

Blue Gold of the World: Tap and Bottled Water

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There is only 3% of the fresh water on the Earth which is available for the humans. However, there is a huge amount of the water on the Earth, but humans have to take care about the percentage of the water which they can use, because the fresh water is the essential part of people's lives, because without the water, human can live only for a few days. In addition, nowadays, people don't realize how hard it is in the poor countries to get water. People in the developed countries just open the water tap or buy a water bottle. On the other hand, some poor people have tanks for rain water on the roofs of their houses and other poor people have to walk for hours to get some water. And this is happening in the 21<sup>th</sup> century. What's more, developed countries ensure people that the water which they drink is safe. But which water is really safe and good for people and the environment? Is it bottled water or the tap water? Both of them have its advantages and disadvantages. So, even though bottled water and tap water consists of water, they differ in many things.

The price is the main difference between the bottled water and the tap water. The average price for 1000 liters (1 m<sup>3</sup>) of the tap water is 1, 20€. And the average price of 1000 liters of bottled water is 333€, when the average price of 1, 5 liter bottle cost 0, 50€. For example, a man, whose weight is about 70 kilograms, should drink about 2 to 3 liters of the water per day. It is about 730- 1095 liters a year, which he should drink. But when he would drink only the tap water, not the bottled water, in one year he can save 120€ if he drinks 1 liter per day. If he drinks 2 liters of the water per day, he can save 240€ and if he drinks 3 liters of the water per day, he can save 360€ (Voda z vodovodu vs. balená voda, 2011). According to this example, there is a huge difference in a price of the bottled water and the tap water. In addition the price of the tap water in Slovakia is 0, 8255€/m<sup>3</sup> with 20% of DPH (Trnavská vodárenská spoločnosť, 2012). It is also huge difference when the average price of 1, 5 liter bottle of water cost about 0, 50€. Moreover the price of one liter of the bottled water in the USA is about \$2, 00. On the other hand, the price of one liter of the tap water is \$0,

0005 (Bozzo, 2008). And furthermore a glass of Toronto tap water costs less than .06 cents, which means that a person can buy 2,000 glasses of the tap water for the price that a person would pay for a bottled water (Moscoe, 2009). There are huge price differences in every country. And as has been noted, the tap water is cheaper than the bottled water, and therefore, people can save a lot of money if they drink only the tap water.

For some people, the main difference between the tap water and the bottled water is its taste and quality. They think so that bottled water is healthier and cleaner. Also Krommendyk, 49 years old woman from Lawrence city, Kansas, has been drinking bottled water for more than 30 years, because she doesn't like the city's tap water. In her own words, "I don't like it; it makes me sick. I've tried drinking it, but I get really bad stomachaches from it" (Price, 2006). Krommendyk, is not the only person who doesn't drink the tap water. More than half of Americans spend 240- 10,000 times more per gallon for the bottled water than they do for the tap water. It is not because of the fact that they are rich, but at recent time, it is modern to drink bottled water in a belief that the bottled water is safer and cleaner than the tap water (Potera, 2002). However, according to the World Health Organization, "There are no health advantages to bottled water over tap" (Keating, 2007). And also according to Ric Davidge, current CEO of World Water SA focusing on bulk water sales and exports, "Difference between what is in the bottled water and tap is mostly insignificant" (Bozzo, 2008). So, there are no huge differences between what is in the tap water and in the bottled water. In addition, world's largest food and nutrition company, a Nestle spokesperson reported that "I wouldn't say that [bottled water] is healthier, it is a healthy alternative" (Bozzo, 2008). This report from Nestle spokesperson just shows that producers of bottled water either don't believe that it is better than tap water. This is also proved by the Australian Bottled Water Institute, which sells about 90% of the bottled water in Australia. They say that "bottled water is more consistent when it comes to taste and

quality.” But this statement is disproved by its own Institute chief executive Geoff Parker, who says that, “[I] cannot claim bottled water is healthier than tap water” (Genevieve, 2012). Because they want to sell their bottles, they say that the bottled water is good, but people who work within the company don’t believe it. In addition, impurities and bad taste of the tap water don’t have to be caused only by the water organizations’ systems, but also by the bad conditions of the old water pipes. Paul Liechti, an assistant director of the Kansas Biological Survey said that “the water that people are drinking doesn't go directly from the plant into their homes.” It takes a long journey to water to come from the water plant treatment to peoples’ houses (Price, 2006). And it is also why people argue about the taste and quality of the water, but sometimes it is not caused by the government but by the pipes that are under the ground. On the whole, there is no difference between taste or quality of the tap water and the bottled water.

There are strict rules about what the tap water can include and what can be added to the tap water to make it safer and more suitable for people. The tap water must be tested by the government- certified labs, to be sure that the water does not include any bacteria or any harmful stuff for people. For example, the U.S. city tap water, which is monitored by the U.S. Environmental Protection Agency (EPA), must undergo more strict tests than the bottled water do. And this tap water has also higher standard of the quality than the bottled water has. In addition, it is also monitored by the Food and Drug Administration (FDA) (Potera, 2002). So, the tap water has to have specific amount of quality to be drinkable by people. There are several steps how water has to be controlled and what should be added to the water to make it cleaner. According to Keith Whealy, a water treatment manager, the water should be tested every 2 hours, to be sure that the water which they disturb to people has the highest standards. They test water for things such as, “temperature and turbidity, which is the amount of suspended particles in the water, hardness of the water and chemical and mineral content.”

In chemical and mineral content they look at chlorine residuals, acids, alkalinity, and pH level. “The amount of each [can´t] exceeds recommended values and remains healthy for people to drink” (Price, 2006). All tests are done under the control, to give only the quality water to people. There are also chemicals that are added to increase the quality of the water, which some people do not like, but these chemicals are essential for water:

Chlorine is added to destroy disease-causing bacteria, and fluoride is added to help prevent tooth decay. And, because chlorine and fluoride are slightly acidic, neutralising lime is added to help limit any corrosion of pipes and taps. But these levels are minimal -- up to one milligram per litre of fluoride, 0.02-0.5mg a litre of chlorine and 5-10mg a litre of lime (Genevieve, 2012).

The amount of the chemicals that can be added to the water is regulated by the government of each state. But this amount of the chemicals can differ within the time of a year. For example, during the summer, water treatment centers add more chlorine to the water, because hot weather allows more microorganisms to grow. And these microorganisms are killed by added chlorine (Mulvihill, 1998). So, the government takes care about what people can drink. But to make it healthier and cleaner, the government regulates tests of the water and content of the water.

What is more, the content of the bottled water may be worse or the same as the tap water. According to NRDC (the Natural Resources Defense Council), people can´t choose bottled water according to their labels, because for example, “one brand advertised as pure glacier water came from a public water supply, and another touted as spring water was pumped from a parking lot next to a hazardous waste site” (Potera, 2002). And according to Genevieve (2012), “30 per cent of bottled water sold is tap water that's been filtered and treated.” The rest of the bottled water comes from springs and underground aquifers. This type of the water can be called as spring, rain, mineralized, mineral, glacier, purified and

table water. What's more, the bottled water is cleaned with the chemicals too and it's why some people prefer to drink spring or natural water, because they think so that it is healthier and tastes better. However, this water doesn't have to be as natural as it looks to be. Because anything that is labeled as table water or bottled drinking water means that "it either doesn't qualify as natural mineral water or spring water because it has been treated in a way that these waters are not allowed to be, or it comes from more than one source." However, this water can be from the public water supply too (Keating, 2007). So the label on the bottled water doesn't mean that the water has high quality, or that it doesn't include anything harmful. Therefore, people do not know when they drink real bottled water or just tap water.

The bottled water doesn't have to include only water, but thanks to the bottle, it can include also bacteria. A team of scientists found that 70% of the bottled water which is sold in the shops includes bacteria. They also find out that the tap water includes fewer amounts of bacteria than the bottled water. Microbiologist Sonish Azam, of Ccrest Laboratories, reported that the bacteria in the bottled water should not cause diseases, but infants, pregnant women, people with immune problems and elderly people should take care about it (Bottled water, 2010). In addition the NRDC (the Natural Resources Defense Council) sent 103 brands of the bottled water, which is available in the United States, "to be tested at independent, certified water-testing laboratories. A quarter of the samples contained chemical or microbiologic contaminants, including toluene, phthalates, and nitrates- though generally below levels deemed hazardous by law." And according to Erik Olson, senior attorney at the NRDC (the Natural Resources Defense Council), "Phthalates from plastic water bottles can leach into the water under certain storage conditions, especially when exposed to high temperatures and sunlight" (Potera, 2002). So the bottle can devalue the quality of the water. As a result, people should to think when to drink the bottled water because not everything what people drink from the bottle is actually a pure water.

People can improve the taste and cleanness of the water by the water filtering systems, but they have to choose the proper water filtering system to be satisfied with its function. There are a lot of types of the water filtering systems. It depends why a person want the system and how much a person wants to pay for this filter system. Some filters just improve the taste of the tap water but some of them remove impurities from the tap water. So, if a person's water tap is clean, he can just buy a filter to improve a taste, but on the other hand if his tap water "reveals sediments, organic (pesticides) or inorganic (lead, mercury) compounds, or microbes", he can invest money to filter system or "a whole- house system" which will clean his tap water. So, there are more types of the filters as a carbon filter, which improves taste and eliminate heavy metals, a reverse osmosis filter, which removes the inorganic compounds, a distillation filter, which removes microbes and the inorganic compounds. In fact there are more filters as an ozone filter, which removes microbes and the organic compounds, an ultraviolet filter, which removes microbes and a sediment filter, which removes large particles (Kirschner & Everett, 2002). Therefore, a person can choose from a lot of types of the water filters according to his tap water. In addition, the water filter systems do not have only various types of the filters, but also various prices of the filters. The cheapest ones can cost about \$25 and the expensive ones can cost about \$300. Even though a person can have the best filter for the highest price, his tap water can include lead. As the study, from the Environmental Quality Institute at the University of North Carolina in Asheville "looked at 13 home water filtration systems with separate sink- mounted faucets", which price ranged from \$100 to \$300. For a three week period, "the water left standing in the faucets--water normally drawn for a drink--was measured daily for lead." This water included lead, but there are ways how to remove this lead. A person can "let cold water run for at least 10 seconds before taking a drink or using it for cooking. Or, replace [his] brass faucet with one made from stainless steel" (water filters, 1998). The water filter systems can

help to clean the water but in the same time people should take care about the type of the filter that they have, because not every filter can clean the tap water properly.

The bottled water can be used everywhere, but people do not think about the environmental impact of the production of the bottles. For some people, the bottled water is a “handbag accessory”. But this bottled water issue causes that the environmentalists are concerned about how bad impacts have this to the environment, because “millions of plastic bottles have to be made” and also the air miles that the water bottles have to pass to be transported to the various countries all around the world (Keating, 2007). As it was mentioned that millions of the bottles have to be made, according to the report of World Wide Fund for Nature, “1.5 million tons of plastic are used in bottling 89 billion liters of water worldwide each year.” And all of these bottles are strains to the environment, because the production of the bottles harms it too. In fact “the energy used in manufacturing plastic bottles, recycling them, and transporting them to market all drain fossil fuels and contribute to greenhouse gases” (Potera, 2002). Therefore, when people continue to buy new bottles of the water, they also continue to harm the environment.

To sum up all the benefits of the tap water and the bottled water, the tap water has more benefits. The tap water is cheaper than the bottled water, the tap water is tested by the laboratories which are certified by the government and the tap water can be improved by the water filter systems. On the other hand, the bottled water can be filled with the tap water, so people are never sure about what do they really drink, the bottled water can be contaminated by the bacteria and the bottles can be harmful for the environment. So it is better to drink the tap water or if a person needs a bottle, he can fill the bottle with the tap water. In fact, according to all showed studies, sometimes, everything that people drink is just the tap water.

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