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EFFECTS OF GLOBAL WARMING

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ABSTRACT

The abnormal increase in the concentration of the greenhouse gases is resulting in higher temperatures. We call this effect is global warming. The average temperature around the world has increased about 1°C over 140 years, 75% of this has risen just over the past 30 years.

The solar radiation, as it reaches the earth, produces "greenhouse effect" in the atmosphere. The thick atmospheric layers over the earth behaves as a glass surface, as it permits short wave radiations from coming in, but checks the outgoing long wave ones. As a result, gradually the atmosphere gets heated up during the day as well as night. If such an effect were not there in the atmosphere the ultraviolet, infrared and other ionizing radiations would have also entered our atmosphere and the very existence of life would have been endangered. The ozone layer shields the earth from the sun's harmful ultraviolet radiations. The warm earth emits long wave (infrared) radiations, which is partly absorbed by the green house gaseous blanket. This atmospheric blanket raises the earth's temperature.

Keywords:

Green house, global warming, ultraviolet radiations, temperatures.

INTRODUCTION

CAUSES OF GLOBAL WARMING

The main cause of global warming is the increase of the concentration of greenhouse gases, such as CO₂ (carbon dioxide), CH₄ (Methane), O₃ (Ozone), N₂O (Nitrous oxide) and chlorofluoro carbons (CFC's), these gases possess intense infrared absorption capacities. Aerosols and other particulates can also absorb and re-emit radiation. However the major cause of global warming is the increased percentage of CO₂ gas due to increased use of fossil fuels.

EFFECTS OF GLOBAL WARMING

Due to global warming, temperature of earth's surface has risen by about 0.55 °C in the 20th century and it is expected to raise by 3°C by 2100. Global warming effects on the following:-

- Climate change
- Ocean and coasts
- Glaciers, ice caps
- Water, agriculture and food
- Animal and plant species

These effects are interconnected. In fact, climate change causes many of the other effects.

CLIMATE CHANGE

Many scientists have pointed towards some climate change like;

- Since the 1960s, each decade has been warmer than the previous one.
- Regional and seasonal weather patterns will change, with longer summers and shorter winters.
- When one region experiences floods another region may suffer severe drought.
- More recently, the years 2002 to 2005 were the warmest on record.

OCEAN AND COASTS

The ocean has become warmer and sea levels are rising. The melting of polar ice caps is adding to the problem. Due to melting of ice and expanding of water in seas, sea level has got risen by 10 inches in last 100 years. Due to this rising level of seas, we are losing our precious areas of land. Two islands in the Sunder Bans have already disappeared. If the rise in sea level continues, coastal areas will be flooded in places like the Netherlands, Egypt, Bangladesh and Indonesia.

MELTING OF GLACIERS AND ICE CAPS

The most dramatic evidence of global warming is the melting of many glaciers and the Arctic ice. Due to the increase in temperature, area of northern hemisphere covered by snow has declined in the last 25 years. Mountain glaciers have also reduced in many areas.

WATER, AGRICULTURE AND FOOD

Extreme floods and droughts are likely to have serious effects on water resources, agriculture and food security, some examples:

- (i) Severe water scarcity in Australia that affected irrigation.
- (ii) The yellow river in China, which is a water source for millions, being threatened by Shrinking glaciers and lakes.

ANIMALS, PLANTS AND HUMAN BEINGS

Thousands of animal and plant species will go extinct, unable to adjust quickly enough to the new conditions. Polar bears, which depend on ice, are in big trouble and could be extinct by 2050. Animals and birds will change their migration patterns.

CONTROL OF GLOBAL WARMING

The Global warming can be controlled by taking following important measures:

- (i) As CO₂ accounts for half of the greenhouse gases and there is a strong evidence linking temperature and CO₂ changes, thus the best way to control greenhouse effect or global warming is to reduce emission of CO₂.
- (ii) Reduce consumption of fossil fuels such as coal and petroleum. This can be achieved by using non-conventional renewable sources of energy.
- (iii) Disposing off the greenhouse gases as they are formed elsewhere than in the atmosphere.
- (iv) Recovering greenhouse gases present already in the atmosphere and disposing of them elsewhere.

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