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GLOBAL WARMING: CAUSES AND REMEDIES**Mr. Ananda Shivaji Bachate****Gopal Krishana Gokhale****College Kolhapur**

Abstract: Now a day's global warming is a big issue in front of whole world. The average temperature of earth's atmosphere rises due to climate change green house gases and other reasons is called as global warming whole world is facing this problem. So it is necessary to study this issue and to make a research on this. Researcher examines causes, consequents of global warming and finally they conclude remedies about global warming. This paper is based on secondary data. Researchers concluded that Global warming is a major and important environmental problem at global level in general and national level. It is of interdisciplinary in nature. Hence, it's important to research is necessary and try to control global warming situation. If we ignore for this serious problem we will be face very horror situation in our life. Therefore we have needs to take steps forward to stop damage of environment.

Introduction: Climate change is any substantial change in Earth's climate that lasts for an extended period of time. Global warming refers to climate change that causes increase in the average temp of the lower atmosphere. Global warming can have many different causes but it is most commonly associated with human interference, specially the release of excessive amounts of greenhouse gases. Greenhouse gases, such as carbon dioxide (CO₂), Methane (CH₄), water vapour and fluorinated gases, act like a greenhouse around the earth. This means that they let the heat from the sun into the atmosphere, but do not allow the heat to escape back into space. The more greenhouse gases there are the larger the percentage of heat that is trapped inside the earth's atmosphere. The earth could not exist in its present state without the presence of some naturally occurring greenhouse gases, such as CO₂, CH₄ and water vapour without any greenhouse gases no heat would be trapped in atmosphere, so the earth would be extremely cold. Naturally occurring greenhouse gases are good in naturally occurring amounts, it's when people short contributing excessive amounts of them that greenhouse gases become a problem. With excessive greenhouse gas build up, the earth's atmosphere warms to unnatural temperatures which causes, among other things, sea level to rise. Global warming also causes sea surface temperature to raise, precipitation pattern to change etc.

What is Global Warming?: Global warming is the process of a gradual increase in the Earth's atmospheric and ground temperatures throughout the entire planet.

Global warming is most commonly referred to as the rise in temperature that is occurring everywhere around us and it is drastically causing changes in the climatic conditions. Almost every organism on the earth is affected by the abnormal weather conditions.

A) Natural Causes of global warming:

Primary natural causes of global warming are volcanic eruptions, sunspots, and the wobbly earth.

1) Volcanic eruptions

Large volcanic eruptions can throw so much dust into the sky that the dust acts as a shield to solar radiation and causes a cooling trend in the atmosphere. A single volcanic eruption tends to release a copious amount of carbon dioxide and ash in the atmosphere. The increase in amount of CO₂ in the atmosphere eventually contributes to a rise in near surface temperature as green house cover traps the solar radiations in the earth's atmosphere.

2) Sunspots

Changes in the earth's solar radiation levels can have some impact on the earth's climate. Increased solar activity can cause short term warming cycles on the earth.

3) The Wobbly Earth

As the earth spins, it does not achieve perfect rotation. It actually wobbles slightly, thus alternately exposing the northern and southern latitudes to more and less solar radiation. This wobble in the Earth's rotation has been causing changes in the temperature of the atmosphere for many millions of years.

4) Oceans

Oceans are also significant contributors to global warming as it naturally contains much polluting carbon due to the ecosystems they support. The top layer of oceans contains more pollution than the earth's atmosphere and much of the pollution rises. The amount of pollution and number of pollutants are also worsened by man, making oceans even greater contributors to global warming.

5) North and South Poles

North and South poles also contribute a lot to global warming. It is in those areas where permafrost contains large amounts of carbon that have frozen over time. Disturbances to these areas cause the permafrost to melt and release the pollutants in the atmosphere.

Carbons held within these lands have been out of the carbon cycle for thousands of years and so releasing them would cause an imbalance to natural processes. Gases including carbon dioxide and methane are suddenly released at volumes nature isn't prepared for.

B) Manmade Cause or Anthropogenic Causes of Global Warming:

1) Pollution

Pollution is one of the biggest manmade problems. Pollution comes in many shapes and sizes. Burning fossil fuels is one thing that causes pollution. Fossil fuels are fuels made of organic matter such as coal, or oil. When fossil fuels are burned they give off a green house gases called CO₂. Also mining coal and oil allows methane to escape. How does it escape? Methane is naturally in the ground. When coal or oil is mined you have to dig up the earth a little. When you dig up the fossil fuels you dig up the methane as well.

2) Population

More people mean more food and more methods of transportation right? That means more methane because there will be more burning of fossil fuels and more agriculture, Now you probably thinking, "Wait a minute, you said agriculture is going to be damaged by global warming, but now you're saying agriculture is going to help cause global warming? well, have you ever been in a barn filled with animals and you smell something terrible? you're smelling

methane. Another source of methane is manure. Because more food is needed we have to raise food. Animals like cows are a source of food which means more manure and methane. Another problem with the increasing population is transportation. More people means, more cars and more cars mean more pollution. Also, many people have more than one car.

Since, CO_2 contributes to global warming; the increase in population makes the problem worse because we breathe out CO_2 .

3) Deforestation

Plant uses CO_2 for photosynthesis,. Now a day due to urbanization man has cut down the forest as per need. As a result of which CO_2 level increases enormously in atmosphere. Increased level of CO_2 causes the green house effect.

4) Burning of Fossil Fuels

Since, the start of industrial revolution, human kind has been burning all kinds of hydrocarbons, beginning with coal and followed by liquid and gaseous fuels like oil and natural gas, for obtaining energy for transportation electricity and all other activates. The burning of fossil fuels, which produces the GHG such as CO_2 , NO_2 , sulphur dioxide, is the main cause of global warming.

Consequences of Global Warming:

1. Weather patterns:

Apart from the wildfires caused by scorching hot and dry weather which burns millions of acres of land worldwide, the main cause for concern is drought, which also increases the risk of wildfires. Drought causes crops to fail, causing starvation and diseases in less developed countries where agriculture is the main source of food and income. Conversely, warm temperatures can also cause heavier rainfall and floods. More energy in the climatic system causes hurricanes and tsunamis. Balance of ecology is disturbed.

2. Health:

Smog in certain parts of the world is causing allergies and asthmatic conditions to worsen. The poor air quality also results in weakened respiratory system. Droughts and other eco disruptions lead to the rapid spread of infectious diseases and food and waterborne illnesses such as malaria, cholera and dengue fever.

3. Reduction of Agricultural Productivity:

Global warming a decline in agriculture due to the rise in temperature. The agriculture will also decline due to the role of carbon dioxide in photosynthesis. Carbon dioxide prevent photorespiration and therefore is the cause of the damage of many crops. Global warming also results in increased number and longer droughts. This will results in a increase in the ozon gas at the ground level. The increase of the ozone at the ground level will result in a substantial depletion of crops.

4. Rising Sea Level:

As the atmosphere warms, the surface layer of the oceans warms as well expanding in volume and thus raising sea level, warming will also much glacier ice, specially around Greenland, further swelling the sea. Sea levels worldwide rose 10 to 25 cm (4 to 10in) during the 20th

century and IPCC scientists predict a further rise to 9 to 88cm in the sea-level changes will complicate life in many coastal regions. As the sea invades the mouths of rivers, flooding from runoff will also increase upstream.

5. Wildlife:

With ecosystems unable to adapt to the pace of climatic changes, several species are reaching near extinction. From decreasing numbers of polar bears to the danger of extinction of penguins in the Antarctic, this threat has roots in the vast reductions of their natural habitats.

Remedies about Global Warming:

1. Make it YOUR problem:

Energy conservation should be addressed in a right way. Reduce your energy bills by opting for little changes such as fluorescent lights and environmentally friendly refrigerators. Make an effort in every little way you can to sustain the planet for future generations. Let us embrace sustainable development.

a. Energy Conservation

With no time to lose, we really have to start where we are, and not dream that some technological innovation will do it all for us. Where we can begin is to embark urgently to improve energy efficiencies in homes, commercial buildings and all new construction. Designs for heavy industries ought to major on energy economies.

b. Power Generation

We have to use natural gas for our electricity purposes. Now coal is using in traditionally style. It is also [toxic](#) to everyone's health, because of methyl mercury emissions. The problem is that so many coal fired plants are slated to be built to meet anticipated demand — 800 in the US, and 1000s in China and India and around the world. The latest coal gasification technologies would help efficiency, and, to capture the emissions and put them underground would be even better. The real problems are that nations want to play catch up and there is a lack of political will and a world forum to address the issue.

Biofuels require extensive crop lands which would worsen emissions by reducing forested areas still further instead of the tree replanting that is needed. Ethanol should be avoided where transportation GHG emissions largely negate any net benefit. Alternative sources of renewable energy such as wind and solar, could make an impact to reduce the adverse effects of using coal. Nuclear power generation remains an altogether cleaner method. It does, however, suffer risk of some nations misusing the technology for threat purposes. Perhaps the altruism attending saving the planet in face of unrestrained global warming may offer better image to the world at large, and allow authoritative inspections to verify that nations do keep their word.

c. Transportation

Something just has to be done to reduce the emissions from passenger vehicles and light trucks. Especially as their numbers seem to explode every year in different parts of the world. It seems to be a question of engine cost/efficiency, and political will in face of the gasoline industry. Even

more intractable problems encumber air, sea and long distance trucking because of the need to carry fuel along for the ride.

Perhaps we have to reconsider the role of the internal combustion engine. Electric/gasoline hybrids are showing some improvement but not yet achieving in real terms the 60 mpg we need to see to make an impact upon emissions. Plug-in electric/gasoline hybrid traction for our local runs or regular commutes may make more sense than using our gas guzzlers and leaving them idle for best part of the day. But here, an attitude of mind has to change and the awareness of the emissions problem is not yet there to encourage the change to take place.

2. Stop Pollution:

Cutting down pollution from car emissions and power plants will decrease the rate of global warming to a great extent. Varied technologies for use of alternative energy have already been developed. And, more technology is being developed regularly. We need to continue to make use of current alternative energy resources like wind power and solar power, and we can adopt new technologies as they are developed.

3. Changes to the Legal System:

With public support on the rise, laws must be imposed worldwide to cap emissions of carbon dioxide and other green house gasses from industrial and power plants. Tighter standards for appliances such as air conditioners and heat pumps will also strengthen the efforts to reduce emissions.

4. Changing Land Uses

The relentless processes of industrialization and [urbanization](#) across the whole world changes the face of the planet. Increasing apparent wealth and fostering competition for scarce resources, are both prime reasons for suicidal abandonment of land resources instead of husbanding them.

Logging for building materials and fuel suffers from the fact that devastating whole tracts is quick indeed, compared to the time taken for replanting to regenerate the devastated areas, and allow natural processes of absorbing greenhouse gases at twice the rate of their respiration to be resumed.

➤ **Conclusions:**

No prize in guessing that global warming is occurring it has become much more evident over the last century with a rise of 1.8 degree Celsius in the near surface temperature of the planet. A look at the current rates suggests that the problem is worsening with time, and if it is not curbed now it will only spell doom for various life forms on the planet including us human beings. The need of the hour is to find different ways to stop global warming and implement them in our day to day life. We don't have to wait for laws committees and bodies to prevent global warming. As individuals, we can take certain actions to stop global warming on our own. This is a union effort and so all the hands have to join together with force to push the effects of global warming back beyond sight. Global warming is a major and important environmental problem at global level in general and national level. It is of interdisciplinary in nature. Hence, it's important to research is necessary and try to control global warming situation. If we ignore for this serious problem we

will be face very horror situation in our life. Therefore we have needs to take steps forward to stop damage of environment.

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