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Conceptual

Global Warming: A Burning Issue of Twenty-First

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Greenhouse effect is a natural phenomenon occurring in Earth due to presence of atmosphere which results in trapping heat in the Earth's atmosphere keeping the earth warm.

Infrared radiation from the sun enters Earth's atmosphere where some of the rays are absorbed while rest are reflected back to space. These absorbed rays are what's keeping our earth warmer. Greenhouse gases in the atmosphere absorb these radiations and play important role in greenhouse effect. When these greenhouse gases are more in concentration, more amount of heat is trapped within the atmosphere than necessary which results in the rise of temperature of the earth, this phenomenon is termed as enhanced greenhouse effect.

Some gases responsible for greenhouse effect are carbon dioxide, water vapor and methane. Methane although has high potential of all the GHG, is least responsible for greenhouse effect as its concentration is low in the atmosphere. Main chaos is being caused by the increasing concentration of carbon dioxide in the atmosphere which is heating up the atmosphere.

It has been believed that the amount of carbon-dioxide in the atmosphere has been increased more than thrice after the maximum development of industries. This change in the production of carbon dioxide is happening within decades which is believed not to happen before many ten hundred of years. The continued increase in the atmospheric concentration of carbon dioxide due to anthropogenic emissions is predicted to lead to significant changes in climate. About half of the current emissions are being absorbed by the ocean and by land ecosystems, but this absorption is sensitive to climate as well as to atmospheric carbon dioxide concentrations, creating a feedback loop. General circulation models have generally excluded the feedback between climate and the biosphere, using static vegetation distributions and CO_2 concentrations from simple carbon-cycle models that do not include climate change. Here we present results from a fully coupled, three-dimensional carbon–climate model, indicating that carbon-cycle feedbacks could significantly accelerate climate change over the twenty-first century. We find that under a 'business as usual' scenario, the terrestrial biosphere acts as an overall carbon sink until about 2050 but turns into a source thereafter.

Global warming aka climate change is a "super wicked" problems as newly termed by some scientists. It has been arisen due to human intervention in the process of development in the industrial area, is not limited to any individual, organization rather needs to be recognized on a global scale. Global warming paced up after industrial revolution where industries emitting out enormous amount of co_2 increased its concentration in the atmosphere. Automobiles emission of greenhouse gases have added fuel to the fire.

Developmental work can neither be stopped nor be increased to an extent where they impose a serious threat to natural phenomena. A series of problem arose while mitigating another. While development work is necessary in today's world of technical advancements, there is this problem of global warming, as a result of development in industrial area. Industry advancements revolutionized the technological development in global scale but as a consequence, global warming happened which seems to be a doom. It poses serious threat to survival of living beings if we are not to adapt according to the alarming rate of change in climate.

Global warming, a serious emerging topic in this era, needs to be discussed globally. Not an organization of any one nation but whole world needs to stand together to face this super wicked problem.

- Carbon emission control can serve to mitigate the result of global warming.
- Alternatives to automobiles emitting GHGs.

- Controlled burning of fossil fuels.
- Alternatives should be found in industrial sector resulting less emission of GHGs.
- World-wide awareness program alarming the situation of climate change and its devastating outcomes.
- Carbon sequencing.
- Long term policies.

The consequence of global warming has been so devastating that it has already resulted in the extinction of some species requiring specific environmental conditions, while some are on the verge of extinction listed as endangered species. Glaciers have been melting, sea level rising to the level where some countries are in a threat of submerging in the ocean. Biodiversity has been reducing increasingly.

Mitigation of the global warming and climate change effects is the most necessary step to be practiced right now. Many ecologists and environmentalists have been trying to mitigate the effects. But the result is not a good one. However, there are basically two methods of preventing Carbon-dioxide from entering the atmosphere due to the utilization of fossil fuels as an energy source; Remove carbon before combustion or remove carbon after combustion. Removal of carbon from fossil fuels prior to combustion requires removal and sequestration of carbon either as CO_2 or as elemental carbon. Removal of carbon post combustion requires sequestration of carbon only as CO_2. These methods are called decarbonization. And, Decarbonization cannot be the best but be the good way of global warming as well as climate change effects.

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