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GLOBAL WARMING - ENVIRONMENTAL PROTECTION

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ABSTRACT

Global warming is the current increase in temperature of the Earth's surface (both land and water) as well as its atmosphere. Average temperatures around the world have risen by 0.75°C (1.4°F) over the last 100 years about two thirds of this increase has occurred since 1975. The effect of global warming is now predominant in many parts of the world. Twelve warmest years have occurred in 1900s among which 10 have occurred between 1987 and 1998. The energy availability, which was increased due to increase in temperature, had created a ripple effect throughout the Earth system with local, regional, and global positive feedbacks feeding on each other to amplify and accelerate warming. Global warming is one of the greatest environmental, social and economic threats facing the planet. Deforestation is the cutting down of trees and plants to make way for any development activity. Mother Nature taking out an entire forest is one thing, but man doing it for the use of crop cultivation, fuel, and other consumption, is another. Everyday billions of vehicles release various gases into the atmosphere. This causes earth to warm up and increase its average temperature. Landfills are those big chunks of garbage that stink and can be seen in so many places around the world. Another cause of global warming is overpopulation. Since carbon dioxide contributes to global warming, the increase in population makes the problem worse because we breathe out more carbon dioxide in the atmosphere. Environment means all the natural surroundings such as land, air, water, plants, animals, solid material, wastes, sunlight, forests and many other things. Environmental protection is a practice of protecting the natural environment on individual, organization controlled on governmental levels, for the benefit of both the environment and humans. The environment is very important for the existence of life. The rapid human caused warming of the Earth over the last century carries serious consequences for our environment and health. Protection of the environment can be done through reducing pollutants or anything that leads to its degradation. God's gift must not be taken for granted—it must be cared for. If not, humanity will face the divesting consequences of its actions.

Keywords: Global warming, Environmental Protection, Environment Degradation, Environmental changes.

INTRODUCTION

Global Warming: Global warming is the current increase in temperature of the Earth's surface (both land and water) as well as its atmosphere. Average temperatures around the world

have risen by 0.75°C (1.4°F) over the last 100 years about two thirds of this increase has occurred since 1975. In the past, when the Earth experienced increases in temperature it was the result of natural causes but today it is being caused by the accumulation of greenhouse gases in the atmosphere produced by human activities.

The natural greenhouse effect maintains the Earth's temperature at a safe level making it possible for humans and many other life forms to exist. However, since the Industrial Revolution human activities have significantly enhanced the greenhouse effect causing the Earth's average temperature to rise by almost 1°C. This is creating the global warming we see today. To put this increase in perspective it is important to understand that during the last ice age, a period of massive climate change, the average temperature change around the globe was only about 5°C.

Environmental Protection: Environmental protection is a practice of protecting the natural environment on individual, organisation controlled on governmental levels, for the benefit of both the environment and humans. Due to the pressures of overconsumption, population and technology, the biophysical environment is being degraded, sometimes permanently. This has been recognized, and governments have begun placing restraints on activities that cause environmental degradation.

Environment means all the natural surroundings such as land, air, water, plants, animals, solid material, wastes, sunlight, forests and many other things. It is the mixture of gases supporting variety of life. Much variation in temperature, biotic factors is common in atmosphere. It has a great role in maintaining equilibrium. Healthy environment maintains the nature's balance as well as it helps in growing, nourishing and developing all the living things on the earth. Environmental protection is a practice of protecting the natural environment on individual, organization controlled on governmental levels, for the benefit of both the environment and humans. Due to the pressures of overconsumption, population and technology, the biophysical environment is being degraded, sometimes permanently. This has been recognized, and governments have begun placing restraints on activities that cause environmental degradation. Since the 1960s, activity of environmental movements has created awareness of the various environmental problems. God's gift must not be taken for granted—it must be cared for. If not, humanity will face the divesting consequences of its actions.

EFFECTS OF GLOBAL WARMING:

The effects of global warming are the environmental and social changes caused (directly or indirectly) by human emissions of greenhouse gases. There is a scientific consensus that climate change is occurring, and that human activities are the primary driver. The effect of global warming is now predominant in many parts of the world (**Figure 1**). Twelve warmest years have occurred in 1900s among which 10 have occurred between 1987 and 1998. The energy availability, which was increased due to increase in temperature, had created a ripple effect throughout the Earth system with local, regional, and global positive feedbacks feeding on each other to amplify and accelerate warming. Abnormality in climatic pattern, induced by the accelerated warming, had started to effect catchment-specific hydrologic cycles. In the last 10 years, floods have caused more damage than in the previous 30 years. Higher temperatures lead to a higher rate of evaporation and very dry conditions in some areas of the world. Severe weather events are now more common (**Figure 2**).

Global warming is one of the greatest environmental, social and economic threats facing the planet. The warming of the climate system is unequivocal, as is now evident from observations of increase in global average air and ocean temperatures, wide spread melting of snow and ice, and rising global mean sea level. While the world's climate has always varied naturally, the vast majority of scientists now believe that rising concentrations of green house gases in the earth atmosphere, resulting from economic and demographic growth over the last two centuries since the industrial revolution are overriding this natural variability and leading to irreversible climate change in the global climate system that supports the planet's basic life support functions.

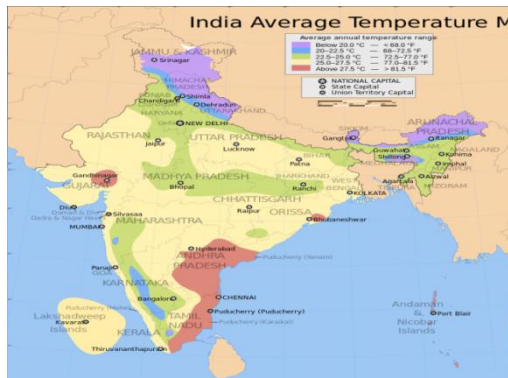


Fig.1: India average Temperature Mean

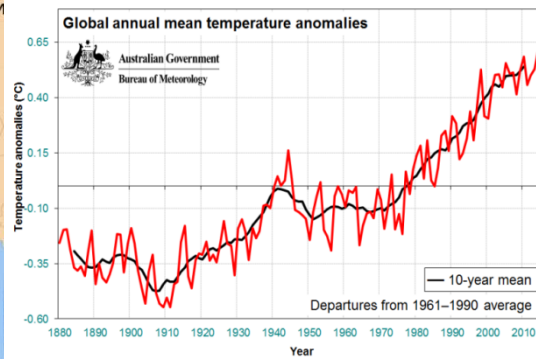


Fig.2: Global annual temperature anomalies

Emergence of global warming due to climate change is the new and most talked subject of the day and rightly as it being the most threatening issue for very existence of life on the earth. It has been well documented that the green house gases like CO₂, CH₂, N₂O HFCs, PFCs, SF₆ are increasing alarmingly and every year temperature is rising due to these green house gases by about 0.2 degree centigrade indicating that the temperature will rise by nearly 5 degrees within a few years. Rising temperature very significantly flared during last few decades which were not seen in several centuries earlier. Carbon dioxide is one of the most responsible gases of global warming which is an outcome of fuel combustion.

India has emerged as one of the most vulnerable countries in the world, with a high-dependence on climate sensitive sectors such as agriculture, water resources, natural ecosystems and forestry, health, sanitation, infrastructure and energy.

MAN-MADE CAUSES FOR GLOBAL WARMING:

Man-induced Deforestation: Deforestation is the cutting down of trees and plants to make way for any development activity. Mother Nature taking out an entire forest is one thing, but man doing it for the use of crop cultivation, fuel, and other consumption, is another. Fuel used for wood and charcoal only adds to the polluted gases in the atmosphere. Our consumer commodities provided by forestry includes paper and lumber. The loss of our forests results in a chain reaction where too much carbon is released into the air, with not enough oxygen to combat it.

This means that it is very important to protect our trees to stop the greenhouse effect, and also so we can breathe and live. Deforestation is blamed for rise in the greenhouse gases present in the atmosphere by cutting or burning them. New development projects, requirement of land for homes and factories, requirement for wood and also soil erosion are the major factors that are causing deforestation, which in turn leading to global warming.

Fossil Fuels: Pollution whether it is vehicular, electrical or industrial is the main contributor to the global warming. Everyday billions of vehicles release various gases into the atmosphere. This causes earth to warm up and increase its average temperature. Over 75% of the electricity worldwide is produced by burning of fossil fuels. Many gases are sent into the air when fossil fuels are burnt of which main is the carbon dioxide gas. Fossil fuel like coal is burnt to produce electricity. Coal is the major fuel that is burnt to produce power. Coal produces around 1.7 times as much carbon dioxide per unit of energy when flamed as does natural gas and 1.25 times as much as oil. Industries on the other hand release various gases into the water and air. Carbon dioxide, methane and nitrous oxide are the major greenhouse gases.

Landfills: When we throw garbage out of our house it goes to landfills. Landfills are those big chunks of garbage that stink and can be seen in so many places around the world. The garbage is then used by big recycling companies to make some useful products out from it. Most of the time that garbage is burnt which releases toxic gases including methane into the atmosphere. These enormous amounts of toxic greenhouse gases when go into the atmosphere make global warming worse.

Overpopulation: Another cause of global warming is overpopulation. Since carbon dioxide contributes to global warming, the increase in population makes the problem worse because we breathe out more carbon dioxide in the atmosphere. More people mean more demand for food, more carbon dioxide in the atmosphere, more demand for cars and more demand for homes.

Mining: Oil and coal are two main culprits in producing greenhouse gases. Methane, like carbon dioxide creates a thick shield over the atmosphere trapping the sun's rays. With the continued use of mining operations, these harmful gases will only increase.

There are a number of natural causing factors involved in global warming. Global warming contributes to not only the fall of ecosystems, weather patterns, and rises in sea levels, but the overall quality of life we wish for on this planet. There are many things we can do to help reduce the amount of energy we consume. Switching to renewable energy, changing lifestyles and diets, and controlling our consumption of non-renewable products, can greatly make a huge difference.

EXPECTED IMPACTS OF GLOBAL WARMING:

(i). Most places will continue to get warmer, especially at night and in winter. The temperature change will benefit some regions, at least for a time, while harming others like, patterns of tourism will shift. The warmer winters will benefit health in some areas, but globally, mortality will rise due to summer heat waves and other effects.

(ii). Sea levels will continue to rise for many centuries. The last time the planet was 3°C warmer than now, the sea level was roughly 5 meters higher. That submerged coastlines where many millions of people now live. Also, storm surges will cause emergencies.

(iii). Weather patterns will keep changing, probably toward an intensified water cycle with stronger floods and droughts. Most regions that are now subject to droughts are expected to get drier (because of warming as well as less precipitation), and most wet regions will get wetter. Changes in extreme weather events are hard to predict, but in some regions storms with more intense rainfall are liable to bring worse floods. Mountain glaciers and winter snowcap will shrink, jeopardizing many water supply systems. Each of these changes has already begun to happen in some regions.

(iv). Ecosystems will be stressed, although some managed agricultural and forestry systems will benefit, at least in the early decades of warming. Uncounted valuable species, especially in the Arctic, mountain areas, and tropical seas, must shift their ranges. Many that cannot will face extinction. A variety of pests and tropical diseases are expected to spread to warmed regions. Each of these problems has already been observed in numerous places.

(v). Increased carbon dioxide levels will affect biological systems independent of climate change. Some crops will be fertilized, as will some invasive weeds (the balance of benefit vs. harm is uncertain). The oceans will continue to become markedly more acidic, gravely endangering coral reefs, and probably harming fisheries and other marine life.

(vi). There will be significant unforeseen impacts. Most of these will probably be harmful, since human and natural systems are well adapted to the present climate.

HOW TO PROTECT THE ENVIRONMENT?

The following protective and control measures are aimed at environmental protection.

Deforestation: Trees are very important. They play a great role in air purification; they are water catchment areas and a home to many other living species. The more trees we have the purer the air and the less the chances of having water problems. Animals also have their own habitat in the forests.

Use green technologies: Factories should try to go green. Use more environmentally friendly gases that are not harmful. Wind energy is one way to go about it. Solar energy is also an applicable method. Use of renewable energy will reduce the harmful chemicals.

Use fewer chemicals in factories: When the chemicals are less, this means that waste is also minimal. Most of the pesticides and fertilizers used in farms end up in water bodies. It is important to use a reasonable amount that will not be harmful.

Create awareness: It is important to educate people on the importance of environmental protection. The little things people do will do a long way in environmental protection. Encourage them on the importance of reusing and recycling. Encourage use of energy savers as well as collecting rain water. It is also important to educate on animal conservation as well as taking part in tree planting programs. There are so many organizations all over the world that are planting trees in the aim of saving the world.

PRACTICES HELP IN PROTECTING OUR ENVIRONMENT

We know that natural resources are getting depleted and environmental problems are increasing. Therefore, necessary to conserve and protect our environment. Following practices help in protecting our environment which is as follows-

- Reuses carry bags.
- Avoid unnecessary or wasteful packaging of products.
- Plant trees. They will help to absorb excess carbon dioxide.
- Don't burn any waste, especially plastics, for the smoke may contain polluting gases.
- Walk or cycle where it is safe to do so – walking is free; cycling can help to keep you fit.
- Treatment of sewage, so that it does not pollute the rivers and other water bodies.
- Judicious use of fertilizers, intensive cropping, proper drainage and irrigation.
- Rotation of crops.
- Composting organic solid waste for use as manure.
- Harvesting of rain water.
- National parks and conservation forests should be established by the government.
- Planting trees in place of those removed for various purposes.

CONCLUSION

The environment is very important for the existence of life. The rapid human caused warming of the Earth over the last century carries serious consequences for our environment and health. A holistic approach to mitigate climate change effects by all agencies and stakeholders through initiatives of awareness, training, capacity building and adopting more scientific approach towards development. The awareness of all stakeholders to climate issues is the key to enhancing preparedness and disaster proofing against the menace of global warming and climate change. People are aware of the need to protect the natural environmental resources of air, water, soil and plant life that constitute the natural capital on which man depends. So, it is a major worldwide issue which should be solved by the continuous efforts of everyone. We should participate in the World Environment Day campaign to actively participate in the environment safety event. God's gift must not be taken for granted—it must be cared for. If not, humanity will face the divesting consequences of its actions.

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