find an a strong alternative solution to stop all this.

On top of that, in a study conducted by the National Association for PET Container Resources (NAPCOR), it was found that approximately 802 thousand tons of PET plastic bottles were recycled nationwide in 2011. Polyethylene terephthalate (PET) a form of thermoplastic polymer resin (Plastic facts and statistics) used for manufacturing plastic bottles, are commonly indicated with a code label #1 (May, 2005). Unbelievably, 1.9 million tons of PET was wasted that same year that is more than twice the amount recycled (Plastic facts and statistics). This implies that people in general aren't recycling as much as they should, even with enforcement and awareness, people in this day and age don't have the time to recycle or plainly choose not to do so. So why continue with this method of telling people to recycle, in hopes that plastic waste would be reduced? America should and can make, a firm action by completely stopping the use of plastic bottles and will actually put out reduced numbers of plastic waste. This is more effective and straight to the point.

With the mention of such a solution, there are people or organizations that goes against an idea that is as bold as that. For example, Nestlé Waters claim that the general notion about the impact of bottled water on the environment is wrong. To prove this, Nestlé had done a Life Cycle Assessment (LCA) on the company's water bottles, to evidently show that other beverage packagings have a greater impact on the environment than the water bottles they use to commercialize (Detling, 2012). This is just merely an excuse to not reform to the circumstances;

a slighter impact does not mean there is no impact at all. If a problem needs to be fixed it should be fixed all the way through.

Even though this fact presented by Nestlé is accurately true, as other packagings do require more energy to manufacture. They fail to include data on post-fabrication transportation to the filling site, filling, distribution, storage, retail use and consumer use. For that reason, their test is flawed. This also incurs that they did not account for most of the energy usage from the process of getting bottled water sold. President of the San Francisco Board of Supervisors, David Chiu agrees with this when he mentioned that the production, distribution and disposal of plastic water bottles uses 2000 times more energy than the use of tap water (San Francisco bans). Aside from that, Nestlé Waters barely use 25% of recycled content in their packagings and that percentage is considered to be the lowest among brands like Activate Water, Eldorado Water and Naya Water (Plastic facts and statistics).

One could speculate that, Nestlé did this test as a form of marketing to boost sales since the company has experienced drawbacks since bans on bottled water started in the U.S.A. Based on a reliable source, “From 2007 to 2012, Nestlé’s total bottled water sales fell by 31 percent.” (Bottled Water wastes Money). This shows that Nestlé is indeed trying to boost sales by find other forms of advertisement. In conjunction to that, “Nestlé has invested heavily in its Pure Life Brand and is greatly targeting its advertising to emerging markets and minority groups. In 2009, Nestlé Pure Life was the most advertised bottled water brand in the U.S.A, with nearly \$10 million spent, and 2009, the company increased advertising expenditures on its Pure Life brand by 3,000 percent.” (Bottled Water wastes Money). Their approach is wasting money, as with the ban implemented in states like Massachusetts and San Francisco, their marketing schemes simply don’t work there. Plus with all the controversy about plastic bottles going on, the

continuation with using plastic bottles to commercialize water does not have a bright future so far.

It is this that I propose a different form of water commercialization in correlation to the radical ban that I suggest the U.S.A to carry out. I believe that water does not need a vessel to be sold to consumers; beverage companies can start off with using electrical automated dispensers that can sell their product by the milliliter. These machines can be placed anywhere, particularly at places where there is a high influx of people such as, subways, or at shopping malls. This is not only more economically for the consumers who get to buy specifically the amount of water they prefer, but it would also be more profitable for beverage companies as they don't have to produce individual packaging for their water products. This will also decrease the need for labors and the need for outsourcing, reducing import and export costs and boosting the local economy as money is circulated within the U.S.A. This will also tremendously shorten the assembly line in the manufacturing process, as most of it is mainly to do with making the bottle itself. Since there is no more need for individual bottles, there won't be need for trucks and labors to load and transport the water to stores or vending machines, instead tanks on vehicle can be use to hold the water and it can be manned by one person or two. Nozzles will fill up dispensers and an automated gauge can used to measure the amount of water filled. This eradicates the need for heavy labor that is loading bottles into stores and counting stock. Supplying the product will certainly be so much quicker. Storage of the product will improve as well because without the bottles, there won't be so much need for space and refrigerators as the dispensers will cool the water stored in its container. Consequently all these factors will meet the objectives of companies that is fulfilling high demands of consumers quickly at a low cost.

To accommodate for consumers who don't have their bottle at the time of purchase, vending machines that supply safe and environmentally friendly bottles should be placed next to these dispensers. These bottles should be BPA free and can be made up of rice husks that slowly degenerate after each use. The government should also hike up the prices of these bottles to promote or encourage people to save money, by remembering to bring their own water bottle. In effect, this will open up new industries that can help boost the U.S.A's economy, as there will be the need for more safe and environmentally friendly bottles and a need for people to supply or fix dispensers. We live in an age where people are highly interested in customizing their things to match their personality, as demonstrated by Apple's success in sales of iPhones. *Apple* provides a multitude of color and specifications for customers to choose from. This could be revolutionary for the bottle if solutions like these were taken seriously, many new features can be innovated when more focus is placed on making good lasting bottles rather than disposable ones. For example, a thermometer gauge can be made on bottles to tell the temperature of its contents. The possibilities are just endless.

In conclusion, the United States of America should ultimately ban the use of plastic bottles to commercialize water. Due to its many harmful effects on the human body and the environment, it is surely not worth having the conveniences over the negative effects that it can do to us and to our home. Besides, the FDA should also change its tests in quality standards and stricken examinations they have over bottled water companies because it is evidently not effective as contaminants can still be found in bottled water. However, I did not mention about this in further detail, as this is too large of a topic to discuss about in this proposal. Moreover, I have shown that through the absence of bottles, many new possibilities can arise and it will

not cause a sacrifice to this billion dollar industry but instead boosting the economy. Innovations can spring up when the situation is looked at from a different angle, which in result will not cause this industry to go stagnant. Therefore, it is up to you and all of us to open up our minds and change the age-old way of selling water. Thus by closing one door, it opens another.

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