

Understanding Climate Change



What is Climate Change?

* Climate change means a significant change in the measures of climate, such as temperature, rainfall, or wind, lasting for an extended period—decades or longer.

* The Earth's climate has changed many times during the planet's history, with events ranging from ice ages to long periods of warmth. What's different about this period of the earth's history is that human activities are significantly contributing to natural climate change through our emissions of greenhouse gases.

* In 1850, the modern industrial revolution started and fossil fuels like coal, oil and petroleum became stable fuels. The burning of the fossil fuels has produced and significantly increased the amount of greenhouse gases in the atmosphere.

* This interference is resulting in increased air and ocean temperatures, drought, melting ice and snow, rising sea levels, increased rainfall, flooding and other influences.





What are Greenhouse Gases?

* 1% of the atmosphere is made up of trace gases & greenhouse gases. Greenhouse gases are gases which keep our earth's temperature stable by trapping sun's heat.

* Some of the major greenhouse gases are carbon dioxide, methane, ozone, chloroflourocarbons, hydroflourocarbons, nitrous oxide and water vapor.

* Carbon dioxide is naturally occurring in the Earth's atmosphere and in oceans and forests. But the percentage of CO₂ in the atmosphere has increased exponentially ever since human beings have been emitting it into the atmosphere in their pursuit of industrialization, economic growth, and better lifestyles. That now, carbon dioxide is responsible for over half the effect of global warming.

* These excessive greenhouse gases which are being released in the atmosphere also commonly called as emissions, are working like extra blankets over the earth's surface and trapping more heat, leading to rise in earth's temperature causing climate change!

* More Greenhouse Gases released lead to the warmer world.

Impacts of Climate Change

* Climate change is leading to extreme weather events where high-intensity heavy rains in short periods are causing massive floods and extreme droughts are continuing for years together.

* Extreme weather conditions caused by climate change will have a direct effect on the agricultural sector of the country which hurt the economic growth of the country.

* One of the most dramatic impacts of climate



change can be seen on Himalayan Glaciers which have receded at an alarming rate in the recent past. Losing glaciers will affect the rivers like Ganga, Indus and Yamuna affecting up to 200 million people.

- * Plants, animals and biodiversity are also affected adversely due to floods, droughts and extreme weather conditions, for e.g. the endangered Royal Bengal tiger will lose a large portion of their habitat as the Sundarbans succumb to sea level rise, thereby threatening their existence.



- * Sea Level Rise is expected to increase because of climate change. Coastal cities like Kolkata, Mumbai, Dhaka are under threat, and so are millions of people living near the coast.

- * Climate change will also have health impacts, as warmer temperatures will prove to be conducive for breeding of mosquitoes spreading diseases like dengue and malaria.



- * Heat waves will further intensify and will lead to more fatalities during summers.

Solutions to Climate Change

- * Give up dependence on fossil fuels and make a transition to cleaner sources of energy. Renewable energy such as solar & wind energy come from resources that are naturally available, nonpolluting.



- * Energy Efficiency, which aims to reduce the amount of energy required to power our goods and services, needs to be prioritized.

- * Plant trees, they not only take in carbon-dioxide and release oxygen but also help maintain the biodiversity.

- * Change old incandescent bulbs with LED.



* Buy appliances like Fridge, TV, Microwave, washing machines which are atleast 3 star rated or more by BEE.

* Use public transportation and promote adoption of electric vehicles.

* Making life style changes like using AC at 25 degrees, avoiding food wastage, reducing energy usage, practicing 3R's can also help in combating climate change.

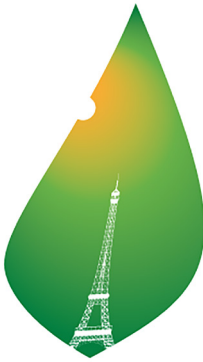
Paris Agreement- COP 21

In December 2015 at COP 21 in Paris, 195 Nations have come together to make landmark deal to tackle global warming and agreed to hold global temperature rise this century below 2 degrees Celsius above preindustrial levels.

India made following commitments under Paris Agreement-

- To reduce GHG emissions of its GDP by 33-35% below 2005 levels by 2030,
- To base its 40% power capacity on non-fossil fuel and
- To create a 'carbon sink' of 2.5-3 billion tonnes of carbon dioxide through forest and tree covers.

India has become one of the top renewable energy producers globally, with plans to achieve 175GW by 2022 and 500GW by 2030.



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