DEPARTMENT OF HISTORY AND POLITICAL SCIENCE,

ALL SAINTS COLLEGE,THIRUVANANTHAPURAM

FIELD PROJECT REPORT ON

GLOBAL WARMING

Year 2022-23

SUBMITTED BY

NAME OF THE CANDIDATE WITH CODE

14021100031 DHANYA DAS

14021100032 DIYA NOUSHAD

14021100033 FATHIMA.S

14021100035 GOWRI.S.R

14021100036 HEVY.A

14021100037 JAMEELA FARSANA.H

14021100038 JEENA.M

14021100039 JINCY GEORGE

14021100040 LEKSHMI.S

CERTIFIED BY

Dr.LEKHA RANI M.L
Assistant Professor & Head of the Department
DEPARTMENT OF HISTORY, ALL SAINTS COLLEGE
THIRUVANANTHAPURAM- 695007

FACULTY IN CHARGE

Dr.LEKHA RANI M.L
Assistant Professor & Head of the Department
DEPARTMENT OF HISTORY, ALL SAINTS COLLEGE
THIRUVANANTHAPURAM- 695007

HEAD OF DEPARTMENT

INDEX

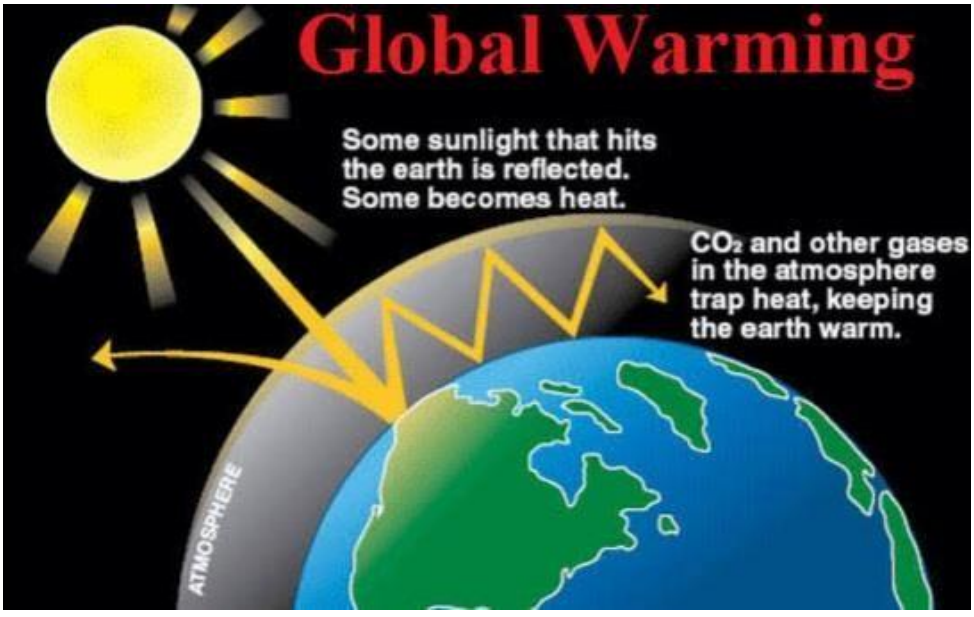
INTRODUCTION

People hold different views about whether global climate changeis occurring and, if it is, what the causes are and what we can do about it. The continuous rise in temperature of the planet is really upsetting. The root cause for this is global warming. Global warming begins when sunlight reaches the Earth. The clouds, atmospheric particles, reflective ground surfaces and surface of oceans then sends back about 30 % of sunlight back into the space, whilst the remaining is absorbed by oceans, air and land. This consequently heats up the surface of the planet and atmosphere, making life feasible.

As the Earth warms up, this solar energy is radiated by thermal radiation and infrared rays, propagating directly out to space thereby cooling the Earth. However, some of the outgoing radiation is re-absorbed by carbon dioxide, water vapours, ozone, methane and other gases in the atmosphere and is radiated back to the surface of Earth. These gases are commonly known as greenhouse gases due to their heat-trapping capacity. It must be noted that this re-absorption process is actually good as the Earth's average surface temperature would be very cold if there was no existence of greenhouse gases.

The dilemma began when the concentration of greenhouse gases in the atmosphere was artificially increased by humankind at an alarming rate since the past two centuries. As of 2004, over 8 billion tons of carbon dioxide was pumped thermal radiation is further hindered by increased levels of greenhouse gases resulting in a phenomenon known as human enhanced global warming effect. Recent observations regarding global warming have substantiated the theory that it is indeed a human enhanced greenhouse effect that is causing the planet to heat up.

The planet has experienced the largest increase in surface temperature over the last 100 years. Between 1906 and 2006, the Earth's average surface temperature augmented between 0.6 to 0.9 degrees Celsius, howeverout per year. Millions of pounds of methane gas are generated in landfills and agricultural decomposition of biomass and animal manure. Nitrous oxide is released into the atmosphere by various nitrogen-based fertilizers including urea and diammonium phosphate and other soil management utilizations. Once released, these greenhouse gases stay in the atmosphere for decades or even longer. According to Intergovernmental Panel on Climate Change (IPCC), carbon dioxide and methane levels have increased by 35 % and 148 % since the industrial revolution of 1750.



One of the reasons why Global Warming is dangerous is because it disturbs the overall ecology of the planet. This results in floods, famine, cyclones and other issues. There are many causes and results of this warming and is a danger for the existence of life on earth.

The sign of Global Warming is already visible with many natural phenomena happening around globally, affecting each living species. Here is some data that can help to give a more precise understanding of the reality of Global Warming in the last few years:

1. On average, the world's temperature is about 1.5°C higher than during the start of the industrial revolution in the late 1700s. That may not seem a lot to you, but that is an average estimate. This number is only increasing. Many parts of the world face far more severe changes in temperature that affect the planet's overall health.

2. In 1950, the world's CO_2 emissions were at 6 billion tonnes which had quadrupled in volume until 1990, just 40 years later to 22 billion tonnes. Not only that, unchecked CO_2 emissions today have reached a whopping 35 billion tonnes.

The most evident causes of Global Warming are industrialization, urbanization, deforestation, and sophisticated human activities. These human activities have led to an increase in the emission of Greenhouse Gases, including CO_2, Nitrous Oxide, Methane, and others.

.

CAUSES OF GLOBAL WARMING

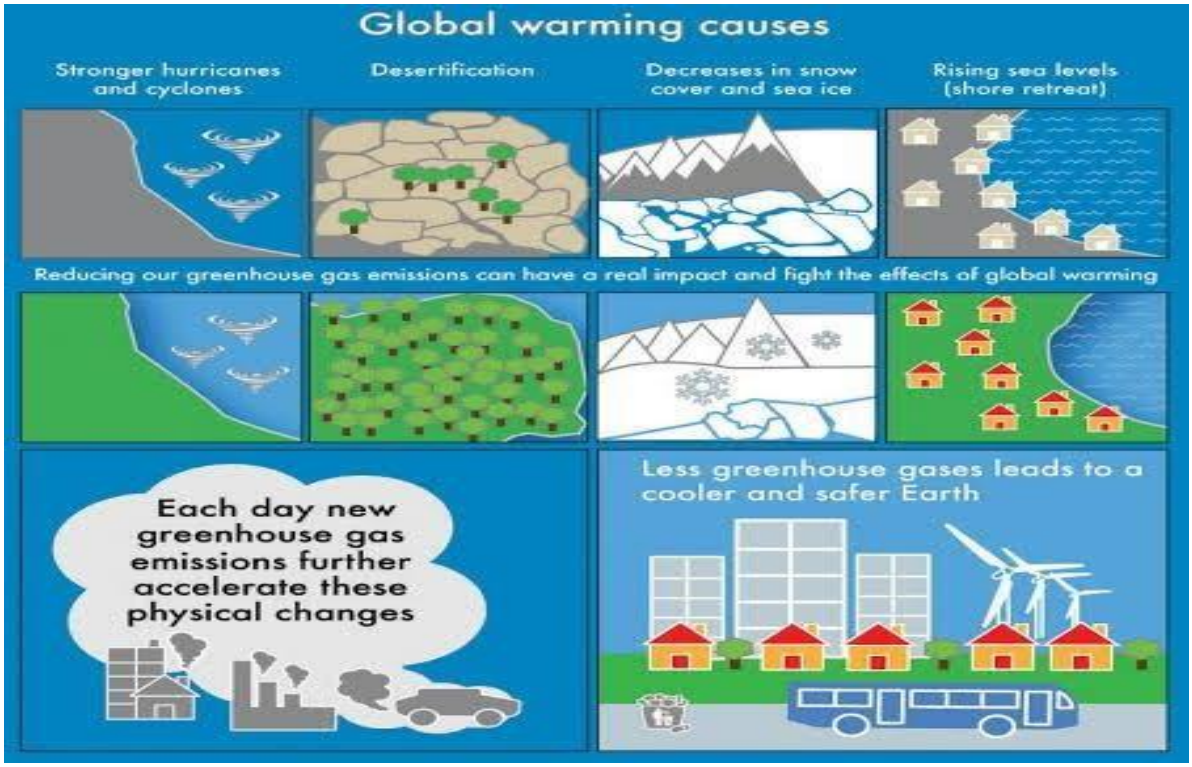
A variety of reasons cause Global Warming. Some of which can be controlled personally by individuals but others are only expected to be solved by communities and the world leaders and activists at the global level. Many scientists believe the main four reasons for Global Warming, according to recent studies, are:

- Greenhouse gases
- Deforestation
- Pollution
- Per capita carbon emissions

Global Warming is certainly an alarming situation, which is causing a significant impact on life's existence. Extreme Global Warming is resulting in natural calamities, which are quite evident happening around. One of the reasons behind Global Warming is the extreme release of greenhouse gases stuck on the earth's surface, resulting in the temperature increase.

The major cause of global warming is the greenhouse gases. They include carbon dioxide, methane, nitrous oxides and in some cases chlorine and bromine containing compounds. The build-up of these gases in the atmosphere changes the radiative equilibrium in the atmosphere. Their overall effect is to warm the Earth's surface and the lower atmosphere because greenhouse gases absorb some of the outgoing radiation of Earth and re-radiate it back towards the surface.

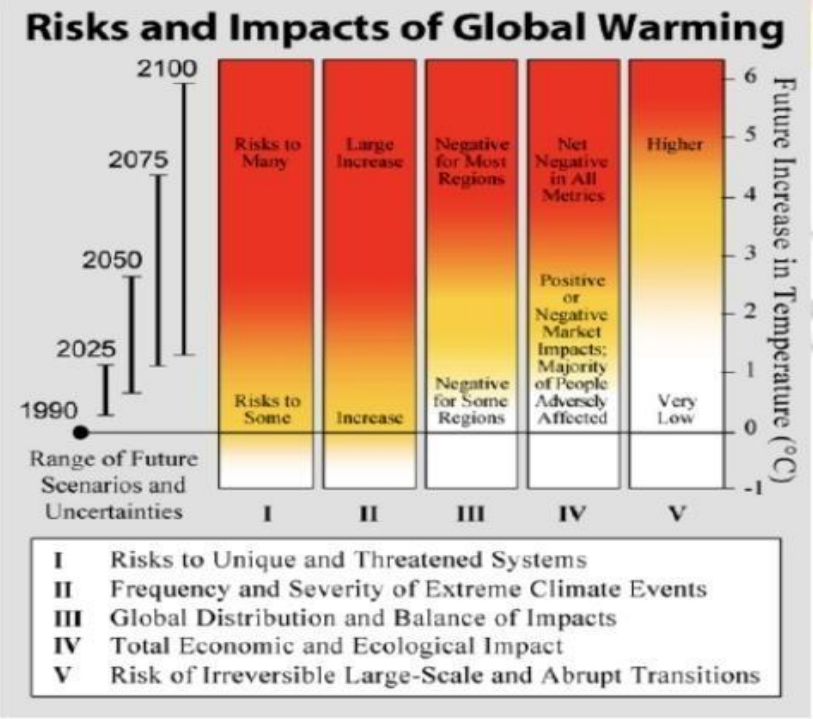
The net warming from 1850 to the end of the 20th century was equivalent to nearly 2.5 W/m2 with carbon dioxide contribution about 60 % to this figure, methane about 25 per cent, with nitrous oxides and halocarbons providing the remainder. In 1985, Joe Farman, of the British Antarctic Survey, published an article showing the decrease in ozone levels over Antarctica during the early 1980s. The response was striking: large scale international scientific programmes were mounted to prove that CFCs (used as aerosol propellants in industrial cleaning fluids and in refrigeration tools) were the cause of the problem. Even more important was abrupt international action to curb the emissions of CFCs.



EFFECTS OF GLOBAL WARMING

Global Warming is a real problem that many want to prove as a hoax for their political benefit. However, as aware citizens of the world, we must make sure only the truth is presented in the media. Various parts of the environment, both flora and fauna, are directly adversely affected by the damages caused by Global Warming.

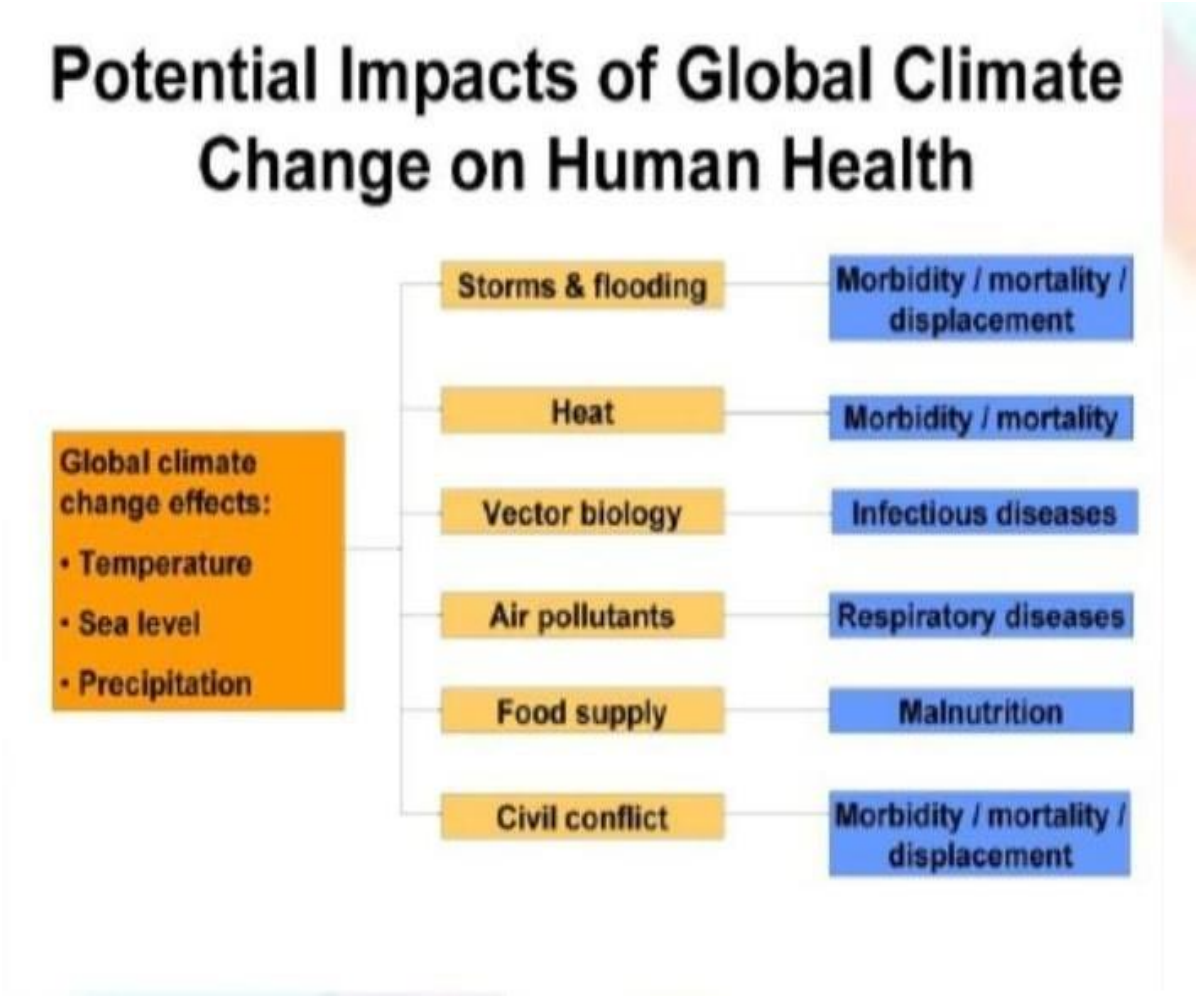
Wildlife being in danger is ultimately a serious threat to the survival of humanity as we know it and its future. The effect of Global Warming is widely seen in this decade. Glacier retreat and arctic shrinkage are the two common phenomena seen. Glaciers are melting in a fast way. These are pure examples of climate change.



The rise in sea level is another significant effect of Global Warming. This sea-level rise is leading to floods in low-lying areas. Extreme weather conditions are witnessed in many countries. Unseasonal rainfall, extreme heat and cold, wildfires and others are common every year. The number of these cases is increasing. This will indeed imbalance the ecosystem bringing result in the extinction of species.

Similarly, marine life is also widely getting affected due to the increase in Global Warming. This is resulting in the death of marine species and other issues. Moreover, changes are expected in coral reefs, which are going to face an end in the coming years.

These effects will take a steep rise in the coming years, bringing the expansion of species to a halt. Moreover, humans too will witness the negative impact of Global Warming in the end.

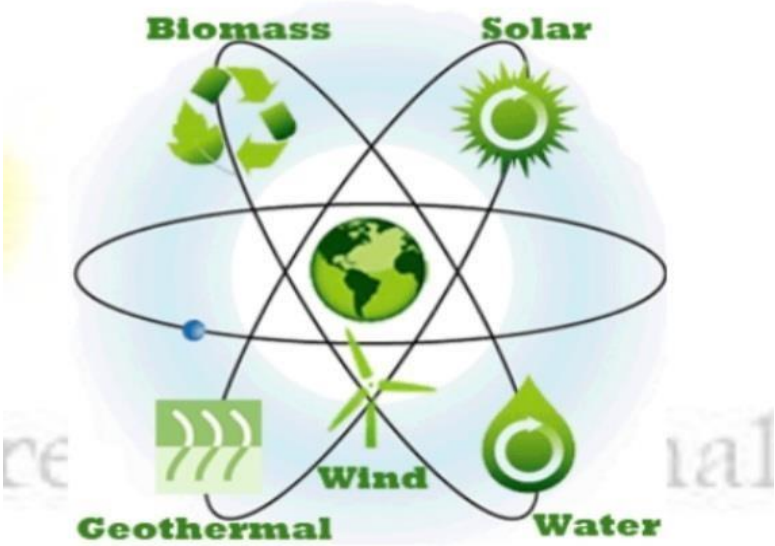


SOLUTIONS FOR GLOBAL WARMING

Alternative Energy Sources

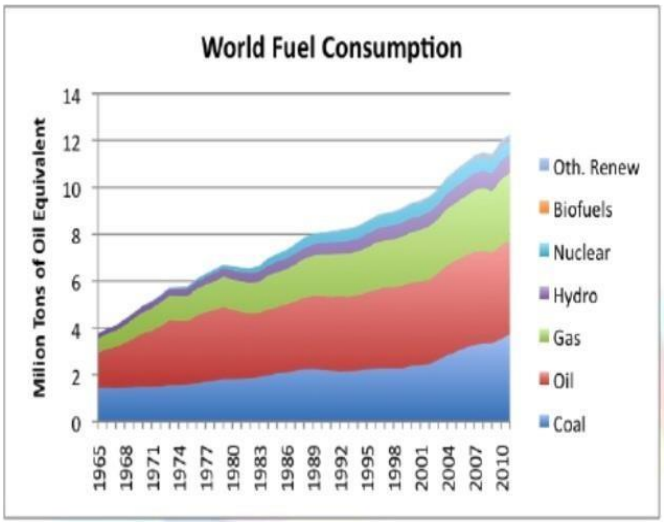
The hazards caused by global warming are tremendous. Excessive use of fossil fuels such as coal, natural gas and oil play a part in it too. The usage of fossil fuels should be discontinued immediately. The most significant solution to put an end to this disaster is the use of alternative energy sources. They include wind, solar, bio mass, geothermal and hydro. The most noteworthy point in using these sources is their clean nature. They do not produce any sort of pollution or toxic gases that can lead to global warming. They are environmentally friendly and pose no threat to ecological balance.

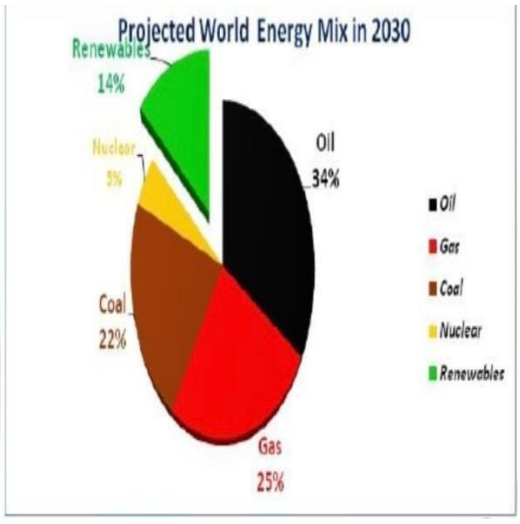
However, their high installation and setup costs may drive energy companies away from them at first but in the long run they are surely beneficial for everyone. Most importantly, fossil fuels will deplete one day and sooner or later, we have to turn to renewable energy sources for energy production. Thus, the eventual solution to end global warming is to use alternative energy sources. Fig. 9 depicts in a pictorial way that earth can be saved from the hazards of global warming if we utilise renewable energy sources.



To counteract the medical hazards of global warming, it is essential to turn to renewable energy sources. Public, in general, should be responsible about their decisions on energy conservation methods. This will ensure a healthy atmosphere and stable climate for our future generations. Governments should devise and pass policies which encourage the energy companies and people, in general, to use renewable energy instead of conventional energy, Nongovernmental organisations (NGOs) should distribute pamphlets to people motivating them to use alternative sources of energy and discourage them from using fossil fuels.

They should also explain to them the hazards which the usage of fossil fuels will cause. Many developed countries are already generating huge amounts of power using renewables. These countries should extend their helping hand to developing countries to combat the evil of global warming collectively. Using renewable energy is the most effective way to curtain the emission of gases which play a major role in global warming.





Other Solutions

As elaborated earlier, toxic emissions are a major cause of global warming, A likely solution to reduce harmful emissions is to cut the usage of vehicles which produce them. This has not been met with much success as many people refuse to cut down their practice of using cars. No doubt, some people have started to use bicycles and public transport, whereas some other prefer to walk but these numbers are relatively small. It should be noted that fuel economy and emission rates are chief factors to consider regarding the car choice. Hybrid cars have higher efficiency and lower emission rates. Keeping the tires inflated will help improve mileage and air filters should be frequently replaced to cut down harmful emissions. People should share the ride with friends or co-workers to reduce the total number of vehicles on the road. Print and social media can play an effective role in curbing the problem. It should use the philosophy of automobile advertisements to encourage drivers to conserve energy and reduce pollution.

Awareness campaigns can be started using placards, posters and logos. They are a very useful way to demonstrate that global warming is not good for the planet.

Recycling is also a good way to reduce global warming. People should use rechargeable batteries instead of disposable ones. Quality products should be bought that have a long life. Shopping should be done from local markets which reduce transportation.

Even small individual efforts like lowering the thermostats in winter and using compact fluorescent lamps instead of incandescent lamps can aid to address the issue of global warming. Reforestation schemes must be started to grow a large number of trees. Forest degradation and deforestation must be discouraged at government level. Nuclear power is also a possible solution as this power results in fewer emissions but this method should be used with care as it can lead to severe accidents therefore, the major hurdle is to overcome the security, propagation, waste disposal and high costs of nuclear power if this method has to be made practical.

CONCLUSION

The scientific and environmental community is on the same page regarding the bitter reality of global warming and the involvement of human factor in it. The paper discussed here has only dented the surface of what is a very intricate line of scientific and engineering exploration. Global warming is a big hazard and appropriate measures must be taken to tackle this serious problem. This problem is not only causing trouble to the human beings but also to animals and plants. Melting of polar ice caps will lead to floods which can cause mayhem everywhere. Rise of sea levels will devastate agricultural and fishing activities. To embark upon these problems, some remedial steps must be timely taken which include but are not limited to the use of renewable sources of energy and stopping deforestation. Innovative solutions must be brought forward to end this hazard once and forever.

BIBLIOGRAPHY

https://www.toppr.com/guides/essays/essay-on-global-warming/ accessed on 23/07/2022.

https://www.vedantu.com/english/global-warming-essay accessed on 23/07/2022.

https://en.wikipedia.org/wiki/Climate_change accessed on 23/07/2022.

https://simple.wikipedia.org/wiki/Global_warming accessed on 24/07/2022.

https://byjus.com/biology/global-warming/ accessed on 24/07/2022.

https://www.researchgate.net/publication/316691239_Global_Warming_Causes_Effects_and_Solutions accessed on 24/07/2002