September | Issue 9 | Volume 1

EARTH HERO

ape

· Ecosystem · Forest · Animal · Environmental Issue · Actions

ENVIRONMENTAL ISSUE (POLLUTION)

Environmental issues are harmful effects of human actions on the earth's ecosystem and natural systems. This article will look into one of the world's most significant environmental issues that are causing immense concern which is pollution. There are five key types of pollution which includes air, water, soil, light, and noise. All of which affect the health of our environment.

Air pollution happens when gases with poisonous and harmful substances are released from industrial or other economic activities to the atmosphere. An example of an activity that produces toxic gases is burning coal. Combustion of coal will release nitrogen oxides (NOx) into the atmosphere, which causes smog and respiratory illnesses. This will not only affect the health of humans but also animals and climate conditions. Other than nitrogen oxides (NOx), sulfur dioxide (SO2) that is released into the air causes acid rain. Acid rain is rain or any other form of precipitation with a lower pH (acidic) than usual. When acid rain occurs, it harms the forest ecosystem, affecting the animals that live in the bodies of water. Acid rain can degrade outdoor statues, buildings, and monuments.

Clean air is important for a healthy body and environment. If we live in an area with polluted air, we are exposed to the risk of having diseases with long-term health effects. According to the World Health Organization (WHO), air pollution kills roughly seven million people every year. WHO notes that these diseases which include stroke, heart disease, chronic obstructive pulmonary disease, lung cancer, and acute respiratory infections may happen due to air pollution.

Water is an essential need in our life. However, water pollution has become a severe ecological threat to humans and other living things on this earth. Water pollution happens when harmful substances are introduced into the water bodies such as lakes, oceans, and rivers. Once the toxic substances are dissolved in the water, the quality of the water will degrade and indirectly alter the health of the organisms that live in that water, which also has a negative effect on human health. There are many types of water pollutants, including organic wastes, pesticides, toxic heavy metals and microorganisms. These pollutants affect aquatic ecosystems and might end up in our households as contaminated water that we use daily such as for drinking, cooking, and showering. A person who consumes polluted water has a higher chance of having diseases such as cancer, damage to the immune and reproductive system, and may even alter the brain function. A report made by WHO mentions that around 2 billion people around the world are drinking from a water source with faecal contamination. This contaminated water can harbour bacteria responsible for diarrhoea, cholera, typhoid, and even polio.

One of the common pollutants we can see on any water body is plastic. Due to the

widespread use of plastics, experts estimate that 4.8–12.7 million tons of plastic waste enter the ocean each year. This harms marine life and human health as some fish may eat the trash by mistaking it for food which leads to their death.

Another type of pollution is soil pollution. It is a complex problem since it is linked to other types of pollution as well. It can occur due to various activities, from throwing off cigarette butts to the excessive use of chemical fertilizers. As we know, the soil is home to many types of living and nonliving organisms. The factors that can lead to soil contamination happen primarily because of manufacturing waste. Nature too produces waste, for instance, dead plants, carcasses of animals, rotten fruit, and vegetables. However, the waste produced by nature only increases the fertility of the soil. On the other hand, our waste products are full of toxic chemicals and lead to soil pollution. The ground becomes polluted when there are large

amounts of chemicals like herbicides, ammonia, pesticides, lead, nitrate and mercury. Most of these compounds originate from human based activities such as pesticides in agriculture. One example of a case in Malaysia that received attention from the media was the case of a company that illegally dumped 20 to 40 tonnes of chemical waste into parts of a river located at the Pasir Gudang industrial town in Johor. Investigation revealed that the waste contained 15 different chemicals, including the colorless and highly poisonous hydrogen cyanide. The soil and water around the area became polluted and caused 35 people to fall sick, complaining that they have nausea, shortness of breath, and vomiting spells. This shows that having proper waste management is vital to prevent any toxic effects from happening to our environment.

Most of us are familiar with noise, air, water, and soil pollution, but did you know that light can also be a pollutant? Light pollution is known as the inappropriate use of artificial light. Excessive use of artificial light will cause serious environmental consequences for animals, humans, and our climate. Light pollution can be divided into four types which are glare (when too much brightness causes visual discomfort), skyglow (brightening of the night sky over inhabited areas), light trespass (light falling where it is not intended or needed) and clutter (bright, confusing and excessive groupings of light sources). Nowadays, the production of artificial lights have influence humans, disrupting the natural day-night pattern and changing our environment's balance. The adverse effects of light pollution might seem invisible, but slowly it is affecting our environment. An example can be seen for our turtles. Sea turtles live in the ocean but come ashore to lay their eggs. Hatchlings will emerge from their nest at night on the beach after

their incubation period. To find its way back to sea, the hatchling detects the bright horizon over the ocean. However, artificial lights disturb their sight and drive them away from the sea. In Florida, millions of hatchlings die every year due to artificial light.

The last type of pollution is the noise pollution. It can be defined as unwanted or excessive sound that gives unpleasant effects to humans or other living organisms. Based on WHO, people exposed to a sound level that is more than 85dB for more than 8 hours will negatively impact their bodies. If your school or work place is close to a busy road or highway, you are highly likely to be exposed to noise pollution from traffic which is around 58dB. According to National Geographic, a common health problem caused by noise pollution is Noise-Induced Hearing Loss (NIHL). This can happen when we are exposed to loud noise. Surprisingly, it can cause high blood pressure, heart disease, sleep disturbances, and stress, affecting all age groups. Other than impacting our health, it also disturbs the health of wildlife. Animal species use sound for different reasons. For instance, they use sound to navigate, find food or mates and avoid predators. However, noise pollution causes difficulty in accomplishing those tasks, which can affect their ability to survive. Therefore, noise pollution can create harmful effects on humans and our environment.

Pollution is a global problem and all the five pollutants, air, water, soil, light, and noise, are interlinked. Reducing pollution not only requires environmental, political, and economic leadership, but it takes each one of us to take action to prevent pollution from occurring. Together, we can make the world a better place.