

Global Warming

Synopsis: The year 1998 has been the hottest on record so far. The 1990's have seen the three hottest years. The average temperature has risen by 0.2°C in the recent decades. As a result of global warming there have been huge and unprecedented floods, storms, cyclones etc. resulting in destruction on vast scales. In recent years the concentration of carbon dioxide, methane etc. have increased alarmingly. These greenhouse gases cause global warming and rise in earth's temperature. There has been increase in general awareness about the dangers of global warming but unfortunately nothing substantial has been done to check and prevent the menace.

This inordinate warmth has begun to hit the earth and the entire living world. It is estimated that average temperature has risen by 0.2°C every decade; the threat of the global warming is real and immense. A lot of imbalance has been created in nature by human activities. Consequently, there have been unprecedented and unexpected devastation's storms, etc, in various parts of the world especially in the coastal and low-lying regions.

Water is one of the essential ingredients of life. Water is life and without water there cannot be life at all; the earth is the only living planet because there is water. The other planets like Mars, Jupiter, etc, are dead, deserted and lifeless because there is no life-supporting water. Presence of water means also the presence of other ingredients of life. The total replenishable, ground water resources in the country have been estimated at 45.22m.ha. Per year.

There is often scarcity of drinking water. There are droughts and famines causing untold misery, death and destruction. Today there are thousands of villages and towns facing an acute drinking water-shortage. Even in cities with huge water-supply plants there is not sufficient water and their supply is often limited to a very short period of the day... With the rapidly increasing pressure of population on our water resources, more and more villages, towns and cities are facing the problem. The then Prime Minister Rajiv Gandhi had to launch a drinking water mission and programme in 1986 to meet the drinking water requirements. Then drinking water was available to only 30 per cent of the country's population and today theoretically it is available to 91 per cent. But the investigations have shown that a large percentage of drinking water schemes remain non-functional for a very long time of the year and so the safe and potable water is not available to the people.

A team of scientists and researchers of Center for Science and Environment, New Delhi has made detailed study of the problem, its dimensions and solution. They have emphasized the need to traditional wisdom of water harvesting. They have given many details and data and proved how useful it can be to make use of our time-tested, age-old and traditional water harvesting system. These traditional methods of water harvesting have been in constant practice from time immemorial in the country, among various communities and villages.

Heavy showers are not uncommon in the country. It receives rain for about 100 hours each year spread over about 50 days in a year. Cherapunji in India is the wettest place in the world which receives annual rainfall of about 15,000 mm and yet the village often faces drinking water shortage because of widespread deforestation resulting in drying up of water sources soon after torrential rainy season is over. On the other hand, Jaipur in Rajasthan has just about 100 mm of annual rainfall and yet this desert town was able to collect enough water for its use. But it too has started facing the drinking water shortages of late since government water supply system has begun based on tapping of limited ground water neglecting traditional wisdom of water.

The problem of over-exploitation and pollution of our water resources is really grave. According to a UN report two-thirds of mankind will suffer moderate to severe water crisis within next 30 years if remedial steps are not taken. World Bank report estimates 5 million deaths from unsafe drinking water and investments to the tune of \$ 600 billion worldwide to repair and improve water delivery system.

We need to have greater respect for the earth and its environment. It is high time that all the peoples of the world realize the gravity of problem and make determined and combined efforts to redress global warming appreciably. Our efforts to check the global warming should include both preventive and curative measures we should develop both long- and short-term strategies to overcome the devil of environmental pollution.

Essay No. 2

Global Warming

Global warming is the greatest challenge facing our planet. It is, in fact, the increase in the temperature of the earth's near-surface air. It is one of the most current and widely discussed factor. It has far-reaching impact on biodiversity and climatic conditions of the planet. Several current trends clearly demonstrate that global warming is directly impacting on rising sea levels, the melting of ice

caps and significant worldwide climate changes. In short, global warming represents a fundamental threat to all living things on earth

Global average temperature rose significantly during the past century. The prevailing scientific view is that most of the temperature increases since mid-20th century has been caused by increases in atmospheric greenhouse gas concentrations produced by human activity. Most scientists agree that planet's temperature has risen 0.5 degree Celsius since 1900 and will continue to increase at an increasing rate. As a result, the world is getting warmer. The year 1990 was the hottest year in the last century

Together with 1991, the years of 1983, 1987 1998 and 1989 have been measured to be the warmest six years in the last hundred years. The year 1991 was the second warmest year of the past century. The consequences of the rise in temperature is being felt all over the globe the findings of scientific research done in this field reveal that the temperature of the earth likely to rise from 1.4 C to 5.8 C within a period of 100 years.

Unfortunately, the imbalance which we have created between our life and earth is already showing the signs disasters in the form of flood, cyclones, landslides, tsunami, drought, etc. if the imbalance continues to rise, one day this will pose a question mark on the existence of this planet. Carbon dioxide (CO₂) which is an important constituent of environment is causing a warming effect on the earth's surface.

It increases the evaporation of water into the atmosphere. Since water vapour itself is a greenhouse gas, this causes still more warming. The warming causes more water vapour to be evaporated. The CO₂ level is expected to rise in future due to ongoing burning of fossil fuels and land use change. The rate of rise will depend largely on uncertain economic, sociological, technological and natural developments. Other gases such as methane, CFCs, nitrous oxide, tropospheric ozone are also responsible for global warming. Increases in all these gases are due to explosive population growth, increased gases are due to explosive population growth, increased industrial expansion, technological advancement, deforestation and growing urbanization, etc

Tree play a significant role in the global carbon cycle. They are the largest land-based mechanism for removing carbon dioxide from the air. Deforestation is checking these positive processes. It is the second principle cause of atmospheric carbon emissions entering the atmosphere, by the burning and cutting of 34 million acres of trees each year. Every day over 5500 acres of rainforest are destroyed. As a consequence of massive loss of forests, global CO₂ levels rise approximately 0.4 per cent each year, the levels not experienced

on this planet for millions of years. As we know the forests are the great absorbers of CO₂.

There is a close relation between global warming and population growth. Today the large population on earth is using the technologies which are destructive for the earth. Approximately, 80 per cent of atmospheric CO₂ increases are due to man's use of fossil fuels either in the form of coal, gas or oil. A large portion of carbon emission is attributed to the burning of gasoline in internal –combustion engine of vehicles. Vehicles with poor gas mileage contribute the most to global warming. Besides, the sulphur group gas is the most harmful for this. Its contribution is 30 per cent in global warming. This gas is also emitted from the burning of fossil fuels.

Increase in global temperatures will cause rise in sea level. It will lead to melting of glaciers, changes in rainfall patterns, increased intensity and frequency of extreme weather. As per the latest survey report the rate of melting of glaciers has seen sharp increase in recent times. Even those glaciers are affected from global warming which have been considered permanent. The shrinking of glaciers is going to pose a major problem of drinking water.

The sea levels as a result of melting of glaciers have risen from 0.35 mm to 0.4 mm. scientists have warned in their reports that most of the glaciers will disappear within a period of 15 to 25 years. It will create problems of drinking water and food grains in most of the North American countries. India is not unaffected from it. The Himalayan glaciers have shrunk about 30 per cent after 1970.

The rise in sea levels is a major cause of concern. A large number of cities located in coastal areas will submerge in the sea. Besides, many island countries will ultimately "lose their existence and will be washed away from the surface of the earth. The damage of rising sea levels is diverse. Buildings and roads close to the water could be flooded and they could suffer damage from hurricanes and tropical storms. Experts believe that global warming could increase the intensity of hurricanes by over 50 per cent. In addition, as the sea rises, beach erosion takes place, particularly on steep banks.

Wetlands are lost as the level rises. Rise in atmospheric temperature will lead to the our break of air-borne and water. Borne diseases. It would also contribute to the rise in death caused by heat. The problem of drought would be frequent. Consequently, malnutrition and starvation will pose serious challenge before humanity.

Global warming is a great threat to the flora and fauna of the earth. A large number of species of them may become extinct.

The expanse of desert would increase. Low rainfall and rising temperature could add to the intensity and frequency of dust storm. This in turn will immensely affect the quality of agricultural land, ultimately causing adverse effect on agricultural produce. It would have far-reaching socio-economic impact.

In Indian context, the impact of global warming is a matter of grave concern. As is well known, India is mainly an agricultural country and agriculture here is a gamble of the monsoon, e.g. largely depending on rainfall. Though it is to affect the whole country, the worst likely impact would be on central and northern India which is high yielding part of the country. These are the regions which produce the largest agricultural yield. The rise in atmospheric temperature and fall in rain would naturally result in decline in crop production. Moreover, it would have great effect on biodiversity as well.

The growing concerns over global temperatures have led to the nations, states, corporations and individuals to draw out a plan of action to avert the situation. As a result the world's primary international agreement on combating global warming was reached in Kyoto in 1997 which came to be known as Kyoto protocol. However, ten years have passed; the situation does not appear to be very changed. It seems that the member countries are not very serious about its devastating effects.

In addition, forestation can be of great help in this regard. Planting more trees and reducing timber cuts worldwide will help restore the imbalance. Secondly, we must follow an environmental policy of 'reduce, reuse, recycle', i.e. promoting the reuse of anything. Thirdly, the use of fuel-efficient vehicles should be promoted as these vehicles have lower emissions of harmful gases. Fourthly, every individual should be aware of the importance of protecting the environment, besides eco-friendly technologies must be promoted, and must be substituted with the technologies which cause great emission of global warming gases. Public awareness campaign can be of great help in this regard because unless each and every individual is aware only governments' effect cannot bring desired difference.

Essay No. 03

Global Warming

An increase in the temperature of earth due to fossil fuels, industry, and agricultural processes caused by human, natural, and other gas emissions is termed as global warming. Short-wave solar radiation sinks into the Earth's atmosphere and warms its surface; while long wave infrared radiation emitted by earth's surface is absorbed, and then re-emitted by trace gases. Due to greenhouse gases climate changes occur in our earth's atmosphere. Higher concentrations of greenhouse gases, which are present in our atmosphere, create problems because they enhance the heat trapping capacity of our earth. There are some misconceptions about global warming. Some have opinion that pollution is the cause of global warming, but the fact of global warming is the result of burning fossil fuels, coal, and oil that release abundant quantities of carbon dioxide in our atmosphere. Another misconception is that nuclear power causes climate change. Nuclear power actually declines emissions of carbon dioxide when used instead of coal. The name is misleading because in some places, it will actually become colder. A major fraction of scientists believe global warming is a process underway and that it is human-induced.

The gases responsible for greenhouse effect are carbon dioxide, methane, and nitrous oxide. Carbon dioxide is released into the atmosphere when solid waste, fossil fuels, wood, and wood products are burned. Human activities add to the levels of these gasses, causing severe problems. The burning of solid waste, fossil fuels, and wood products are major causes. Emissions from homes and factories are responsible for about 80% of today's carbon dioxide emissions, 25% of methane, and 20% of the nitrous oxide emissions. Global warming is posing a danger to a human's health. It has a negative affect on climate, which adversely affects humans. An increase in temperature can result in a longer life cycle for diseases or the agents spreading them. Effects of global warming on human health might not be immediately identified. Birds and animals are the species that will be affected by a change in the climate. The ecosystems of fish will also be affected by global warming in a number of ways. Fish may migrate to different areas. Global warming can affect our future ability to obtain food. Global warming brings about a change in climate, which alters the growth pattern of plants and animals leading to a change in the eating patterns of humans. Enhanced precipitation is one effect of global warming that could spell devastating results. First, the quality of crops would be affected by an increase in precipitation. Second, increasing rain could lead to an increase in soil erosion. We can prevent global warming by numerous ways. Car pooling, efficient use of energy, and plantation of trees are ways to help prevent global warming. The future of emissions damage depends on several factors, demographics, economics, technology, policies and institutional developments. Without the help of emissions control policies, CO₂ levels are projected to be 30-150% higher than today's levels in 2100. Our renewable resources will be very limited. With

effective cooperation from citizens and government officials, we can slow down the effect of global warming by reducing greenhouse gas emissions.