

# Climate Changes : Causes and Consequences

## Outline

### 1. Introduction

#### Thesis statement:

Climate has adversely affected the third world countries, like Pakistan. It has posed threats to agriculture, average temperature, ecosystems and humans. Their effects can be mitigated only through effective planning and management otherwise results would be lethal.

2. Global warming is a global problem.
3. Increase in the frequency of extreme weather events causing frequent floods and draughts, increase in public spending can minimize it.
4. Recession of Hindukush - Karakoram - Himalayan glaciers risked living conditions in northern areas, harsh climate adaptability plans can reduce the effects.
5. Enhanced heat and water stressed conditions leading to reduced agriculture productivity, use of modern technology can multiply the productivity.

Follow proper structure of outline

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Address causes, consequences and solutions separately

6. Transportation on fossil fuels has increased the carbon emission in the air, it can be managed by shifting to electric vehicles.
7. Decrease in already scanty forest cover adversely affect ecosystems, effective plantation can mitigate it.
8. Smog induced by agriculture, transport and industries resulting to poor visibility and health hazards, banning pollutant emission in the air will minimize it.
9. Increase in the health risks due to changing weather patterns put people's health at risk, providing health facilities vaccines and equipments will help.
10. Impose a risk to poverty reduction efforts of developing countries, including underdeveloped areas in policy planning will deduce the effects.
11. Intensify gender disparity and marginalize the women empowerment, reduce the progress of the country, women of disaster stricken areas must be rehabilitated.
12. Conclusion.

## Essay

"There is one issue that will define the contours of this country more dramatically than any other, and that is the urgent threat of changing climate" - Barack Obama

Earth is rich in natural resources but humans have contaminated everything in the world. Where the advancement in science has improved the living standards, it has also effected flora and fauna, men and animals, and most importantly the environment of the world. Climate change has also impacted the developed world but its devastations are more prominent in the third world countries, like Pakistan. Pakistan is among top ten most affected countries which is facing the wrath of human activities in the form of climate disturbances. From towering peaks of Himalayas to the fertile plains of Indus, our environment is integral to our well-being. But the frequent exposure to natural hazards,

Topic is not Pakistan specific  
Address it in broader context

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significance dependence on monsoon rainfall and the glacier fed Indus Basin make it vulnerable to climate change. The country's socio-economic circumstances further augment its vulnerability to projected temperature increases, rainfall, draughts, and heatwaves and other disasters. So, Pakistan is under threat of declining agriculture production, changing land and marine ecosystems, due to which poses endangers country's social, economical, political decline. These effects can only be mitigated through effective engagement of the world, thorough planning, implementation and management of the projects and initiatives. Otherwise the results would be lethal for the world.

The stance of global north about climate change is that climate change is a global problem. It is caused by carbon emissions in the world's environment which has increased the world temperature more than 1.5 degree.

on average, due to more carbon emission for which developing and developed countries are equally responsible. Therefore, it is collective responsibility of both to reduce carbon gas emission. Whereas the Global South has a stance that more than 67% of overall carbon gas emission is made by developed world since post-industrial era, as quoted by United Nations Framework for Climate Change Convention. United States of America, Europe are polluting environment for more than 150 years but the underdeveloped world started its industrial revolution in 1970s and 1980s, which is a recent phenomenon. As, Earth is a common habitat and pollutants coming either from Global North or Global South, are going to harm the environment. So, collectively responsibility lies on <sup>all</sup> the countries to work together and combat the crisis. As, Albert Einstein said,

The world will not be destroyed by those who do evil, but by those

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who watch them without doing anything."

Pakistan is among the countries that are negatively effected by the environment and it is increasingly becoming a really harsh reality. The first conundrum that Pakistan is facing is the increase in the frequency and intensity of extreme weather events, coupled with erratic monsoon rains causing frequent and intense floods and droughts. Over the past years, the intensity of climate-induced disasters has increased. The most recent phenomena was 2022 floods in Pakistan, with over 1700 deaths and 12000 injuries. According to World Bank "Pakistan lost over 40 billion US dollars in flood-stricken areas". The cattles were drowned, people lost their lives and houses, 20 million people were dislocated. It put a huge burden on Pakistan's economy and administration. Already staggering economy Pakistan requires

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a holistic planning to combat these disasters.

They can be a turning point to increase domestic revenue mobilization, public spending, towards most vulnerable populations, keeping in view the rehabilitation of the masses.

Secondly, the recession of Hindukush

- Karakoram - Himalayan glaciers is a

threat for water inflows into the

Indus River System. This happens due to

global warming resulting from increase

in green house gases and carbon deposits

in the air. The most vulnerable areas are

the mountain ranges of Pakistan. There

is increase in frequency of precipitation,

landslides, wind storms, lightening, top

soil erosion, forest fires and glacial lakes

outburst floods in these areas. There are

total of 3,044 glacial lakes developed in

Gilgit Baltistan and Khyber Pakhtunkhwa

of which 33 glacial lakes are prone

to hazardous glacial lake outburst flooding.

It requires a comprehensive program to

prevent crop damage; new feed stock technology

for cattles living in marsh areas;  
prevention of accumulation of waste, trash  
and biomass; slope stabilization to reduce  
head blocks in landslides. Above mentioned  
measure will minimize the damages  
in high mountain areas.

Thirdly, rising temperatures results  
in enhanced heat and water stressed  
situation in arid and semi-arid regions.  
leading to reduced agricultural productivity.  
Agriculture is central to human survival  
and is probably the most vulnerable  
entity to climate change. As the duration  
of crop cycle is related to temperature  
increase in the temperature results in  
reduction of crop-growth time and  
also shortens the time between sowing  
and harvesting. Moreover, the rain  
cycles are also important for crop  
growth and the changes in rainfall  
patterns negatively affect the crop  
production. According to Pakistan Bureau  
of Statistics, agriculture sector holds 24%.



of GDP and accounts 37.4 percent of labour force. To reduce the impacts of climate change, Pakistan has launched National Food Security Policy - 2018 to make agriculture more productive, profitable and climate resilient. Pakistan, still needs to focus on high-yielding, heat resistant and rain drought tolerant crops that can face the wrath of climate changes. This can be done by <sup>promoting the use of technology</sup> using GIS systems, sprinklers and trickle irrigation and remote sensing.

Fourthly, use of fossil fuels containing hydrocarbons in the transport vehicles like buses, railway, cars, motorbikes and ~~other~~ airplanes becomes the reason of carbon emissions in the atmosphere. The presence of harmful chemicals in the air along with other pollutants - from industries, <sup>and</sup> factories - make air dense, and highly polluted, and injurious to health. Lahore, Faisalabad, Karachi, Rawalpindi are the hot spots of smog from October to February during

~~the winter season.~~ Moreover, it also put pressure to the economy as well because hydrocarbons are mostly imported from the oil rich countries ~~as~~ which reduces <sup>economic</sup> ~~oil~~ reserves. The world is moving towards from Fossil Fuel Vehicles to Electric Vehicles

Like Norway plans to ban fossil fuel vehicles by 2025, United Kingdom by 2040, Netherland, China, Germany <sup>are</sup> ~~have~~ also ambitious for electronic vehicles penetration in the transport sector. Pakistan, too, come up with National Electric Vehicle Policy in 2019 to penetrate these vehicles in three phases. The problem of air pollution is going to be worsen if the country do not get rid of fossil fuel vehicles.

Fifthly, the decrease in already scanty forest cover, from to a rapid change in climatic conditions, adversely affected plants, species, soil, air and wild life habitat. From this, it is evident that

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climate change has multifaceted effects on the ecosystems.

The diversity of landscapes and climate in Pakistan allow a wide variety of trees and plants to flourish.

Some of the world's unique forests includes

Juniper, Deodar, Oak, Chilgoza exist in

the country despite of the fact that only

5.4% of total area is under forest.

The forests in Pakistan suffer from a number

of problems - many are linked to habitat

change and environmental degradation.

American President Franklin D. Roosevelt described the

importance of forests for a country by

saying,

" A nation that destroy its soil

destroy itself. Forests are the

lungs of our land, purifying

the air and giving fresh strength

to our people."

As Pakistan is predominately a dry

country with 80% of its area falling

into arid and semi-arid land. Changes

into the weather pattern that results in

Change in water regime, is making the land barren and prone to draughts.

The reduction in forests will result into unfavourable condition for biodiversity, and soil erosion leading to floods as well.

The result of transportation through hydrocarbons, deforestation, and low agriculture production comes in the form of air pollution. The harmful air pollutants are released from industries and vehicles. As, the forest degradation makes and urbanization of agricultural land makes it impossible to meet the needs of ~~our~~ natural air purification, the urban areas of Pakistan are under spell of smog clouds. These smog clouds become dense in urban areas like Lahore, Karachi, Rawalpindi, and Faisalabad during the <sup>winter</sup> months from October to February. The data from AirNow released for Air Quality Index for Lahore was <sup>above</sup> 400 <sup>along</sup> with other cities having more than 150. This air quality index is 24 times higher than World Health

Organization's Air Quality Guidelines. The result of this harmful air comes in different diseases among residents of these cities. This includes cold, cough, breathing problems, <sup>and</sup> diarrhoea, ~~and so~~ ~~though~~. It is the <sup>fundamental</sup> right of every citizen under the Article 9 and 14 of constitution to get free pollution free air. So, Pakistan also conducted its first artificial rain through cloud seeding to combat pollution in Lahore. More efforts like this are required to combat the polluted air.

Moreover, the increase in temperature is also affecting the seasons badly. The ~~country~~ <sup>world</sup> is facing hotter days and longer summers. July 2024 was the hottest month ever recorded since the global records began in 1850, according to the latest global climate report by US National Centers for Environmental Information. Pakistan, too, came under the spell of the heatwaves, which elevate the temperature in Pakistan to new extremes.

The cities of Pakistan, Jacobabad, reached up to  $52^{\circ}\text{C}$  this summer. There were more than five hundred deaths and more than seven thousand people got hospitalized.

The rise of temperature can only be tackled by plantation, use of electronic vehicles, and emitting less pollutant in the environment otherwise humans will suffer the consequences. President of Gabonese Republic Ali Bongo Ondimba said,

"A 4 degree world would be devastating for developing countries and poor would be hit the hardest."

This quote totally fits for the condition of already trembling health system that got affected by climate change. It is widely recognized that increase of extreme weather patterns have serious implications on human health. For example, floods and storms not only increase the risk of death and injuries but also induce other problems like

diarrheal diseases, unavailability of clean water, food shortage occur in the area. People have to migrate from their homes, it affects their mental health as well. During the floods of 2010 and 2022, there was mass migration due to massive destruction. People faced depression, different diseases ~~have~~ emerged in their areas. Polio is one of the lethal diseases that had emerged in Pakistan once again. There are almost 18 recorded cases <sup>have</sup> emerged <sup>all</sup> ~~from~~ <sup>over</sup> ~~around~~ the country. In only eight months of 2024. This is surely the aftermath of the climate destruction and contamination in the environment. Health related climate change issues should be incorporated into national health plans. Vaccines, good quality medicines and fresh and clean water must be available for any emergency. Moreover, the country's health care system should be able to absorb any unpredicted shock.

Climate change also results in the ~~the~~ socio-economic disparities as well. It poses a serious risk on poverty and completely deteriorate the living standards of the citizens. The natural disaster in any areas has rippling effects on the ~~user~~ whole country. The food shortage, crops losses, inaccessibility to the resources <sup>occurs. This</sup> results in increase in the demand of resources but unavailability of the resources. The cost of the products increases and already affected people become inefficient to fulfill their needs. ~~Moreover,~~ The climate extremes ~~become~~ decreases their technical capacity and financial resources. This make their life miserable. To cope up with this situation the govt of Pakistan provided the residents of Sindh and Punjab monetary relief through Benazir Income Support Program. Moreover, the government also took initiative to build houses in the flood



stricken areas. In the same way, in Karachi during heat waves, these relief camps were installed to provide people with water and first aid in emergency. Pakistan army also takes part in the relief process. The government must plan and incorporate these areas in their planning to save them from disasters in the near future.

Poverty also plays its part in the society to marginalize the already society more. The women in the society are worsely affected by the disasters induced by climate change. They get deprived of health facilities, <sup>provision</sup> sanitation equipments <sup>lines</sup> of health resources become difficult. The ~~life~~ life of pregnant women also and the child's ~~life~~ life put at risk. The working women ~~living~~ living in rural areas who depend upon agriculture and forest sector for living become vulnerable to disasters. ~~and~~ The division of labour got marginalized in a way that the women become responsible

to get water, food, fuel from far areas. This increase the work burden on them. Along with poor health facilities, they also do not get their due share of labour in the society. This gender disparity for a country like Pakistan is alarming because the 48 percent of population are women. If the participation of women in the country's progress stop, the country cannot come out of the crisis. So, the disaster stricken areas must be rehabilitated from the disproportional burdens.

Hindu politician Jawaharlal Nehru said once,

"You can tell the condition of a nation by looking at the status of its women."

This statement holds true in the case of Pakistan because the women are still at par in their roles in the society and so as the country.

In conclusion, the third world countries are facing lots of destructions

because of the changing climate patterns. There is threat on almost all the sectors of the country. Agriculture, land, forests, women, children, flora and fauna, and even human existence is at risk. This requires holistic planning, preparedness measures, good management and execution of the mitigation plans. Along with this, support from the organizations and countries would enhance the management approaches. So far, Pakistan has done a lot to deal the catastrophe but still there is room for the improvement.

Pakistan is prone to more disasters in the future and requires because of its locality which cannot be ignored.

Robert Frost in his poem "Stopping by Woods on a Snowy Evening" said,

The woods are lovely dark and deep,

But I have promises to keep,

And miles to go before I sleep,

And miles to go before I sleep.