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Impact of Climate Change on Pakistan and COP 29



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Climate change is posing challenges to most of the nations in the world due to its devastating impacts. Pakistan is one of those nations that are subsequently effected by climate change facing frequent heatwaves, river and flash floods, droughts, storms, landslides, cyclones etc. The intense climatic changes have the potential to have a significant negative impact on the livelihood and public health of people.



During the last two decades most parts of the world experienced destructive heatwaves, droughts and floods caused due to carbon emissions and greenhouse gases. Due to the rise in global temperatures, the routine of weather has altered and rainfalls have caused floods that took many lives and destroyed houses and infrastructure. Sand and dust storms are created by droughts that cause lower food production and also scarcity of water. These climatic effects can be reduced only through controlling the temperature of the earth. It emphasized collective efforts to shape the future of earth.

Climate change where poses various challenges also provide opportunities for growth and innovation. Through focusing on sustainability and following global standards Pakistan can potentially become a frontrunner in the global world towards climate resilience.

This shift, marked by a harmonious blend of strategic reforms and collaborative efforts, not only sets a path towards a more sustainable future for Pakistan but also highlights



its pivotal role in influencing the worldwide conversation on addressing climate change through both mitigation and adaptation measures.

This article will explore the impact of climate change on Pakistan and the evolving weather patterns across the globe. Additionally, it will offer insights into Pakistan's collaborative endeavours aimed at addressing the effects of climate change and ensuring a sustainable future for future generations.

Climate Change and its causes:

Climate change can be defined as the long-term change in temperature and alteration in weather patterns. This transition can be a natural phenomenon, sun's activity, pollution or huge eruptions from volcanic and large emissions of carbon and greenhouse gases. Since the 1980s most of the temperature risen due to human activities like the burning of fossil fuels, coal, oil and the emission of dangerous gases from vehicles etc.

Major gases like carbon dioxide and methane are responsible for the climate change. Moreover, the unbalancing of land and deforestation resulted in the release of these gases. Further, agriculture waste, oil and gas operations cause emission of methane. Other major sectors causing greenhouse gases include energy, transport, and industries.

Global Warming:

The hottest decade was recorded between 2011-2020, when the average global temperature reached 1.1°C above the pre-industrial level in 2019. The global warming caused by human activities is now increasing at the rate of 0.2°C per decade.



The rise in global temperature at a rate of 2°C poses serious threats to environment and the human wellbeing, this temperature rise will have catastrophic and dangerous changes to the world's environment in the near future.

Therefore, it is recognised by the international community that to reduce global warming it is necessary to keep temperature below 2°C and efforts must be pursued to limit it to 1.5°C.

Social Impact of Climate Change:

Climate change is strongly associated with the global patterns of inequality. The poorest population despite the least contribution in climate change is the one that bear the worst impact of climate change. Millions of poor people around the world face various challenges due to climate change including health effects, food, water, security, migration, forced displacement, loss of cultural identity and several other related threats.

Particularly certain social groups including children, disabled persons, female-headed households, older people, migrant workers, ethnic minorities, displaced persons and other socially marginalized groups are more vulnerable to the impacts of climate change. Geographical locations, financial, cultural, socio-economic, gender status, and access to resources, services, decision-making power, and justice are the root causes of vulnerability to these social groups.

Marginalized and poor social groups are therefore calling for more effective and targeted actions on Climate change. Climate change is not only an environmental crisis but a social crisis as well which needs to be addressed at many levels, between

developed and developing nations, between poor and rich people within the nations between genders and between generations.

Climate change solutions are also highlighted by the Intergovernmental panel on climate change (IPCC) to conform to such principles and distributive systems that have more effective development outcomes.

Poor people are most vulnerable to ineffective policies to address climate change. The lack of productive and efficient climate change policies also hurts marginalized groups. Policies like carbon tax on public transport are likely to result in a rise in transport fares which can disproportionately impact poor households. Similarly, those policies that are not designed in collaboration with affected communities and beneficiaries could pose a higher financial burden on their livelihoods.

Climate Change and Its Impact on Pakistan:

Climate change poses various nations at risk especially the developing nations. Due to this serious challenge that has a severe impact on the region, South Asia is one of the most vulnerable has grown more disaster-prone to climate change. Generally, climate change has an increasingly severe impact on Pakistan.





Pakistan is located in a region where climatic impacts are felt stronger, which has had enormous, social, economic and environmental consequences. According to the statistics from 2010, more than 20 million people were affected by devastating floods who lost their homes, were injured or went missing. After two years in 2012 another flood in Pakistan wreaked havoc. This climatic devastation put Pakistan's economy, food, security and infrastructure at severe risk.

Pakistan experiences higher average temperatures than the significant average global temperature, in Pakistan temperature rise potentially with the average of 1.3°C-4.9°C by the 2090s over the 1986-2005 baseline. According 2020 Inform Risk Index Pakistan has higher disaster risks level in the globe, ranking 18 out of 191 countries.

By the most optimistic emission projections, the expected rise in global average temperature by 2080-99 is approximately 3.7°C. Furthermore, Pakistan's hydrological patterns, and consequently its water resources are mostly unknown, though an increase in dry conditions is predicted. The frequency and intensity of extreme weather events are predicted to rise, increasing the risk of disasters, especially for marginalized communities and those with lower socioeconomic status.

With an average monthly maximum temperature of around 27°C and an average in June maximum reaching approximately 36°C, Pakistan frequently experiences some of the highest maximum temperatures globally. On May 28, 2017, Pakistan recorded one of the world's highest temperatures at 53.7°C, marking the hottest temperature ever recorded in the country and the second-highest temperature ever registered in Asia.



In Pakistan, the current median annual probability of a heatwave occurring in any particular region is approximately 3 percent. This is evidenced by reports indicating that during Pakistan's 2015 heatwave, over 65,000 individuals were hospitalized with heatstroke, and tragically, more than 1,200 lives were lost. Consequently, a significant portion of the population remains vulnerable to such extreme heat events.

Several parts of Pakistan face annual average temperature of 38°C or even more, weather patterns with high temperatures cause heat waves, resulting in major human health consequences. More than 126 heatwaves were experienced by Pakistan during 1997-2015, an average of seven heatwaves per year with an increasing trend every year.

During July and August Pakistan has a monsoon season, in which the country sees on average about 255mm of rain per month. The monsoon rainfall in the year 2022 saw record highs with over 190% of normal rainfall during the monsoon period. Flood basins became waterlogged, rivers spilled over their banks, and the natural drainage infrastructure struggled to manage the excess water volume. The primary cause of flooding in Pakistan is the enormous rainfall.

In the year 2022, more than 33 million people experienced destructive floods and landslides in Pakistan shortly after the monsoon season. This flood was marked as one of the most severe disasters to hit Pakistan in a decade since the 2010 floods. The 2022 Pakistan floods claimed the lives of over 1,700 people and left nearly 13,000 injured. Floods wreaked havoc on infrastructure, houses, and communication networks, causing billions of dollars in damage.

Extreme weather conditions and climate change are the main cause of these floods in Pakistan. Moreover, as a result of climate change glaciers are melting rapidly, contributing to the intensive rains and causing flooding.

Amid Pakistan's climate-related challenges, such as the 2022 floods and their economic consequences, there's a notable narrative of finding opportunity amidst adversity. These events have spurred a global reckoning of climate change realities, stressing the need for collaborative action.

Pakistan and Azerbaijan's Collaborative efforts against Climate Change:

Pakistan contributes less than 1% of global carbon emissions, despite this Pakistan is the one of the biggest victims of climate change. Pakistan became the highest facing disasters in the world due to climate change ranking 18th out of 191 nations. Various climate change events like droughts, floods, and cyclones have cause huge



damage to Pakistan not only in form of precious human lives but to infrastructure as well. The economy of Pakistan was badly impacted by the 2022 floods, accounting for a loss of more than 24 billion PKR. Public health, food security and the whole of society is at danger due to climate change disasters.

In November 2024 Azerbaijan is going to host the 29th Conference of Parties (COP29) in Baku. This event is providing an opportunity for Pakistan to participate and draw the



world's attention towards the compensation by the nations that are contributing large amounts of carbon emissions from their industries.

During the plenary session of the 28th COP in December 2023, the 29th COP was announced. Since 1995 the COP of the UN Framework Convention on Climate Change (UNFCCC) has been convened annually. The main purpose of designing COP is to assess the progress of addressing climate change on a global basis.

Azerbaijan is adhering to Paris Agreement 2015 and prioritising goals to reduce greenhouse gas emissions. Moreover, Azerbaijan is committed to achieving its goal of greenhouse gases emission reduction up to 35% by 2030 and 40% by 2050. This indicates the Azerbaijani government's keen interest in overcoming climate change challenges through mitigation of greenhouse gas emissions.

Azerbaijan's Minister Mukhtar Babayev visited Pakistan in May 2024, to extend the letter of invitation from President Ilham Aliyev to PM Muhammad Shehbaz Sharif and the President Asif Ali Zardari regarding COP 29 session in Azerbaijan.

In response to the invitation Pakistan's PM expressed his anticipation and thanked the President of Azerbaijan for the warm invitation to the event. He pledged full support of Pakistan to Azerbaijan and congratulated Azerbaijan's people to become hosts of COP29. Leaders from various countries will gather at COP29 this year to discuss the climate change challenges.

Additionally, President Asif Ali Zardari extended a warm welcome to Minister Babayev, he affirmed support for Azerbaijan's chairmanship for COP29. He



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underscored the robust Pakistan-Azerbaijan ties and promoted further collaboration, including exchanges between their peoples.

Pakistan and Azerbaijan are dedicated to enhancing cooperation in climate action and the renewable energy sector. Both nations strongly endorse multilateralism and are committed to upholding international law. With a longstanding history of collaboration at various multilateral forums, Pakistan and Azerbaijan pledge to continue supporting each other in the future, including within organizations such as the OIC and ECO.