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English Composition 11000

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March 14, 2022

Is the Water Clean? For Everyone!!

 We all know there is a lot of fresh water on Earth but is that clean? Is it safe for us to drink tap water? The answer is yes, New York City has one of the best waters in the world (“Drink Tap Water”). But is it safe to drink tap water for other people too? The certain answer is No. In 2017 more than 884 million people did not have clean water to drink (“Global Wash Fast Facts”). That’s 11.19% of the current world population. Now, the major question that comes to mind is *“WHY?”* Although there is more than one reason, such as the unavailability of water and droughts, the main reason is the contamination of water or in simple words, Water Pollution. Water pollution is the presence of toxic substances like chemicals and microorganisms in water. It degrades the quality of water and makes it poisonous to humans and the environment.

 There are several causes of water pollution that include both natural, and human-made but most of them are because of humans. Some of the causes are floods, volcanic eruptions, animal and human waste, oil spills, agricultural run-offs, chemical waste dumping, global warming, and deforestation. All of these causes add pollutants to nearby waterways and spread diseases and infections to humans and animals that depend on those waterways. For example, one-third of all the waterways in Pennsylvania are polluted and are harmful to wildlife, recreation, or drinking (“Kummer”).

 Volcanoes erupt lava and many toxic gasses like sulfur dioxide. Sulfur dioxide plays an important role in global warming and increases the temperature of Earth. Lava and ashes erupted from volcanoes make their way to the land and water. Those ashes and lava contain metals like arsenic, cadmium, and other pollutants like fluorine and they end up being in the water. Those pollutants degrade the quality of water, make it harmful to use, and also poison marine organisms such as fish.

Waste of animals in the woods and also from dairy and poultry farms adds to the water pollution. The addition of waste of wild animals into water is a natural process that can’t be prevented but the waste of domestic animals from most of the farms goes to the rivers or lakes nearby. There are only a few farms that process the waste properly before releasing it into water. The unprocessed waste reduces the quality of water and makes it hazardous for usage. Animal waste is also used as a fertilizer in many countries. Like in Pakistan, my home country, farmers use animals’ feces as a natural fertilizer. Many industrial fertilizers also contain animal waste. During natural events like heavy rain or floods, those fertilizers flow with water and make their way to nearby rivers or lakes and cause water degradation.

Domestic sewage disposal is directly connected with poor water quality. Sewage is disposed into waterways and if it is not treated properly, it releases harmful chemicals into the waterways and also is a major cause of the presence of pathogenic organisms in the water. These pathogenic organisms are the most serious water pollutants in terms of human health as they are the root of many water-related diseases. Each year, approximately 3.6 million people die as a result of those water-related diseases. 20% of those mortalities are of children under the age of five (“Water Pollution, Deirdre”). These waterborne diseases are transmitted when people use water from contaminated sources such as for drinking, sanitation, and other activities like swimming. Those diseases also spread when we consume food that was produced using water from a contaminated site (Abel 67).

Countries that are less developed usually suffer low levels of water quality. Because of the less technology and money, either there are no sewage treatment plants at all, or are woefully inadequate. In developed countries, most of the human waste is disposed of properly and the UN estimates that in high-income countries, 90% of people have appropriate sewage disposal and around 95% have clean drinking water. However, those values decrease dramatically for less developed or developing countries. In 2017, three-quarters of the population in less developed countries had insufficient sanitation, WHO estimated, and less than half of the population had access to clean drinking water (“Water Pollution, Deirdre”).

 20% of all of the fresh water on Earth is used for industrial purposes. As a result of using so much water, industries also produce an enormous amount of waste that goes into waterways such as rivers and lakes. Waste produced by industries contains much worse chemicals compared to the sewage produced by domestic use. An analysis published in 2020 by the watchdog group the Environmental Working Group (EWG) warned that the contamination of US drinking water with perfluoroalkyl substances (PFAS) was much worse than it had previously estimated. PFAS are chemicals that do not break down in the environment and are associated with diseases like cancer, liver damage, and low birth rate. As of May 2020, nearly 1,600 locations in 49 states of the US are known to have PFAS (“Water Pollution”). Fracking uses a mixture of water, sand, and other chemicals to help extract natural gas from deep underground. A study was done by Environmental Protection Agency in 2016 and it reported that fracking has a detectable impact on the quality and quantity of local water sources. This is because fracking uses a large amount of water from local water sources to create underground cracks and the wastewater contains many chemicals that contaminate the ground and surface water. In 2019, Gas companies in Colorado, Wyoming, and New Mexico were responsible for over 2800 spills, 23,600 barrels of oil, and 170,223 barrels of toxic wastewater (“Water Pollution”).

 70% of freshwater is used for agricultural activity. Because of the growing need for food and advancement in technology, there are countless types of chemicals are available for farmers to increase their production. Those chemicals include fertilizers, pesticides, and herbicides. Most of them are safe for use on crops but during events like heavy rain, strong winds, storms, and traditional watering systems, those nutrients enrich chemicals flow into water bodies like rivers and lakes and cause contamination. Those added nutrients accelerate the process of eutrophication which causes a lack of oxygen in that water body. Due to the lack of oxygen, animals in that water like fish die which results in the degradation of water (“Phosphates”).

 In conclusion, water pollution is a major threat to humans, animals, and the whole environment, and the most important cause of this crisis is humans themselves. Water pollution is disturbing the whole ecosystem. In 2019, water pollution was responsible for 1,628 deaths in the US and 698,597 deaths in India (“Water-Related Deaths”). A few simple steps can significantly reduce the number of pollutants in water. These steps include wasting less water in daily life, not throwing physical trash like cans in lakes, rivers, and oceans, eating a less meat-based diet and consuming more vegetables, and using more public transport instead of private vehicles.

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