

## **ENVIRONMENTAL DEGRADATION: CAUSES, CONSEQUENCES AND SOLUTIONS**

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### **Abstract**

*Environmental degradation is a series of actions through which we weaken or harm the natural environment, reduce its biological diversity and encroach on the general health of the natural infrastructure. Though environment can be degraded naturally, anthropogenic impacts on the environment fast-track its degradation. The environmental degradation is the deterioration of the environment through depletion of resources which includes all the biotic and abiotic element that form our surrounding that is air, water, soil, plant animals, and all other living and non-living element of the planet of earth. The major factor of environmental degradation is human (modern urbanization, industrialization, overpopulation growth, deforestation, etc.) and natural (flood, typhoons, droughts, rising temperatures, fires, etc.) cause. Today, different kinds of human activities are the main reasons for environmental degradation. The automobile and industries increase the number of poisonous gases like Sox, NOx, CO, and smoke in the atmosphere. Therefore, the government must enhance filling the gap in the legal system to avoid illegal activities. This chapter discusses the impact of environmental degradation with its future impacts, city planners, industry, and resource managers' plan to be considered to mitigate the long-term effects of developmental environmental degradation.*

**Keywords:** *Environmental degradation, Manmade impacts, Mitigation, Pollution, Biological diversity.*



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### **Introduction**

Environmental degradation is the disintegration of the earth or deterioration of the environment through the consumption of assets, for example, air, water and soil; the destruction of environments and the eradication of wildlife. It is characterized as any change or aggravation to nature's turf seen to be pernicious or undesirable.

Ecological effect or degradation is created by the consolidation of an effectively substantial and expanding human populace, constantly expanding monetary development or per capita fortune and the application of asset exhausting and polluting technology.

The environment is something we are very familiar with. It's everything that makes up our surroundings and affects our ability to live on the earth. Environmental degradation is a very serious problem worldwide which covers a variety of issues including pollution, biodiversity loss, and animal extinction, deforestation and desertification, global warming, and a lot more. Environmental degradation is the deterioration of the environment through depletion of resources such as air, water and soil; the destruction of ecosystems and the extinction of wildlife. It is defined as any change or disturbance to the environment perceived to be deleterious or undesirable. Environmental degradation can be defined as the deterioration of the environmental system due to human intervention. Ecological degradation can have serious effects on many animals, plants and also for humanity. Thus, in order to prevent these adverse consequences, we should take several measures in our daily life. Environmental degradation is one of the ten threats officially cautioned by the high-level Panel on Threats, Challenges and Change of the United Nations. The United Nations International Strategy for Disaster Reduction defines environmental degradation as "the reduction of the capacity of the environment to meet social and ecological objectives, and needs".<sup>[2]</sup> Environmental degradation comes in many types. When natural habitats are destroyed or natural resources are depleted, the environment is degraded. Efforts to counteract this problem include environmental protection and environmental resources management. Environmental degradation can happen in a number of ways. At the point when environments are wrecked or common assets are exhausted, the environment is considered to be corrupted and harmed. There are a number of different techniques that are being used to prevent this, including environmental resource protection and general protection efforts. Environmental can be seen by long term ecological effects, some of which can demolish whole environments. An environment is a unique unit and incorporates all the living and non-living components that live inside it. Plants and creatures are evident parts of the environment, but it also includes the things on which they depend on, for example, streams, lakes, and soils. Environmental surroundings get to be divided when technological advancement splits up areas of land. Some examples of this can include streets which may slice through woods or even trails which wind through prairies. While it may not sound all terrible on the surface, there are bad results. The biggest of these results are felt by some particular animal and plant groups, the vast majority of which are specific for their bio-region or need a

large area in order to make sure that their genetic lines are kept intact.

### **Types of Environmental Degradation**

**Land and soil degradation:** Degradation of soil quality from poor farming practices, excessive use of fertilizers and pesticides, leakage from landfills etc.

**Water degradation:** Pollution of water from trash dumped in oceans, illegal dumping, disposal of large amounts of industrial waste into nearby rivers or lakes etc.

**Atmospheric degradation:** This includes air degradation, particle pollution and the depletion of the ozone layer.

Atmospheric degradation occurs due to our increased consumption levels and the implied increased demand for material goods.

In order to meet the demand for goods, industries have to produce large amounts of items that causes the emission of harmful gases, including greenhouse gases that contribute to the global warming issue.

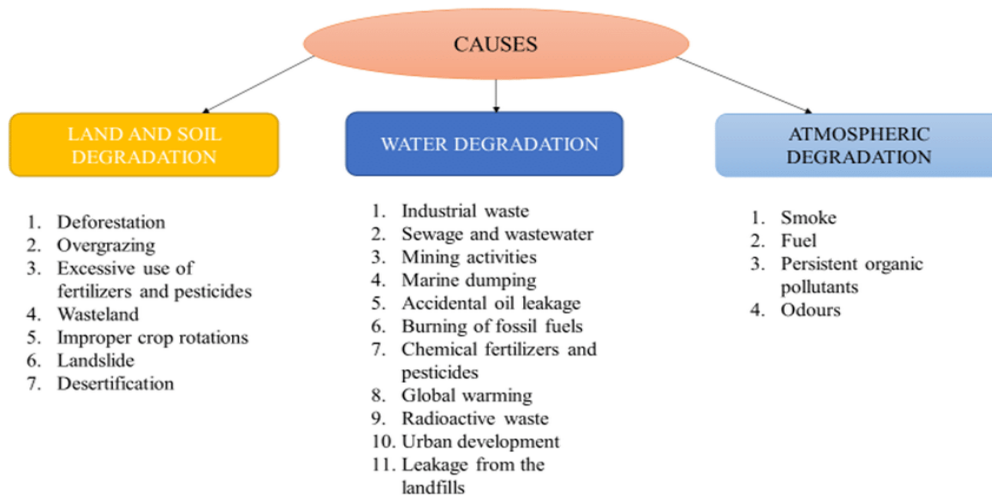
Moreover, also a significant part of our energy production relies on the combustion of coal, which also leads to severe air contamination.

**Several other kinds of pollution:** Apart from land, water and atmospheric degradation, many other kinds of pollution such as noise pollution, light pollution that is part of environmental degradation.

### **Causes of Environmental Degradation: -**

Some environmental life species require substantial areas to help provide food, living space, and other different assets. These creatures are called area specific.

At the point when the biome is divided, the vast patches of living space don't exist anymore. It becomes more troublesome for the wildlife to get the assets they need in order to survive. The environment goes on, even though the animals and plant life are not there to help sustain it properly.



**Figure 1. Different causes of environmental degradation.**

### **Overpopulation**

Overpopulation is a big problem for our environmental system. A growing number of people also imply an increasing overall consumption level. This increasing demand for material goods leads to an increase in the emission of harmful gases which in turn leads to air pollution and also contributes to global warming. Moreover, overpopulation can also lead to significant air and particle pollution from the use of cars that are run by fossil fuels.

### **Deforestation**



Our trees are natural storage spaces for CO<sub>2</sub> and also produce oxygen that is crucial for many life forms on our planet. Through deforestation, large amounts of harmful greenhouse gases are set free which contributes to global warming. The problem of deforestation is especially severe in the Amazon Rainforest where large areas of forest are cut or burned down, often intentionally to get more land for farming purposes.



### **Landfills**

Landfills can also lead to environmental degradation if they are not set up properly. Since the waste disposed into landfills often contains harmful substances, leaks in landfills can lead to significant soil pollution.

In many developing countries where technological progress is not advanced yet, leaks in landfills are quite common which in turn can lead to serious environmental degradation.



### **Consumption behavior**

Our consumption behavior is also a big problem for our planet. Since we always want to have the newest smartphone, the trendiest clothes and so on, our consumption levels reached a point where it is not sustainable for our environmental system anymore. Our excessive consumption implies the excessive extraction of precious resources out of the ground, which implies several kinds of environmental degradation. Moreover, our material goods have to be produced in industrial processes, which lead to the emission of large amounts of harmful gases into our atmosphere.

## **Waste production**

Our excessive consumption behavior also implies the production of enormous amount of waste. In order to get rid of this waste, it has to be burned or disposed into landfills. Moreover, in some countries, waste is also dumped illegally into lakes, rivers or forests, where it can lead to significant water and soil degradation.



## **Lack of education**

Many people are just not aware of how their actions influence the health of our environmental system. People are often overwhelmed with their own problems and do not have time or energy to think about our planet. This mix of a lack of education and simple ignorance can cause significant environmental degradation.

## **Illegal Dumping**

Illegal dumping can also cause environmental degradation since it can lead to several kinds of pollution. For example, by dumping waste into rivers, lakes or the ocean, the water gets polluted to a severe degree which in turn can lead to the contamination of many fishes and other sea animals. Moreover, trash is also often disposed into forests, where it can contaminate the soil which in turn may also lead to groundwater contamination since rainfalls may wash harmful substances through the soil into the groundwater.



### **Agricultural pollution**

Another cause of environmental degradation is agricultural pollution. Since in agricultural processes, large amounts of fertilizer and pesticides are used, the soil can become degraded due to harmful components in these substances. This can lead to soil pollution and may also destroy the fertility of the fields in the long run.



### **Littering**

Littering is quite common in many nowadays societies. We often see people dispose of their used cigarettes on the ground right where they stand even if a trash bin is just a few meters away. This can lead to serious environmental degradation since animals may try to eat the used cigarettes and may die due to that. Additionally, the disposal of used cigarettes in forests is a main cause for wildfires which also leads to significant ecological degradation.



### **Mining**

Mining can lead to serious degradation of the environment since for mining practices, large areas of land have to be used. This often also includes deforestation in these areas and the related adverse effects. Thus, natural habitats for many animals and plants may be destroyed due to mining practices.



### **Plastic pollution**

The amount of plastic trash that is produced each year is enormous. For instance, it is estimated that worldwide, we use around 500 billion disposable plastic cups each year. You can imagine the amount of waste that is produced! Since plastic often has to be burned in order to get rid of it, this combustion leads to the emission of harmful gases into our atmosphere. Moreover, part of the plastic trash also ends up in our oceans where it leads to enormous water degradation and to the death of many sea animals.





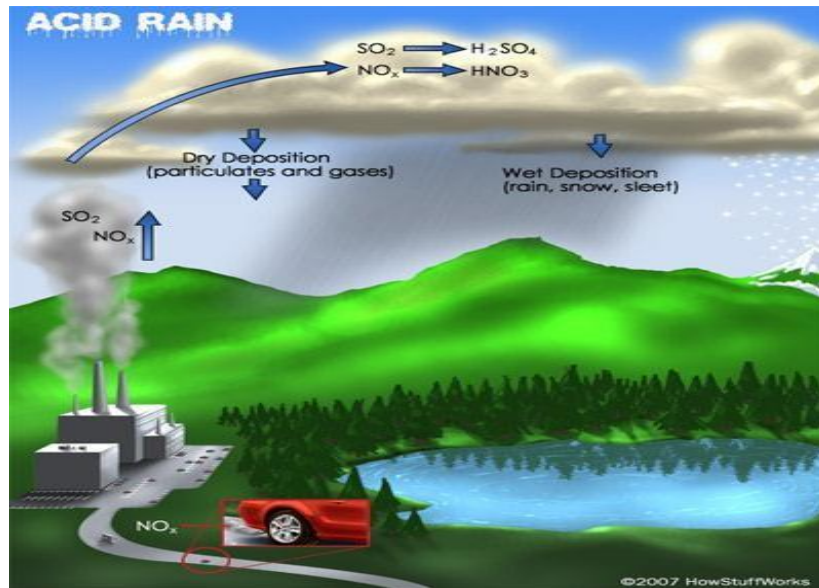
### **Resource depletion**

Since the total number of people on our planet increases and people strive for higher living standards, in order to meet the supply for material goods, excessive amounts of natural resources have to be extracted out of our earth. This will eventually lead to the depletion of many natural resources.



### **Effects of Environmental Degradation**

**Acid rain** Environmental degradation can lead to acid rain. Through significant amounts of air pollution in industrial processes, components that cause acid rain are also emitted into the air. Moreover, through the use of deodorants and other daily life items, we further contribute to acid rain on a daily basis



### **Biodiversity loss**

Environmental degradation can also lead to a loss of biodiversity. Land and soil degradation can harm many plants. Since plants are usually quite sensitive to their natural living conditions, the contamination of soil with harmful substances may lead many plants to die off. Moreover, animals who rely on these plants will also decrease in population. Additionally, due to deforestation, many animals will lose their natural habitats and the populations of these animals will diminish.



### **Floods**

Due to deforestation, floods are likely to become more common since there are not enough trees left to store the water. Floods in turn may lead to severe environmental effects, which may affect the local flora and fauna but also humanity.



### **Landslides**

Landslide may also be a cause of environmental degradation. Landslides are often also connected with deforestation since the roots of trees are holding the soil together. If the trees are cut or burned down, they cannot hold the soil together anymore and therefore landslides become happen more frequently.



### **Soil erosion**

Soil erosion is another problem caused by ecological degradation. Soil erosion can either be caused by natural forces like wind or water or can be caused by human behavior like deforestation or the building of dams. Either way, soil erosion can lead to severe environmental degradation since large areas of land can become useless due to the erosion of soil.



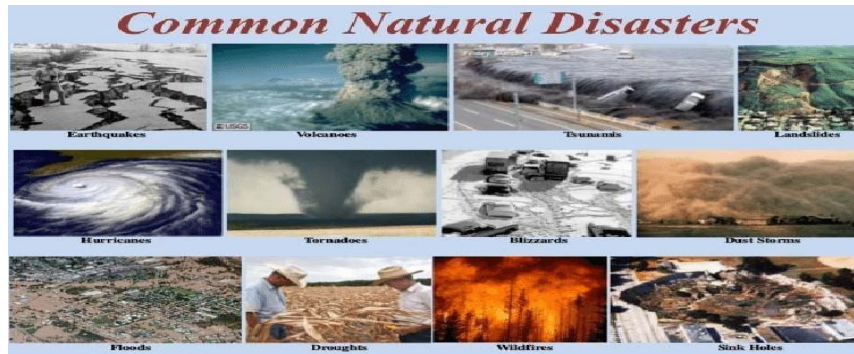
### **Endangerment of species**

Another cause of environmental degradation may be the endangerment or even the extinction of species. Many animals and plants are quite sensitive to their natural environmental conditions. Thus, if these conditions are altered due to pollution or deforestation, these animals and plants will decrease in populations. For animals that only exist in a few areas on our planet, if these areas are hit by environmental degradation, chances are that these animals become endangered or eventually even extinct.



### **Natural disasters**

Natural disasters can also happen more frequently due to human interventions with nature. For example, due to global warming, air and sea temperature increase this leads to a higher probability for severe storms and floods.



### Global warming

The speed of global warming can also be increased due to environmental degradation. For instance, trees are a natural storage space for greenhouse gases like carbondioxide. Through deforestation, the affected areas are now no longer able to store greenhousegases and will emit them into the atmosphere. Moreover, through industrial production processes, electricity generation and the daily use of our cars, we further contribute to climate change since most of these processes involve the combustion of fossil fuels which leads to the emission of enormous amounts of greenhouse gases into the atmosphere.



### Public health problems

Environmental degradation can also lead to severe public health issues. In many countries, due to deforestation, mining or other practices caused by human interactions with nature, the probability of floods or other natural disasters will increase over time. The effects of those natural disasters will be horrible. Many people will lose their homes and will suffer from quite poor hygienic conditions due to the destruction of important infrastructure. These

conditions support the spread of diseases and may kill many people.



### **Loss of livelihood for many people**

Many people will lose their livelihood and their homes due to the effects of environmental degradation. For instance, due to global warming, large areas of land will not be suitable for settlement purposes anymore since due to the rising sea levels, these areas will simply get flooded. Moreover, some areas will also not be suitable for housing purposes anymore since there will be a lack of drinking water. Without water, farming and other tasks that may ensure the livelihood of people will no longer be possible. These adverse effects will lead to the migration of large numbers of people since they will have to relocate in order to find a livable future.



### **Famine**

Environmental degradation will also like to significant levels of famine. Due to global warming, there will be a lack of drinking water. Moreover, several kinds of pollution further decrease the amount of clean. Since water is crucial for all life on earth, a lack of water will lead to significant levels of famine since people will no longer be able to tilt their fields or grow crops due to water shortage.



### **Conflicts**

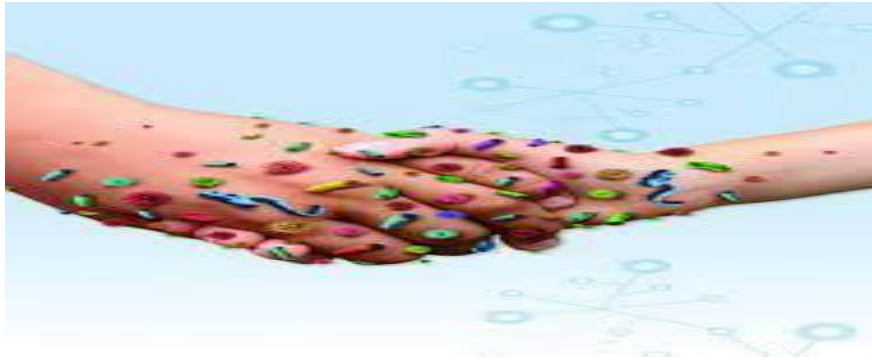
Famine and poverty due to environmental degradation also increase the probability of conflicts.

Since people become more frustrated and desperate, they will be more willing to engage in local conflicts in order to ensure their livelihood. They may also be more willing to participate in radical activities due to their desperation.



### **Spread of diseases**

Natural disasters due to ecological degradation may also increase the probability of the spread of diseases which may result in epidemics or even pandemics. Natural disasters often cause vast devastation of infrastructure and also quite unhygienic living conditions. These conditions increase the probability of the spread of diseases and may also lead to the spread of serious health conditions across borders.



### **Loss in tourism**

Many poor countries rely on tourism as their most important source of income. Due to environmental degradation, this income will decrease or even fully vanish. Imagine a beach that is covered with plastic. Would you enjoy spending your vacation on this beach? I don't think so. Thus, if countries will not able to deal with the vast amounts of waste produced, they may lose many tourists since tourists usually prefer nice clean spots instead of polluted ones to spend their vacation.



### **Economic effects**

Apart from the detrimental effects of environmental degradation on our environment, there are also severe adverse economic effects related to the issue. Since large areas of land will be no longer be suitable for agricultural or settlement purposes due to rising sea levels and the flooding of these areas, we will lose significant sources of food and income. Moreover, through several kinds of pollution, humanity will further lose future income prospects.





## **Solutions for Environmental Degradation**

### **Stop deforestation**

In order to mitigate the adverse effects of environmental degradation, it is crucial that we stop or at least reduce the issue of deforestation. We need our trees to store greenhouse gases and to produce oxygen and cannot afford to cut or burn them down. Moreover, forests are a natural habitat for many animals and plants which may become endangered if these forests are cut down. Therefore, stopping deforestation is crucial for our environmental system. We could further make a positive impact through reforestation or afforestation.



### **High fines for illegal dumping**

There should also be high fines for illegal dumping in order to reduce the adverse ecological consequences. If there are only low fines, people and industries will continue to dump their trash illegally since they know that even if they get caught, penalties are quite low. Consequently, raising fines for illegal dumping would increase the incentive to dispose of trash at official waste disposal sites.



### **Stricter government regulations**

Whenever there are problems that lead to significant eco-degradation, governments should intervene and set a framework to kill the incentive for these kinds of behavior. For instance, this could come in the form that governments set high taxes for activities that harm our planet and support environmentally-friendly behavior with financial subsidies. By doing so, industries and also private people get a higher incentive to avoid environmental degradation.



### **Nature reserves and biotopes**

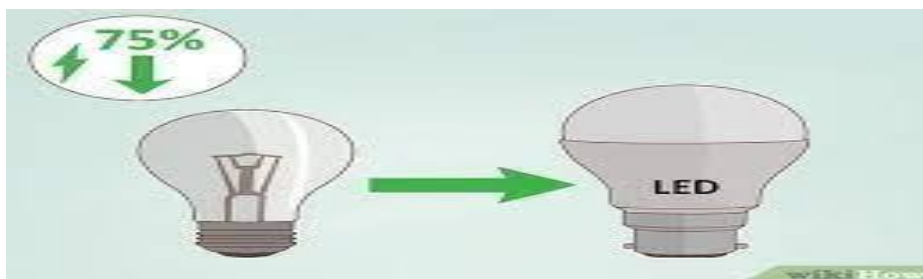
Nature reserves and biotopes could also mitigate the problem of environmental degradation. On the one hand, nature reserves provide a space for our stressed society to rest and reload their batteries.

On the other hand, they provide many animals and plants with a habitat where they can grow in population and therefore avoid the risk to become extinct in the future.



### **Reduce consumption levels**

In order to transit to sustainable environmental behavior, it is crucial that we reduce our consumption levels. Our Western society always strives for the newest electronics, the newest Smartphone, the trendiest clothes and so on. However, this behavior leads to massive resource depletion and also to excessive waste production. In order to avoid the adverse ecological consequences, we have to lower our consumption levels significantly.



### **Reduce waste production**

We should also try to reduce our waste production. This can come in the form that you use your items and food more efficiently. Moreover, when you want to get rid of old but still working things, ask your family or friends if they want to reuse your old stuff. By doing so, your material things will be used more effectively. If no one wants to use your old belongings, separate your waste properly in order to ensure efficient recycling.



### **Refrain from plastic packaging and disposable cups**

Plastic waste is a big environmental issue that leads to significant plastic pollution and the adverse consequences for our planet. In order to save plastic waste, try to avoid buying items that are wrapped or packaged into plastic. Moreover, refrain from using disposable plastic cups and bring your own much instead which can be reused several times.



## Education

In order to mitigate the problem of environmental degradation, it is crucial that we educate people about the adverse environmental consequences of our daily life behavior and how we can improve our ecological footprint. This education should start early in school since children are usually more eager to learn new things and to change their behavior compared to adults. These children are more likely to behave environmentally-friendly when they grow up. Moreover, they might also convince their parents to behave in a more ecologically friendly manner.



## Convince others

As we have seen in the previous analysis, you can make a big impact in your daily life to save our environment. However, you can further enhance your positive impact by convincing other people regarding the importance to save our planet. You should show them what environmental degradation really means for future generations and how we can prevent these adverse effects by changing small things in our daily life.



## Conclusion

Environmental degradation is a serious problem for humanity. If we continue our consumption and daily life behavior like we, did it for the last decades, future generations will suffer from enormous adverse consequences. Now is the time to fight environmental degradation! Otherwise, you have to explain to your children and your children's children why our earth has become a place with a low overall quality of life instead of a paradise. Thus, if we all stick together, we can make a significant impact and preserve the precious variety of animals and plants on our planet.

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