

## ENVIRONMENTAL CHANGES AND EFFECT ON HUMAN

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**Abstract:** *In recent decades environmental problems have become globalized in terms of their existence and impacts as well as the socioeconomic forces that generate them. After briefly noting the growth of international awareness of environmental problems, this entry examines first the nature of environmental problems and their global reach, then evidence that humans are increasingly pushing against global ecological constraints, next the global politico-economic forces that generate and exacerbate ecological degradation on a worldwide basis, and finally ends with concluding remarks.*

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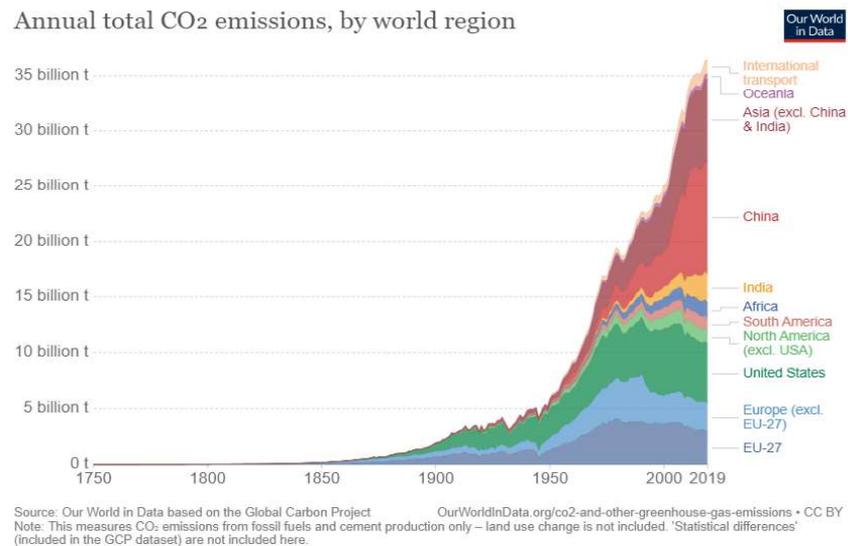
### Introduction :

As President Jimmy Carter once remarked when addressing the US Congress in 1976, to avoid a cycle of energy and climate crises: “We must face the prospect of changing our basic ways of living. This change will either be made on our own initiative in a planned way or forced on us with chaos and suffering by the inexorable laws of nature.” The average temperature in many regions has been increasing in recent decades. The global average surface temperature has increased by 0.6° C – 0.20° C over the last century. Globally, 1998 was the warmest year and the 1990s the warmest decade on record. Many countries have experienced increases in rainfall, particularly in the countries situated in the mid-to high-latitudes

Nowadays, people around the world have been focusing on facing climate change. Climate change is the major global challenge today, and the world is becoming more vulnerable to this change. The recent report from United Nations predicted that average global temperature could increase by 6° Celsius at the end of the century (Vidal 2013). Increasing temperature causes warming oceans and leads to changing weather and rainfall patterns which threaten both urban and rural populations

Human societies will be seriously affected by extremes of climate such as droughts and floods. A changing climate would bring about changes in the frequency and/or intensity of these extremes. This is also a fundamental concern for human health. To a large extent, public health depends on safe drinking water, sufficient food, secure shelter, and good social conditions. All these factors are affected by climate change.

With global warming the vegetation with large areas; the earth changes. This leaves animals remaining with reducing the amount of food, for instance, the koala's habitat is in a eucalyptus forest which they feed on the leaves, but if too much carbon dioxide suddenly occurs near the area, it changes the chemical composition leaving the leaves toxic to the koalas which threaten their extinction.



The present changeable atmosphere design is profoundly questionable issue. The afflictions of the conflicting marvels of environmental change has united the whole world to talk about on the approaches to reduce environmental change. Climatic unpredictability is among the significant issues that earth is looking in contemporary time. Environmental change is likewise considered as one of the significant block of supportable improvement and United Nation's Millennium Development Goals. Environmental change and fluctuation have turned into the huge natural worry of the twenty-first century; the potential effects and easing of environmental change should be broken down inside the domain of supportable advancement.

The Earth's atmosphere is changing, and the logical accord isn't just that human obstruction has added to it essentially, however that the change is significantly more quick and unsafe than thought of before. Worldwide environmental groupings of CO<sub>2</sub>, methane and nitrous oxide have been expanding particularly because of human exercises since 1760 and by a long shot surpass preindustrial values got from ice centres crosswise over a huge number of years.

### **Cause And Effect By Changes In Environment :**

There are two main causes of Environment changes – natural causes and human activities. Natural causes have influenced the earth's climates such as volcanic eruptions, ocean current, the earth's orbital changes and solar variations. The eruptions of volcanoes cause a cooling effect on the earth. When a volcano erupts it throws out large volumes of sulphur dioxide (SO<sub>2</sub>), water vapour, dust, and ash into the atmosphere. The volcano eruptions will affect the climatic pattern for years although the eruptions occur in a few days. The sulphur dioxide gas will reach the upper level of the atmosphere. The tiny particles, dusts and ashes will block the incoming sun rays and this will leads to cooling at the atmosphere. This is because the bouncing of sunlight to the space is cooling the atmosphere of the earth

Furthermore, ocean current is one of the natural cause that affecting climate changes.

The ocean is the major component of the climate system. The oceans cover about 71% of the earth and absorb about twice as much of the sun's radiation as the atmosphere or the land surface. Winds push horizontally against the sea surface and drive ocean current patterns. Besides that, the oceans also play an important role of the concentration of carbon dioxide. The changes in ocean circulation will affect the climate through the movement of carbon dioxide into or out of the atmosphere. Moreover, another cause that affects climate changes is the earth's orbital changes. The earth makes one full orbit around the sun every year. If there is no tilt we will not experience seasons. Changes in the tilt of the earth can affect the severity of the seasons. For example, if there is more tilt means we will experience warmer summers and colder winters and if there is less tilt means we will experience cooler summers and milder winters

Another main cause that leads to climate changes is human activities. From the 19th century, the Industrial Revolution saw the large-scale use of fossil fuels for industrial activities. Therefore, they created many jobs for the people. And many people moved from rural areas to cities. Many vegetation areas were cleared to become houses or factories for industries. Natural resources are being used extensively for construction, industries, transport, and consumption. All this has contributed to the rises of greenhouse gases such as methane and nitrous oxide in the atmosphere. Human is generating industries factories and houses, and running the vehicles that used many fossil fuels such as coal, oil and natural gases. These uses of fossil fuel will leads to climate changes. Global climate change is caused by the fertiliser that used for agricultures. The result of microbial action in the soil, these chemical will release nitrous oxide. Besides that, the emission of methane and carbon dioxide will also affect climate changes. In addition, the increasing of agriculture is also caused by the increasing of human population in the world.

All the causes are giving a great impact for environment changes in our earth. What are the consequences of these causes for the climate changes to our world? We can see that there are three main effects on climate changes in our environment. Firstly, climate change in the world will affects human health. There are so many past researches showed that climate change will leads to human health and producing diseases. For example, in the research paper by Healey et al., 2010 that I have read said that "the climate change is affecting the health of northern people such as Nunavut, Canada." Besides that, Cecchi et al. (2010) have conducted the research on the effects of climate change on allergic asthma. Moreover, Mickley, 2007 stated that "high levels of surface ozone and particles have been implicated in many diseases involving the cardiac and respiratory systems." These researches showed that the climate changes are seriously affecting the human's health.

Secondly, climate changes will also affect the biodiversity. Biodiversity is very important for the plants and animals to maintain their habitat and ecosystem. The climate changes have impacted the loss of biodiversity. For example, the water sources may change, the food chain may destroy and the medicine sources may change. In addition, the marine ecosystem will be affected not only by an increase in sea temperature but also ocean acidification, which increases the vulnerability of fragile ecosystems such as coral reefs

**Remediation :**

Environmental remediation deals with the removal of pollution or contaminants from environmental media such as soil, groundwater, sediment, or surface water. Remedial action is generally subject to an array of regulatory requirements, and may also be based on assessments of human health and ecological risks where no legislative standards exist, or where standards are advisory.

**Technologies Developed By Various Country To Regain Balance Of Environment :**

- Bioremediation is a process that treats a polluted area either by altering environmental conditions to stimulate growth of microorganisms or through natural microorganism activity, resulting in the degradation of the target pollutants. Broad categories of bioremediation include biostimulation, bioaugmentation, and natural recovery (natural attenuation). Bioremediation is either done on the contaminated site or after the removal of contaminated soils at another more controlled site
- Stabilization involves the addition of reagents to a contaminated material (e.g. soil or sludge) to produce more chemically stable constituents; and
- Solidification involves the addition of reagents to a contaminated material to impart physical/dimensional stability to contain contaminants in a solid product and reduce access by external agents (e.g. air, rainfall).
- Nanoremediation: Using nano-sized reactive agents to degrade or immobilize contaminants is termed nanoremediation. In soil or groundwater nanoremediation, nanoparticles are brought into contact with the contaminant through either in situ injection or a pump-and-treat process. The nanomaterials then degrade organic contaminants through redox reactions or adsorb to and immobilize metals such as lead or arsenic.

**Seven Biggest Environmental Threats:**

- Climate Change.
- Species Extinction and Biodiversity Loss..
- Air and Water Pollution.
- Water Crisis.
- Natural Resources Drain.
- Deforestation Impact.
- Soil Degradation.

**Conclusion :**

Our environment provides us all basic and essential ingredients of life. All natural components of our environment are vitally important. Modernization and development has caused sharp increase in environmental degradation. The quality of natural components is at risk. It is decreasing with a rapid pace. Urbanization and deforestation contribute more in environmental pollution. It is believed that the environment is the source of survival. All components of environment are our basic needs. Destruction of environment is akin to death

of all life forms on this planet earth. Our lives are entirely built on our natural environment. We must not change natural environment into an artificial one. It's our first and foremost responsibility to save our environment.

**Reference :**

- Wikipeda [https://en.wikipedia.org/wiki/Environmental\\_remediation](https://en.wikipedia.org/wiki/Environmental_remediation)
- Major Causes of Climate Change and Three Possible Strategies to Address Its Negative Impact
- [https://www.researchgate.net/publication/324389448\\_Major\\_Causes\\_of\\_Climate\\_Change\\_and\\_Three\\_Possible\\_Strategies\\_to\\_Address\\_Its\\_Negative\\_Impact](https://www.researchgate.net/publication/324389448_Major_Causes_of_Climate_Change_and_Three_Possible_Strategies_to_Address_Its_Negative_Impact)
- sciencedirect topic <https://www.sciencedirect.com/topics/engineering/remediation>
- <https://ourworldindata.org/co2-emissions>