Fundamentals of Environmental Science

Environmental science is the study on the interrelationship or interaction between organic and non-organic components present in the environment; living and non-living things. Special emphasis however is laid on the influences of humans' beings on the aforesaid components. The scope of this science is relatively very wide and it encompasses a variety of fields of study. For instance, it encompasses biology; study on biodiversity- plants and animals, ecology; study of relation of animals and plants with their environment, geology; study of physical structure and formation of the earth, chemistry; studies the composition of both living and non-living things and so forth (Hartwick College, 2014).

Technology is a product of science. Thus science and technology are greatly intertwined- almost inseparable. The effect of science and technology on the environment is huge. The results of this effects are all around us- from mining activities to production of energy from dams and winds, from pollution to water purification and so forth. The environment has fundamentally been transformed by science. Moreover, these effects are either helpful or harmful. The relationship between science and technology has created a lot of problems and caused massive damages to the environment. Conversely, that same relationship has been the savior of the environment in so many aspects. It has brought solutions to so many problems that would have otherwise been insurmountable had science and technology not been in existence.

For instance, science and technology has led to massive pollution of the environment. Pollution is one big problem prevalent in our environment today. From the air we breathe, to the water we drink- pollution is all around us. Human beings through the aid of science have developed factories, manufactured cars, aircrafts, ships and so many other machineries that pollutes the environment greatly. Factories emit thick poisonous gases into the sky, toxic solid waste directed into rivers and forests. Moving machinery such as vehicles, aircrafts and so forth

emit poisonous exhaust gases into the air. Mining pollutes the environment by leaving huge craters and holes, massive displacement of earth, erosion and destruction of forest cover and death and displacement of many organisms. All these, and many more other, creations of science and technology have a huge negative impact on the environment.

Nonetheless, the same science and technology has the solutions to those problems it helped create. In today's world more so, manufactures of engines of aircrafts, vehicles, ships and so forth have developed very efficient and less polluting engines. Factories are emitting lesser poisonous gases and most of the solid waste from factories is being recycled or treated before being dumped. Clean energy such as electricity from wind and solar energy is being used in homes, factories and even in some vehicles as opposed to using the highly polluting fuels like oil (Union of Concerned scientist). Land reclamation efforts and re-afforestation has been intensified to reverse the negative effects of environmental degradation.

In addition, in trying to solve the environmental problems around us, the concept of environmental sustainability has emerged. This concept is about taking measures that are aimed at protecting the natural environment and being more emphatic on the notion of preserving the capability of this environment to support human life (Australian Government). Environmental sustainability should be developed so that the environment retains the ability of supporting life forever. This concept has been developed after the realization that resources that support life on earth are fast getting depleted. History is rife with human activities that led to massive depletion of resources or huge threat to continuance existence of the same- unsustainable human interactions. Examples here would include massive pollution caused by past wars- such as world wars 1 and 2, over extraction of minerals like oil- some oil wells across the world have dried up

and so forth. It was thus inevitable for people to develop with a sound concept that would ensure a sustainable way of interacting with the environment.

In essence, sustainability is being affected by human values. As much as sustainability envisions controlled use of the natural resources, the demand for them keeps on rising. This is partly due to the growing population size and also higher spending habits- probably due to better living standards. This becomes a huge setback to the whole idea of sustainability. However, people are also becoming more aware of the need to care for the environment. Reduced pollution-causing activities is proof that people are not taking the idea of environmental sustainability lightly. Example of people's efforts towards promoting sustainability is the enactment of legislations by various governments restricting pollution. Various global summits have continued to be held and resolutions aimed at promoting sustainable exploitation of the environment adopted.

In conclusion, hazards prevalent in our environment have been a major threat to the health of human beings. So many ailments today have been caused by factors in the environment by the human population. For instance, air pollution causes respiratory and lung diseases such as asthma, pneumonia, bronchitis and many more. On the other hand, water polluted by adverse human interaction with the causes disease such as typhoid, diarrhea, hepatitis and many more.

References

Australian Government. (n.d.). *Environmental sustainability.* Retrieved from Australian Government : http://australia.gov.au/topics/environment-and-natural-resources/environmental-sustainability

Hartwick College. (2014). *What is Environmental Science?* Retrieved from Hartwick College: http://www.hartwick.edu/academics/majors-and-minors/special-minors/environmental-science-and-policy-minor/what-is-environmental-science

Union of Concerned scientist. (n.d.). *Environmental Impacts of Renewable Energy Technologies* . Retrieved from Union of Concerned Scientists: http://www.ucsusa.org/clean_energy/our-energy-choices/renewable-energy/environmental-impacts-of.html