Renewable Resources: Water Contamination

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Outline

I. Intro

A. When people think of water…quenches their thirst.

B. Water by definition leading to explanation of background, pros and cons

C. Thesis: Since water is the main drinking source for human beings and water is constantly being contaminated by various polluted materials and waste, more water treatment systems should be available to reduce the contamination for a safer amount of water utilization

II. Body

A. Background

1. Define and describe types of water contamination
2. Laws and rules for disposal of waste that affect water sources

B. Pros

1. Renewable resource
2. Control and prevention
3. Water efficient systems

C. Cons

1. Health effects, disease and infection
2. Hazards it can cause to other parts of the environment
3. Overuse and depletion

D. Interpretation

III. Conclusion

1. Summarizing background information, pros and cons, and the outcome
2. Water is the primary source for all living organism and should not be consumed if contaminated by any type of biological or chemical substance.

When people think of water, they most naturally think of a refreshing cold drink that quenches their thirst. On the other hand, people may refer to water as oceans, lakes, ponds, and rivers. Water by definition is an odorless, colorless, and usually tasteless liquid that is made up of a mixture of hydrogen and oxygen; a primary source of living organisms ("Potential Threats to our Groundwater," n.d.). So what can it hurt, right? Unfortunately, water is vulnerable to many contaminants. "Drinking polluted water is one of the leading causes of death in many developing countries" ("What is Water Pollution," 2010). Since water is the main drinking source for human beings, and water is constantly being contaminated by various polluted materials and waste, more water treatment systems should be available to reduce the contamination for a safer amount of water utilization.

Dangerous waste of any sort that has polluted a water source is considered contaminated water. This may contain "both biological and chemical substances" (Hill & Harris, 2014). "There are many different kinds of water contamination that include oil spillage, suspended matter, ground water pollution, surface water pollution, chemical water pollution, microbiological pollution, oxygen depleting, and nutrients pollution" ("Types of Water Pollution," 2010). The most common type of water pollution comes from the ground and is actually found in the supply of over 50 percent in drinking water ("Potential Threats to Our Groundwater," n.d.). This water has become more polluted due to human actions instead of natural factors ("Water on the Earth," n.d., p.7). The highly concentrated and dangerous chemicals found in deep ground waters are sodium, chloride, and sulfate, signifying contact with halite and gypsum, which make the water in poor condition to consume or use in irrigation (Cullers, 2010, p. 1313). To better understand, an example of groundwater contamination is

"when the air is polluted, rainfall will settle many pollutants on the ground, which can then seep into and contaminate the groundwater resources" ("Water on the Earth," n.d., p.8).

Since water contamination has become such a crisis in the world, many laws and rules for disposing of waste have been created for people to follow to help make the water more sterile. Governments abide by firm laws that aid in reducing polluted water. These regulations pertain to schools, industries, hospitals and promote regions on how to discard, care for and sustain sewage. Waste or sewage management is very resourceful and built to reduce toxic waste of water bodies in many urbanized cities. Organizations and groups in the community are also helpful in educating the people on the hazards of contamination. Joining these groups would be of great cause to encourage other neighbors' habits and attitudes toward the safety of clean ("Prevention of Water Pollution," 2010).

Water is a renewable resource that can be controlled and limited from little to no pollution at all. Everyone should learn to deal with this problem and only help people become more aware of these factors, including governments and local councils. Some ways people can help start the prevention of water pollution is by throwing their trash into the correct waste bin as labeled. If there is not a trash can available or near any surroundings, take it home and discard of it in the trash can. *Wisely* is the key word when using water. Try not to keep the tap running when not being used. Like teeth brushing—turn the water off while scrubbing teeth and turn it back on when rinsing them. If we all pitch in and do this, we can drastically prevent water shortages and decrease the amount of unclean water that needs treatment. Do not dispose of medicine, paints, oils, and chemicals down the sink drain or toilet. Most cities provide local environmental offices that can assist you in the disposal of chemicals and

medicines. We can start by buying more ecologically safe cleaning supply liquids for home use and other public facilities. We can be conscious when using pesticides and fertilizers in the garden or farm fields and not overuse them. This can decrease runoffs of the substance into nearby water supplies. A good option to change up materials is to start looking at composting and substituting fertilizer for organic manure. Planting trees and flowers can also be of great influence so that chemicals from home will not run into the water if you live near a body of water ("Prevention of Water Pollution," 2010).

The simple most efficient water treatment practices in rural areas, like Kenya, are boiling and chemical disinfection. This is an effective way of killing the majority of viruses, bacteria, and [E coli, fecal coli form, and total coli form] infested parasites from unsafe water sources (Salvatore & Eckardt, 2013, p. 1). Urban areas are more prone to having a higher amount of safe water than the rural areas. Water and sewage treatments are the more up-to-date water treatment systems are used in more developed countries, like the United States ("Water on Earth," n.d., p.16).

Not only does water pollution have a dangerous effect on humans, but it is also destructive to animals, fish, and birds ("Water on Earth," pp.15-16). People are at risk of diseases like hepatitis after eating seafood that has been contaminated. Poor modifications of water quality produce large numbers of illnesses and even deaths. About 50 million deaths per year are accounted for worldwide, most of these being in Asia and Africa. "In China, for example, about 75 percent of the population [or 1.1 billion people] are without access to unpolluted drinking water, according to China's own standards" (Hogan, 2013). On a more serious note, contaminated water can wipe out aquatic life and decreases its reproductive

ability ("Water on Earth," pp.15-16). "Oil spills, for instance, may occur from wells or ships and can contaminate water for miles from the spill site" (Hill & Harris, 2014). Another example, that happened by accident, was the oil spill in 2010, off the coast of Louisiana was the largest in history, killing a vast amount of sea life ("Gulf Oil Spill," n.d.).

The demand for fresh water has been an ongoing problem around the world for many centuries. Mark Shannon, Director of the government-funded Center for Advanced Materials for the Purification of Water with Systems, mentioned to the Harvard Political Review:

> Man is outstripping supply [of clean water]. We then have to come up with most of our water out of the ground and we have to discharge from the sea….Wells are so deep now that the water is starting to get salty. It's happening in India, China, everywhere. (qtd. in Cook, 2008, p. 30)

Water systems should be more available to the society; one in particular that can be very beneficial is rainwater harvesting. In urban areas, this has arisen to an exceptionally popular technique of conserving water. The building of houses, footprints and streets has left small uncovered parts of the ground for water to seep in. Rainwater harvesting basically means gathering rainfall on the top of buildings and accumulating it below the ground to use later. This system raises the declining water table and can aid in enlarging water supplies ("Water on Earth," n.d, p.19). This contributes to cleaner water by improving the superiority of "groundwater through the salinity, nitrate, and dilution of fluoride" ("Water on Earth," n.d., p. 19). It also increases water availability, which is very scare and in demand in countries across the globe.

Without water, human life would not exist. Water is the primary source for all living organisms and should not be consumed if contaminated by any type of biological or chemical substance. Water can be easily contaminated by various environmental factors caused by humans or natural occurrences. "Water pollution not only affects individual living species, but also populations and entire functioning ecosystems that exist in the waters" ("What is Water Pollution," 2010). The bad outweighs the good when it comes to water contamination. When worst come to worst, people can die from consumption of unsanitary water, and it is still a major problem countries overseas face. Therefore, more water treatment systems should be world widely available for all societies to stay healthy and free of dangerous pathogens and parasites we find in contaminated water.

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