# How we change our environment

We as humans have become dependent on luxuries such as cars, houses, and even our cell phones. Human impact on the environment has become one of the main topics for university staff all over the world. While they search for the answer, the public needs to do its part. At least, you need to be aware of all the factors that contribute to this state and share the knowledge.

There are positive and negative changes which affect on our environment. Some negative changes are below:

## 1. Overpopulation

Survival used to mean repopulating. That, however, is quickly becoming true for the opposite as we reach the maximum carrying capacity that our planet can sustain. Overpopulation has grown into an epidemic since mortality rates have decreased, medicine has improved, and methods of industrial farming were introduced, thus keeping humans alive for much longer and increasing the total population. The effects of overpopulation are quite severe, with one of the most severe being the degradation of the environment. Humans require space, and lots of it whether it is for farmland, or industries which also takes up tons of space. An increased population results in more clear-cutting, resulting in severely damaged ecosystems. Without enough trees to filter the air, $CO_2$ levels increase which carries the potential to damage every single organism on Earth. Another issue is our dependency on coal and fossil fuels for energy, the larger the population, the more fossil fuels will be used. The use of fossil fuels (such as oil and coal) results in copious amounts of carbon dioxide into the air- threatening the extinction of thousands of species which adds to the effect that forest depletion ***already*** has.

## 2. Pollution

Pollution is everywhere. From the trash thrown out on the freeway, to the millions of metric tons of pollution pumped into the atmosphere every year- it's obvious, pollution and waste are inescapable. Pollution is so bad that to date, 2.4 billion people do not have access to clean water sources. Humanity is continuously polluting indispensable resources like air, water, and soil which requires millions of years to replenish. Air is arguably the most polluted with the US producing 147 million metric tons of air pollution each year alone. While air quality in the US has slightly improved, the quality in developing countries continues to plummet as smog continuously blocks out the sun in a dense shroud of pollution. This is just one of the issues we have to tackle in near future.

## 3. Water Pollution

Every year over 8 million tons of garbage dumped into the ocean. Not only is garbage introduced into the oceans, but also the excessive amounts of fertilizer that finds its way into the ocean through rains, floods, winds, or dumped in excess right into the largest producer of oxygen we have. Fertilizer contains nitrogen, an element essential for the growth of plants- but that does not limit it to what it was intended for.

Due to human activities water pollution is also caused due to which environment is changing. It is rather the negative change which come in the environment due to human activities in the form of water pollution. Swage, industrial water oil, pesticides and fertilizers, all pollute water. Fertilizers and swage can easily be washed into river, stream and lakes.

Year after year, millions of tons of garbage is dumped into the ocean. Since the garbage mainly consists of plastics, it is largely indissoluble. The garbage accumulates in large vortexes across the ocean. Marine life, including the loggerhead sea turtles, are tricked into thinking they are eating food when really it is only a floating plastic bag or other poisonous plastic that will cause starvation or suffocation to any unfortunate animal that mistakenly ingests it. Pollution is the number one threat to all aquatic life and is lead cause of reduced biodiversity. This is really sad given that water and water life-forms are some of the most important natural resources at our disposal.

## 4.Air pollution

Due to increase in human population, air pollution increasing . There is more use of vehicles, more burning fossils due to which air pollution is caused and environment is changing but air pollution basically a negative change which occur in the environment.

Due to activities to main types of air pollutants are produced.

Noxious gases – these include Co2,No2 and So2.

Particulates – these are tiny particles suspended in air which are usually produced by combustion of fossil fuels.

Air pollution has become a major problem when industrial revolution came in 18$^{th}$ century. Due to air pollution following things happen which cause bad effects on human health.

- Global warming & greenhouse effect
- Acid rain
- Ozone depletion
- Smog

## 5. Global Warming

Global warming is arguably the greatest cause of impact to the environment. The largest of causes emanating through $CO_2$ levels from respiration to more detrimental causes like burning fossil fuels and deforestation. At any rate, humans are consistently increasing $CO_2$ levels globally- *every year*. The highest level of $CO_2$ in recorded history before 1950 was about 300 parts per million. However, current measurements of $CO_2$ levels have exceeded above 400 PPM,

abolishing every record dating back 400,000 years. The increase of $CO_2$ emissions has contributed to the planet's average temperature increasing almost a whole degree. As the Temperature increases, arctic land ice and glaciers melt which causes the ocean levels to rise at a rate of 3.42mm per year, allowing more water to absorb more heat, which melts more ice, creating a positive feedback loop which will cause the oceans to rise 1-4 feet by 2100.

## 6. Climate Change

Climate change is closely connected to historical developement of industry and technology. As global temperatures increase, Earth's weather patterns will drastically change. While some areas will experience longer growing seasons, others will become barren wastelands as water will deplete in vast areas, turning once floral regions into deserts. The increase will impact weather patterns, promising more intense hurricanes in both size and frequency, as well as intensifying and prolonging droughts and heat waves. But air pollution does not just affect the environment. The evidence is mounting that poor air quality and rising temperatures are ruining delicate ecosystems ,even leading to increased asthma and cancer rates in human.

## 7. Ocean Acidification

Ocean acidification is caused when $CO_2$ dissolves into the ocean bonding with sea water creating carbonic acid. The acid reduces the pH levels in the water, essentially changing the Ocean acidity by 30% in the last 200 years according to analysis - a level that the ocean has not been at in over 20 million years. The acidity depletes the calcium concentrations, making it difficult for crustaceans to build their shell, leaving them vulnerable without their armor. Between the global temperature rise of one degree and the ocean acidification, scientists say a quarter of all coral reefs are considered damaged beyond repair, with two-thirds under serious threat. Coral reefs are home to 25% of aquatic life, many of which are responsible for the natural filtration of the ocean and production of necessary nutrients that are vital for life under the sea. However, acidification is not the only watery threat as there are other human activities causing severe changes

## 8. Deforestation

With an exponential expansion in human beings, more food, materials, and shelter are being manufactured at stupendous rates, mostly stemming from forestry. Forests are cleared to make way for new humans, which in turn, makes more humans, you can see the problem. According to international data, an estimated 18 million acres of trees are clear-cut each year to make way for new development and wood products- that is just under half of all the trees on the planet since the industrial revolution began. With trees being one of the largest producers of oxygen, clearly that is not a good thing for humans- and especially not for the animals that call the forest home. With millions of different species that live in forests, deforestation is a major threat to their survival and a big conservation issue. It also increases the greenhouse gases within the

atmosphere which leads to further global warming. Such human activities need to stop if we wish to survive.

## 9. Acid Rain

When humans burn coal, sulphur dioxide and nitrogen oxides are released into the atmosphere where they rise up and accumulate in the clouds until the clouds become saturated and rain acid, causing havoc on the ground beneath. When the rain falls, it accumulates in water bodies which is especially harmful for lakes and small bodies of water. The ground surrounding the water soaks up the acid, depleting the soil of essential nutrients. Trees that absorb the acid accumulate toxins that damage leaves and slowly kills large areas of forest. Acid rain has also been known to completely eliminate entire species of fish, causing a snowball effect of damage to the ecosystem that relies on diverse organisms to sustain the environment.

## 10. Ozone Depletion

The ozone layer is renowned for its ability to absorb harmful UV rays that would otherwise be detrimental to the health of all walks of life. Without an ozone layer, walking outside would be unbearable. Ozone is made up of three bonded oxygen's that float up to the stratosphere where they absorb a substantial amount of UV radiation, protecting all life down below. However "ozone-depleting substances" (or ODS) primarily made up of chlorine and bromine find their way up to the stratosphere where they strip the O3 of an oxygen, destroying its capabilities of absorbing UV light. The human impact is devastating for plants that are extremely sensitive to UV light including wheat and barley, two indispensable crops to humans. Although most chemicals that deplete the ozone layer have been banned, the chemicals that have already been released can take upwards of 80 years to reach the upper atmosphere, so it will be some time before our protective boundary will be fully functional again. Until then, slap on that sunscreen and be safe out there.

# Positive changes

Human beings can excercise a great infuence on the environment around them. This can be both positive as well as negative. However, in this question we will focus only on the positive impact.

1. **Promoting Afforestation-** This plays an important role in reducing air pollution by improving the overall air quality.
2. **Conserving water resources-** By not throwing industrial wastes, domestic wastes into rivers, lakes etc water pollution can be prevented. Techniques like rain water harvesting , watershed management, drip irrigation helps in the conservation of water resources
3. **Soil conservation-** Methods like contour ploughing, terrace farming, crop rotation, windbreaks, shelter belts play an important role in preventing soil erosion
4. **Awareness in people is improved.**
5. **Use of renewable sources of energy-** like solar energy, biofuels, wind energy etc would help in conserving non renewable sources of energy.
6. **Removal of invasive species** by planting indigenous trees.