

Environmental Challenges

The effect that humanity is having on the environment is becoming ever-more important. Through our actions we are destroying habitats and endangering the lives of future generations. At this point there is no denying the fact that our environment is changing. Hundreds of studies have been conducted to demonstrate that this is happening and it is having an effect on life around us.

However, many may be unaware of the specific issues that have led to these changes. Terms like “climate change” and “genetic modification” are commonplace, but without additional information it is difficult to see why they actually matter.

To complicate the matter, many of these issues are linked to one another. The key is that they are all important challenges that need to be confronted.

Here we examine the biggest environmental problems facing our planet today and why they should matter to you.

The Biggest Environmental Problems

Genetic Modification of Crops

Environmental issues caused by man-made chemicals are becoming clearer. For example, there has been a 90% reduction in the Monarch butterfly population in the United States that can be linked to weed killers that contain glyphosate.

There is also some speculation that genetically-modified plants may leak chemical compounds into soil through their roots, possibly affecting communities of microorganisms.

Waste Production

The average person produces 4.3 pounds of waste per day, with the United States alone accounting for 220 million tons per year. Much of this waste ends up in landfills, which generate enormous amounts of methane.

Not only does this create explosion hazards, but methane also ranks as one of the worst of the greenhouse gases because of its high global warming potential.

Population Growth

Many of the issues listed here result from the massive population growth that Earth has experienced in the last century. The planet’s population grows by 1.13% per year, which works out to 80 million people.

This results in a number of issues, such as a lack of fresh water, habitat loss for wild animals, overuse of natural resources and even species extinction. The latter is particularly damaging, as the planet is now losing 30,000 species per year.

Water Pollution

Fresh water is crucial to life on Earth, yet more sources are being polluted through human activities each year. On a global scale, 2 million tons of sewage, agricultural and industrial waste enters the world's water every day.

Water pollution can have harmful effects outside of contamination of the water we drink. It also disrupts marine life, sometimes altering reproductive cycles and increasing mortality rates.

Deforestation

The demands of an increasing population has resulted in increasing levels of deforestation. Current estimates state that the planet is losing 80,000 acres of tropical forests per day.

This results in loss of habitat for many species, placing many at risk and leading to large-scale extinction. Furthermore, deforestation is estimated to produce 15% of the world's greenhouse gas emissions.

Urban Sprawl

The continued expansion of urban areas into traditionally rural regions is not without its problems. Urban sprawl has been linked to environmental issues like air and water pollution increases, in addition to the creation of heat-islands.

Satellite images produced by NASA have also shown how urban sprawl contributes to forest fragmentation, which often leads to larger deforestation.

Overfishing

It is estimated that 63% of global fish stocks are now considered overfished. This has led to many fishing fleets heading to new waters, which will only serve to deplete fish stocks further.

Overfishing leads to a misbalance of ocean life, severely affecting natural ecosystems in the process. Furthermore, it also has negative effects on coastal communities that rely on fishing to support their economies.

Acid Rain

Acid rain comes as a result of air pollution, mostly through chemicals released into the environment when fuel is burned. Its effects are most clearly seen in aquatic ecosystems, where increasing acidity in the water can lead to animal deaths.

It also causes various issues for trees. Though it doesn't kill trees directly, acid rain does weaken them by damaging leaves, poisoning the trees and limiting their available nutrients.

Ozone Layer Depletion

Ozone depletion is caused by the release of chemicals, primarily chlorine and bromide, into the atmosphere. A single atom of either has the potential to destroy thousands of ozone molecules before leaving the stratosphere.

Ozone depletion results in more UVB radiation reaching the Earth's surface. UVB has been linked to skin cancer and eye disease, plus it affects plant life and has been linked to a reduction of plankton in marine environments.

Ocean Acidification

Ocean acidification is the term used to describe the continued lowering of the pH levels of the Earth's oceans as a result of carbon dioxide emissions. It is estimated that ocean acidity will increase by 150% by 2100 if efforts aren't made to halt it.

This increase in acidification can have dire effect on calcifying species, such as shellfish. This causes issues throughout the food chain and may lead to reductions in aquatic life that would otherwise not be affected by acidification.

Air Pollution

Air pollution is becoming an increasingly dangerous problem, particularly in heavily-populated cities. The World Health Organization (WHO) has found that 80% of people living in urban areas are exposed to air quality levels deemed unfit by the organization.

It is also directly linked to other environmental issues, such as acid rain and eutrophication. Animals and humans are also at risk of developing a number of health problems due to air pollution.

Lowered Biodiversity

Continued human activities and expansion has led to lowered biodiversity. A lack of biodiversity means that future generations will have to deal with increasing vulnerability of plants to pests and fewer sources of fresh water.

Some studies have found that lowered biodiversity has as pronounced an impact as climate change and pollution on ecosystems, particularly in areas with higher amounts of species extinction.

Natural Resource Use

Recent studies have shown that humanity uses so many natural resources that we would need almost 1.5 Earths to cover our needs. This is only set to increase as industrialization continues in nations like China and India.

Increased resource use is linked to a number of other environmental issues, such as air pollution and population growth. Over time, the depletion of these resources will lead to an energy crisis, plus the chemicals emitted by many natural resources are strong contributors to climate change.

Transportation

An ever-growing population needs transportation, much of which is fueled by the natural resources that emit greenhouse gases, such as petroleum. In 2014, transportation accounted for 26% of all greenhouse gas emissions.

Transportation also contributes to a range of other environmental issues, such as the destruction of natural habitats and increase in air pollution.

Polar Ice Caps

The issue of the melting of polar ice caps is a contentious one. While NASA studies have shown that the amount of ice in Antarctica is actually increasing, these rises only amount to a third of what is being lost in the Arctic.

There is strong evidence to suggest that sea levels are rising, with the Arctic ice caps melting being a major contributor. Over time, this could lead to extensive flooding, contamination of drinking water and major changes in ecosystems.

Climate Change

The majority of the issues previously listed contribute or are linked to climate change. Statistics created by NASA state that global temperatures have risen by 1.7 degrees Fahrenheit since 1880, which is directly linked to a reduction in Arctic ice of 13.3% per decade.

The effects of climate change are widespread, as it will cause issues with deforestation, water supplies, oceans and ecosystems. Each of these have widespread implications of their own, marking climate change as the major environmental issue the planet faces today.

The Final Words

The impact that human activities have on the environment around us is undeniable and more studies are being conducted each year to show the extent of the issue.

Climate change and the many factors that contribute to emissions could lead to catastrophic issues in the future.

More needs to be done to remedy the major environmental issues that affect us today. If this doesn't happen, the possibility exists that great swathes of the planet will become uninhabitable in the future.

The good news is that many of these issues can be controlled. By making adjustments, humanity can have a direct and positive impact on the environment.

Regards: Muhammad Hussain

Best of Luck my students for exams.

Protect and save your environment.