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Climate Change is not a distant threat but a present reality: Challenges and policy options for Pakistan.

Outline

(1) Introduction

Hook

Thesis Statement: Climate change is a present reality mainly evident in glacial melt, natural disasters, rising sea level, crop failure, water scarcity, Health Crisis, Heatwaves ~~and~~ ^{due} to displacement, and loss of biodiversity. These all Pakistan faces many challenges like Economic damage, health issues, damage to infrastructure, Agricultural vulnerability, Urbanization, Environmental degradation and weak institutional and policy response.

→ In order to tackle these issues

Pakistan take serious steps like; Build early warning systems, Plant more trees, switch to renewable energy, Reduce pollution, Urban planning improve water management and public awareness.

(2) Deciphering The term Climate Change

Facts represent climate change is a present reality

(A) Glacial melting : A current threat

Case in point → In 2025 Glacial melt leading to (GLOFs)

(B) Natural disasters like floods

Case in point → 2022 and 2025 floods

(C) Rising sea level - a recurrent threat

(d) Crop failure and food shortage

Case in point → In 2025 1 million

hectares of cotton and rice destroyed

(e) Water scarcity: a present reality

Case in point → Tarbela dam lost 33%

storage and 70% wells in Punjab over used

(f) Health crisis after floods

Case in point → After 2025 floods 6.6 million malaria cases

(g) Heat waves Rise harms health

Case in point → 50°C in Sindh caused worker deaths

(h) Mass displacement

Case in point → 2025 floods displaced 10 million people

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(4) Climate Change Challenges in Pakistan:

(A) Economic Loss

Case in point → Pakistan's needs
S&S\$ but trapped in debt

(B) Health issues

(C) Damage to infrastructure:

(D) Burning fossil fuel became a
serious issue.

Case in point → In ~~Punjab~~ more coal
is used leads to emission of
Carbon

(E) Agricultural vulnerability.

(F) Environmental degradation due to forest cutting

Case in point → In Pakistan 38 million
acres land are affected by soil
erosion reducing agricultural productivity.

(G) Urbanization became a severe challenge

Case in point → more people but poor
urban planning affect millions
of residents.

(H) Weak institutional and policy response

Case in point → Weakness of National
Climate Change policy (2012) and
Climate Change act (2017)

(5) Policy options to tackle Climate Change challenges in Pakistan

- (A) Build Early warning systems
- (B) Plant more trees
- (C) Switch to renewable energy
- (D) Reduce pollution
- (E) Urban planning
- (F) Improve water management
- (G) Public awareness through arranging campaigns

(6) Conclusion:

ESSAY

Once Greta Thunberg said:
 I want you to act as if your house is on fire, because it is, now her words feels more real than ever as our Planet Earth, the only planet where life exists, is burning. From deadly heatwaves in South Asia to wildlife in North America the Planet is burning and it's all because of humans who constantly trying to destroy the beauty of planet through their actions. Due to human's activity

from ~~few~~ years ~~Climate~~ ✓ of Earth is changing. Climate Change means in long term Changes in the Earth's weather patterns and temperature.

Now in Climate Change became a reality mainly evident in Glacial melting and Glots, natural disasters, Rising sea level, Crop failure, water scarcity, health crisis, rising headwaves, mass displacement, and loss of biodiversity, due to all these such sentences do not carry any meanings.

Pakistan faces severe challenges like Economic loss, health issues, damage to infrastructure, Agricultural vulnerability, Urbanization and poor urban planning, Environmental degradation and weak institutional and policy response.

Pakistan should have to take serious steps to tackle these challenges for instance; build early warning systems, Plant more trees, switch to renewable energy, reduce pollution, manage urban planning, improve water management and public awareness through arranging campaigns in different areas in Pakistan.

To begin with, one of the most immediate threat posed by climate change is Glacial melting. Due to human's action Earth temperature rises day by day and warmer temperature melts glaceirs faster. Pakistan hosts thousands of glaceirs estimated around 7000 plus in the Himalays, Karakoram and Hindkash ranges, but from few past years, many of them melting. For example, in 2025 very high temperature 48.5°C in mountain regions like Gilgit Baltistan triggered accelerated melting create GLOFs risks and unstable conditions of these melting glaceirs leading to floods.

The second reality of climate change is evident in natural disasters in the shape of floods. Due to changing climate result in heavier rains that causes floods and destroying everything. For example in 2022, due to harmful floods 33 million people affected among them 1700 faced death, in 2024 due to climate change again change and resultantly 1.5 million people displaced.

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In 2005, due to raise in temperature and change in Climate cause heavy rains and in consequence 1000 plus died and 2.7 millions displaced.

So, natural disaster in the shape of floods increasing every year and remains no longer a threat but a recurring reality.

Besides natural disaster, rising sea level also become a clear reality of Climate Change. In Pakistan ice from glaciers and poles is melting, and warm water takes up more space, and also hotter oceans change weather pattern, making monsoon more stronger.

For instance, Sea level has gone up by 8 inches since 1900 due to this, countries like Maldives, Bangladesh and Pakistan are already suffering from floods and losing land.

In 2025 in Pakistan Arabian sea warming intensified rains in Sindh.

To conclude rising sea level is no longer a future risk, rather a present reality.

Moreover, the Crop losses and food shortage become a recurring

reality of Climate change. Changing weather, floods and droughts damage in crops severely. In Pakistan

Crops or agriculture employs 37% of workforce and contributes

23.5% to total GDP, but from few past year due to Climate Change

Crops loss increased and leads to food shortage. For example in

Pakistan 2025 monsoon and floods

hit in agriculture severely, damage

1 million plus hectares of cotton and rice. This damage or loss

leads to food shortage in shape of increased prices up to 50% etc

The Crop losses and food shortage is present reality.

Furthermore, Water scarcity

is also a serious reality in

Pakistan. Rising temperature and

droughts reduced river flow. Glaciers

that supply water melting very

fast, rivers run dry after floods and

underground water is used up too quickly.

Cities like Karachi and Quetta

get only half the water, they

need, and farmers loose crops

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because there's ~~are~~ not enough to grow food. Dams are full of mud and rainwater flows into the sea.

For example, ~~the~~ Tarbela dam, in ~~the~~ biggest water storage in Pakistan, has lost 33% of its capacity due to mud and silt buildup from floods. It was built up to hold 11.6 million acre feet of water, but now can only store 7.7 million. ~~This~~ This means less water for drinking, farming and electricity during dry months. Hence water scarcity is also a present reality.

In addition to that, health issues became a recurring reality of climate change. Changing weather spreads multiple diseases like malaria and dengue. For instance in Pakistan after 2015 floods, water became unsafe to drink. So, people faces severe diseases like 6.6 million people after floods experienced malaria. Therefore due to climate change health issues increased and no longer remain a threat but became a reality.

Another important reality of climate change is rising heat waves and its impact on health. Higher global temperatures cause longer and more intense periods of ~~heat~~ extreme heat, leading to heat strokes, deaths and dehydration. For example: in Pakistan Sind 50°C. Caused ~~in~~ deaths of many workers especially ~~in~~ laborers and farmers.

Last, the Climate Change effects like floods, rising sea level and droughts force ~~in~~ millions of people to leave their homes. For instance, in 2005 floods ~~destroy~~ in village crops, homes roads and displaced 10 million ~~people~~. Hence ~~in~~ mass displacement is also become a reality.

After discussing the harsh realities of climate change, it became clear that Pakistan is facing serious consequences. Now the next major concern is to address the challenges that Pakistan is facing due to Climate Change.

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The first and foremost challenge of climate change that Pakistan is facing is economic loss. Floods, droughts and storms in Pakistan severely hit the infrastructure, crops and industries. Every year climate change and costing Pakistan 15 to 20 billion dollars every year. Every year floods, droughts hit the infrastructure, crops health etc and government spends a huge amount to fix these issues. For example: Pakistan needs \$50 billion by 2030 to fight climate change, build dams, resilient farms, green energy and floods defenses as outlined in its 2025 climate plan but the country is trapped in debt owing over 130 billion to foreign lenders like China, Saudi Arabia and IMF. This debt trap means 40 to 50% of Pakistan's yearly budget goes just to paying interest and old loans, leaving little money for urgent climate fixes.

Secondly, the next challenge is health issue. Extreme weather directly triggers disease.

outbreaks. Every year Climate Change brings a lot of diseases like heat strokes, dehydration, malaria, respiratory disease etc. In 2025 after floods 6.0 million faced malaria, in Sindh and Punjab. Also many people faced dengue, stomach illness. These all leads to putting pressure on the health system.

plz solidify your argument

Similarly, Climate Change is destroying Pakistan's infrastructure. It is becoming a major challenge. Breaking roads, bridges, homes, dams, school and power line with floods costing up to 68 billion every year to fix. For instance, in 2022 floods, over 1300 km of roads and 400 bridges were washed away, cutting off villages for months but it increased in 2025. The 2025 monsoon damaged 2000 schools, 500 health centers and 80,000 homes, leaving children without education and patients without care. Hence infrastructure damage became a major challenge for Pakistan right now.

Along with infrastructure damage, burning of fossil fuel became a serious issue in Pakistan. The constant emission of Green house gases trapping heat in Pakistan power plants and vehicles add to this. This Carbon emission effect in ozone layer and ~~but~~ a big role in climate change. For example, in 2025 in Punjab more coal is used resulting in tons of Carbon emission that traps the heat in troposphere.

Moreover, in agricultural vulnerability became a major challenge for Pakistan. As Pakistan's agriculture feeds 210 million people employs 37% of the workforce, and makes up 23.5% of GDP, but floods, heat and droughts are destroying it severely. For example, in 2025 alone 1 million hectares of cotton and rice were wiped out by monsoon floods. Along with this, the soil is turning salty from sea rise and bad irrigation, thus all pushing millions into hunger.

and poverty. ✓ So, it became a immediate challenge for Pakistan. ✓

Another challenge for Pakistan is environmental degradation. In major cause of degradation is forest cutting. Forest plays a crucial role in climate maintenance as it absorbs CO_2 and produce O_2 and supporting biodiversity. However in cutting of forests leads to climate change challenges. For example; In Pakistan 38 million acre land are affected by soil erosion reducing agricultural productivity. Hence, it became a major challenge for Pakistan.

Additionally; in urbanization and poor urban planning is a challenge for Pakistan. As due to floods people loss their homes crops, so will move towards cities but facing difficulties as they don't have space to live. They build houses on green areas which block natural water flow. Also in urbanization affect the natural

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habitats, and agriculture. For example, poorly planned urban areas face issues like traffic congestion, air and water pollution and unregulated waste disposal. Consequently, in urbanization without proper planning not only accelerate environmental degradation but also threaten public health and over all quality of life.

Lastly, in weak institutions and policy response is a big challenge for Pakistan in fighting climate change. Pakistan, lack

strong planning coordination and enforcement to manage climate risks. Poor implementation of climate policies and slow disaster response make it harder to protect people to

and recover from climate change. For instance;

Pakistan made two laws like

The Pakistan's national climate change policy (2012) and Climate Change Act (2017). These were made to fight with climate change but they have not been effectively applied.

Hence, So far ~~we~~ discussed the reality of Climate Change and Challenges that Pakistan is facing due to climate change, now we are discussing the Solutions or measurements Pakistan should take to tackle these issues.

Firstly; Pakistan should have to build early warning system. This is an important solution to reduce the damage caused by the Climate Change. These systems help predict floods, heat waves and storms, before they happen giving time to people to prepare and stay safe.

Secondly, Pakistan should have to plant more trees. As due to huge amount of carbon emission increased the threats of Climate Change. So if planting more trees help to absorb CO₂ and make soil fertile along with it, planting more trees means reducing floods as they help to absorb water and reduce the flood damages.

Third; Switch to renewable energy. In Pakistan people are

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~~not buying~~ dependent on nonrenewable energy like coal. So instead of this, people should have to use renewable energy like solar and wind energy. It will help to reduce emission.

Fourth; In order to tackle the climate change issues, Pakistan should have to work on reduce pollution. Pollution from factories, vehicles and waste increased green house gases that warm the planet.

To reduce this, Pakistan should promote clean energy like renewable energy, improve public transport and enforce strict laws.

Fifth; Pakistan should need to take serious plans about urban setting. Proper planning ensure safer, greener and more resilient of urban areas. In Pakistan cities like Karachi and Lahore face more flooding as compare to other and it is because of poor planning. Government should make proper drainage systems, create green parks and spaces and develop public transport.

networks to lower traffic pollution. These all helps to make a proper urban area.

Another solution is improving water solutions systems. In Pakistan, Balochistan, Sindh faces severe water shortage. So by building dams, repairing canals, and promoting efficient irrigation techniques, the country can able to save water and support agriculture.

Lastly, Public awareness campaigns, these are essential to help people understand and respond to Climate Change. In Pakistan, these campaigns can people to save water, reduce pollution, plant trees and follow early warning during floods and heat waves. These campaigns make Climate action a shared responsibility, ensuring work on your language please and also on content please and sustainable future.

In conclusion; Climate Change in Pakistan now no longer a threat but become a reality as it severely hit in Glacial melting, natural disasters, flood

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rising sea level, heatwaves, water shortage and mass displacement. These all are factors that shows that Climate Change is a reality. ~~Pakistan is facing~~ Severe challenges due to Climate Change like rising pollution, economic loss, infrastructure damage, agricultural vulnerability and environmental degradation. We are facing severe issues of climate change.

Pakistan should be take serious steps in order to cover up these issues and for this Pakistan's needs to improve water management

build early warning systems, a reforestation, proper urban settlement plans and switch to renewable energy.

If Pakistan successfully tackle these issues, it must lead to a prosperous country.

