

Climate changes causes, impacts and suggestions

Thesis statement:

Climate change is a threat for humanity due to human and natural factors leading serious impacts on the world and to cope with the issue robust initiatives are required.

Causes of climate changes:

A) Human Causes

i) Burning of fossil fuels:

- * 2.6 billion tons CO_2 release per year

- * Coal burning release 42% CO_2 (IPCC)

ii) Rapid pace of industrialization

- * Air pollution through GHGs

- * Lahore is 1st air polluted (IPCC)

iii) Unchecked growth of Urbanization

- * Highest rate in South Asia

- * 36.4% population living in urban

iv) Mushrooming population

- * 4.6% population growth rate

- * Syria is fastest populated

v) Burning of massive amount of Crops ^{residue}

- * Emission of 2.5 million tons of CO_2

vi) Massive changes in life style of people

- * Preferring of private transport

- * Petroleum usage 19.69 million (OPEC report)

- vii) Relying on excessive use of fertiliser for crops
 - * release of CO_2 and CH_4
 - * leach down and runoff
- viii) Uncontrolled and leaf frogging deforestation
 - * 7.3 million hectare forest cut (FAO)
- ix) Mis management of biomass of livestock
 - * 51% CO_2 and CH_4 release
- x) Incineration of massive amount of garbage
 - * Specially plastic products.

B) Natural Causes

- i) Volcanic eruption
 - * Emit many ^{greenhouse} gases
- ii) plate tectonic
 - * Earth quake

Impacts of climate change

- i) High Temperature
 - * 1.5-2°C increase every year (IPCC)
- ii) Heat waves
 - * 70,000 people died in europe
- iii) Melting of glaciers and rising of sea level
 - * 328 billion tons of melted ice
- iv) Relentless hurricanes, typhoons
 - * 14 people killed in on Tana Island
- v) Wildfires, drought and floods
 - * 200 people died in germany
 - * \$6 billion loss

vi) Water scarcity

* 78.5 million people lack access to water

vii) Smog

* Air pollution (Lahore is most air polluted)
QAL

B) ~~vi) Smog~~

Agricultural impacts

i) Reduction in crop yield

* 1.5 million hectare crop area reduced.

ii) Exacerbated of drought period

* 20% population in starvation

* In African countries no rainfall in years

iii) Reduction in soil fertility

iv) Locust attack due to high temperature

* 49% crop damage in South Asia
(Economic Survey)

v) Soil acidification

* Leaching of Nitrogen

* Acid Rainfall

Suggestions for climate change

i) Unity among the major contributors to CO₂ release

* Collective effort needed

ii) Low and zero carbon technology

* Solar hot water

* Combined heat and power (CHP)

iii) Use of wind turbines

* Hallid. wind turbine produce 12 MW

iv) Use of biogas, biofuel instead of fossil fuels

- v) Afforestation and Reforestation
- vi) Control human activity.
- vii) Public Transport instead of private
- viii) Refrigerant management
* Condensing unit
- ix) Tropical forest restoration
* at least 75 million aere must restor
- x) Launching environment saving restore campaign
- xi) Raising funds to mitigate climate change
- xii) Implementing climate control convention
- xiii) Adopt sustainable agriculture practices

What an unexpected thing that the world experienced. In Canada 46°C temperature was recorded. However, in previous years, Canada was one of the coolest places of the world. Climate has confirmed its potential to deform the global environment. Extreme weather events such as heat waves, floods and droughts are taking place in the world. The most tragic fact is that change in the climate is not naturally born rather it is outcome of man's unrestricted activities such as global industries race among the countries. In order to meet ever increasing demand of high population including developed and developing countries have increased the burning of fossil fuels. Secondly, intensive agriculture practices such as burning of wasted of crops residue and excessive use of fertilizers add fuel to fire. Resultantly, it has produced green house gases which are already on high level. GHGs are acting like blanket around the atmosphere. ~~This~~ and trapping energy into the atmosphere. This is the major cause of global warming that's why every year temperature rises 1.5 to 2°C. These things (GHGs, high temperature) have become a major threat to all form of life. Having irreversible and unprecedented changes in planetary environment. One of the major unprecedented changes in environment is smog. Ultimately, it is

injurious to human respiratory system. Directly becoming bottleneck for people. High sea level is another implication of climate change. Increasing flood disastrous directly effect on crop yield and water resources that's why the world is facing food insecurity and water scarcity. ^{These issues are} unbearable leading unbearable havoc on economy and ecosystem. Therefore, climate change is a threat for humanity due to human and natural factors. Leading serious impacts on the world and to cope with issue, robust initiatives are required.

Burning of fossil fuels releases poisonous gases polluting air. When fossil fuels are burned, some gas particles are remain unburnt and these unburnt directly go into the atmosphere and cause great harm to the ozone layer. Ozone layer prevents the dangerous rays of sun from entering into atmosphere. These particles play



Important role in ozone depletion. Secondly
Burning of fossil fuels release CO_2 into the air.
These gases not only trap heat into
the atmosphere but also pollute
air thus, smog is becoming bottleneck
for people. According to quality air
index, Pakistan stands fifth ^{the} most air
polluted country in the world and Lahore
stands 1st ^{the} most air polluted city in
the world due to smog.

Trees Trees are the lungs of the earth, However,
deforestation jeopardised the climate change.
It has unprecedented changes in
environment through releasing CO_2 . Trees
provide oxygen to living things. Secondly
it cleans the atmosphere through
storing CO_2 . When plants die and
decay, stored CO_2 is released back
to the atmosphere. Almost 10.9 giga
tons CO_2 releases from deforestation
and 7.3 million hectare forests cut
every year. Green house gases trap
heat in the atmosphere causing global
warming that's why every year ^{average} temperature
1.5 to 2°C has increased rises 1.5 to 2°C

With the spread of urbanization, massive changes in the lifestyle of people is another cause of climate change. Now a days, people are ^{living} spending more and more luxurious life. Increasing ^{number} no of vehicles, ^{use of} air conditioners and refrigerators are the result of such sort of attitude. Vehicles release green house gases along with vehical smoke. Smoked vehicles have another technical issue that is release of unburnt particles from engines. Besides, Refrigerator and AC releases CFC which deplete ozone layer. Ozone layer prevents dangerous rays of sun from entering to globe. However smoke ^{GHG} and unburnt a particles pollute environment and harmful for ^{to} ecosystem.

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Agriculture is relying on excessive use of fertilizers for crops that is another contributor of climate change. In order to meet food requirement of high population, use of fertilizers, pesticides and herbicides increases. In current era, without fertilizers agriculture seems impossible. These fertilizers contain many chemicals that become poisonous gases like NO_2 , CO_2 and methane. These gases are green house gases that not only increase global warming but also pollute air. Fertilizers play deleterious role ^{to effect} on climate change through release of tremendous gases.

Steps should be taken to propagate the usefulness of the renewable resources of energy. Countries should be invested, on large levels, in the renewable resources. No doubt such industries exist but in a very scanty number. However, solar panels and wind turbines manufactured are much expensive that's why many poor countries prefer cheap coal fossil fuels power plant. However, according to COP 26, 40% of existing 8500 coal burned power plants would wide need to be shut down so, \$19.2 billion promised as incentive for Brazil and Russia. It is a good initiative to introduce wind turbines and solar panel like things because their manufactures are environment friendly.

Besides, people should be convinced for the usefulness of simple ways of life such as public transport instead