

Unit-3

Q1. What is carbon footprint? Discuss the three goals of Paris Agreement.

What is carbon footprint?

A measure of the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization, or community.

OR

A carbon footprint is the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by our actions.

Discuss the three goals of Paris Agreement.

->Paris Agreement: The Paris Agreement is an international treaty signed in 2015 by 196 countries that aims to limit global warming by reducing greenhouse gas emissions and promoting sustainable development.

->The three goals

1*The first goal of the Paris Agreement is to limit the increase in global average temperature to well below 2 degrees Celsius above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius.

2*Review countries' commitment to cutting carbon emissions every five years

3*Provide climate finance to developing countries

1. Limit global warming to well below 2 degrees Celsius: The first goal of the Paris Agreement is to limit global warming to well below 2 degrees Celsius above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius. This goal is based on scientific evidence that suggests

that warming beyond this level could lead to catastrophic impacts, such as widespread drought, famine, and extreme weather events.

To achieve this goal, countries are required to submit nationally determined contributions (NDCs) that outline their plans to reduce greenhouse gas emissions. These contributions are reviewed every five years to ensure that they are in line with the goal of limiting global warming to well below 2 degrees Celsius.

2. Enhance the ability of countries to deal with the impacts of climate change: The second goal of the Paris Agreement is to enhance the ability of countries to deal with the impacts of climate change, such as rising sea levels, drought, and extreme weather events. This goal recognizes that even if global warming is limited to well below 2 degrees Celsius, there will still be significant impacts of climate change that need to be addressed.

To achieve this goal, the Paris Agreement establishes a global goal on adaptation and requires countries to develop and implement adaptation plans. The agreement also establishes a financial mechanism to support adaptation efforts in developing countries.

3. Promote sustainable development: The third goal of the Paris Agreement is to promote sustainable development, with a focus on eradicating poverty and reducing inequality. This goal recognizes that the transition to a low-carbon economy must be accompanied by efforts to promote economic growth, social inclusion, and environmental sustainability.

To achieve this goal, the Paris Agreement establishes a framework for sustainable development, which includes the promotion of renewable energy, energy efficiency, and sustainable land use. The agreement also recognizes the importance of technology transfer and capacity building to support sustainable development in developing countries.

Overall, the Paris Agreement represents an ambitious effort to address the global challenge of climate change by reducing greenhouse gas emissions, enhancing the ability of countries to deal with the impacts of climate change, and promoting sustainable development.

Q2. What is climate change? How does it impact the environment and human health?

Climate change refers to long-term shifts in weather patterns and average temperatures of the Earth's atmosphere and oceans. It is primarily caused by human activities, particularly the burning of fossil fuels such as coal, oil, and natural gas, which release greenhouse gases (GHGs) into the atmosphere.

Burning fossil fuels generates greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures.

The main greenhouse gases that are causing climate change include carbon dioxide and methane. These come from using gasoline for driving a car or coal for heating a building, for example. Clearing land and cutting down forests can also release carbon dioxide. Agriculture, oil and gas operations are major sources of methane emissions. Energy, industry, transport, buildings, agriculture and land use are among the main sectors causing greenhouse gases.

IMPACTS ON HUMAN HEALTH

Climate change threaten our health by affecting the food we eat, the water we drink, the air we breathe, and the weather we experience.

The severity of these health risks will depend on the ability of public health and safety systems to address or prepare for these changing threats, as well as factors such as an individual's behavior, age, gender, and economic status. Impacts will vary based on a where a person lives, how sensitive they are to health threats, how much they are exposed to climate change impacts, and how well they and their community are able to adapt to change.

Certain populations, such as children, pregnant women, older adults, and people with low incomes, face increased risks.

- 1. Climate change impacts on their mental health. In particular, experiencing an extreme weather event can cause stress and other mental health consequences, particularly when a person loses loved ones or their home. Studies have found that having a pre-existing mental illness tripled the risk of death during heat waves.**
- 2. Increased heat-related illnesses: Heatwaves and higher temperatures can result in heat-related illnesses, such as heat exhaustion and heatstroke. Vulnerable populations, including the elderly and those with underlying health conditions, are particularly at risk.**
- 3. Spread of vector-borne diseases: Climate change can affect the distribution and abundance of disease-carrying vectors like mosquitoes and ticks. This can lead to the spread of diseases like malaria, dengue fever, Lyme disease, and Zika virus.**
- 4. Air pollution-related health issues: Climate change can worsen air pollution, especially in urban areas. Poor air quality contributes to respiratory problems, allergies, and cardiovascular diseases.**
- 5. Food and water insecurity: Changes in precipitation patterns and rising temperatures can disrupt agricultural productivity and water availability. This can lead to food and water scarcity, malnutrition, and increased vulnerability to infectious diseases.**

IMPACT ON ENVIRONMENT

Climate change is having a significant impact on our environment. It's causing more frequent and severe weather events, rising sea levels, and changes in ecosystems. These impacts can lead to a variety of negative consequences for people, wildlife, and the planet as a whole.

- 1. One of the most visible impacts of climate change is the increase in extreme weather events. Hurricanes, droughts, and wildfires are becoming more frequent and severe, causing damage to infrastructure, homes, and crops. These events can also lead to loss of life and displacement of people. For example, Hurricane Katrina in 2005 caused over 1,800 deaths and over \$100 billion in damages.**
- 2. Rising sea levels are another major impact of climate change. As temperatures warm, glaciers and ice sheets melt, causing the oceans to rise. This can lead to flooding and erosion, particularly in low-lying areas.**
- 3. Changes in ecosystems are also occurring as a result of climate change. Plants and animals are shifting their ranges in response to changing temperatures and precipitation patterns. This can lead to mismatches between species that rely on each other, such as pollinators and plants. Changes in migration patterns can also impact wildlife populations, as they may not be able to find suitable habitats or food sources. These changes can have cascading effects on entire ecosystems, leading to declines in biodiversity and changes in nutrient cycling.**

Overall, the impacts of climate change on the environment are significant and wide-ranging. They can have negative consequences for people, wildlife, and the planet as a whole. Addressing climate change will require a concerted effort from individuals, governments, and businesses to reduce greenhouse gas emissions and transition to cleaner forms of energy.