

Threats of climate change to Pakistan: The way forward

1. Introduction

Thesis Statement:

Pakistan is ~~the~~ amongst the countries that are most vulnerable to climate change. It is being perniciously threatened by the climate crisis in its almost every walk of life, be it political, social or economic. However, with well-calculated measures, the problem can be remedied significantly.

2. The long-term change in earth's average temperature and weather conditions: Understanding the menace of climate change

3. Threats of climate change to Pakistan

On political level:

- 3.1) Interprovincial tensions, fuelled by water crisis and scarcity of resources
- 3.2) Mounting governance challenges
- 3.3) Burgeoning distrust in masses towards government and the institutions

On social level:

- 3.4) Large-scale population displacement

3.5) Early child marriages and gender-based violence

3.6) Rising health issues

3.7) Extinction of languages and erosion of cultures

3.8) Growing food insecurity

On economic level:

3.8) Decline in agricultural productivity

3.9) Deepening debt-ridden economy

3.10) Increase in foreign imports

On environmental level:

3.11) Increased frequency and intensity of natural disasters

3.12) Significant deterioration in air quality

3.13) Destruction of natural aesthetics and beauty

4. The way forward to address the threat of climate change to Pakistan

4.1) Transitioning to alternate energy

4.2) Developing climate-resilient infrastructure

4.3) Shifting towards circular economy

4.4) Launching reforestation and afforestation campaigns

4.5) Shutting down the kiln industry

4.6) Vehemently advocating for climate justice

5. Conclusion

Introduction:

"Please father! Put off my marriage, I want to study and become an empowered woman," cryingly entreated a teen-aged girl to her father, who was marrying her off for a mere few thousands, in an area in Sindh. It was not his fault; he was helplessly compelled to do so at the hands of circumstances. The heavy rain destroyed his all agricultural crop - the only source of his income - forcing him to swallow the bitter pill. It was not about this girl only; many have fallen victim to the climate menace. Unfortunately Pakistan is one of the most vulnerable countries to climate crisis. Owing to this scourge, it is ensared in a large number of ramifications, which are not limited to social domain only, but are threatening the country's all walks of life. Politically, there is rising disharmony among provinces, which is stemming from acute water crisis and declining resources. Moreover, the menace of climate change is stoking governance challenges to the country. In the same manner, the country is feeling the sweltering heat in its social domain as well, which is irrefutably evident from the large-scale displacement of people countrywide and significantly rising health issues. Similarly, there is

is a mounting fear in the public regarding the food security as the destruction of agricultural crops is becoming a heart-wrenching normal. Being a third-world country, especially with a severely weak economy, it is, thus, the threats of climate crisis to economy that are becoming a bone in the country's neck. Indeed, it is facing a substantial decline in its agricultural yield, which is largely forcing it to rely more on the imports, thus widening its trade account deficit enormously. Above all, the country is falling deeper and deeper into the quagmire of debts, which are now leading the emergence of debt-ridden economy. On the environmental account, it is indeed facing an alarming increase in the frequency and intensity of natural disasters, owing to which, there is a significant decline in natural aesthetics and beauty across the country. Amidst all this, the silver lining for Pakistan is that the problem is indeed remediable, but with robust and well-executed measures, which include transition to alternate energy, establishment of climate-resilient infrastructure and a much-needed shift towards circular economy. In fact, Pakistan is trapped into the claws of climate crisis; however, with well-thought-out actions, it can be liberated, for sure.

No of sentences = 07
No of words = 123

First and foremost, the menace of climate change is stoking significant inter-provincial tensions in Pakistan. A keen harmony among the provinces is essential for the country's overall growth in all segments. However, the climate crisis is pitting them against one another by fuelling the water shortage. Moreover, the frequent, destructive natural disasters are also adding to the inter-provincial conflicts, especially by inducing large-scale population displacement. Additionally, the climate meltdown is substantially reducing the country's resources, which is resulting in heightening inequalities and resource disparities: among ^{the} provinces, thereby leading to increasing hostility among them against one another. Recently, the Irrigation Minister of Sindh said that the province is suffering 37% of irrigation water shortage, levelling the blame on Punjab. In a nutshell, changing climate is turning the harmony of Pakistan's provinces into hostility.

No of sentences = 07
No of words = 124

Similarly, climate change is inducing a plethora of governance challenges in Pakistan. With an unstable governance system, a country is bound to face socio-economic malaises. As climate change is making the disease of poverty widespread, the law and order situation is becoming ^{more} fragile in the country because of rising crime rate. Moreover, the country's institutions are getting overburdened owing to climate change, which is resulting in their unresponsiveness and ineffectiveness. Additionally, the ~~are~~ increasing natural disasters are straining the country's limited revenues, thereby significantly affecting its investment on the human development, which again trickles down to impairing the governance system. The World Meteorological Organization (WMO) reported that the frequency of extreme weather patterns has increased threefold, which is straining governance systems. To sum up, climate change is causing a significant increase in governance issues in Pakistan.

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Furthermore, the climate crisis is significantly eroding public trust in the government. It is essential for a government to win public confidence, for it can not function effectively smoothly without it. As the threat of climate change is becoming more dreadful, especially by unleashing grave miseries on the masses in Pakistan, people at large are becoming disillusioned with the government. The government is unable to take sufficient steps in the direction of mitigating the climate challenge, which is resulting in large-scale population displacement. Moreover, increasing natural calamities are affecting people's incomes, especially those who are relying on agriculture sector. Furthermore, it has, so far, failed to take initiatives to counter the rising issue of smog and deadly heatwaves, which are taking lives, thus fueling anti-government sentiments in the public. The World Bank has reported that climate change is exacerbating existing vulnerabilities in Pakistan, leading to increased social tensions and erosion of public confidence. This highlights that climate change is affecting the government credibility in Pakistan.

Besides, climate change is causing large-scale population displacement across Pakistan. It is true that every individual wants to live in a safe environment, especially the one where ~~he~~ he gets all needed facilities and comfort. In many urban and metropolitan cities of Pakistan, atmospheric pollution has significantly risen, forcing people to relocate to other places that offer hazard-free living conditions. Likewise, a large number of people are moving to cities from climate-affected areas, in particular those areas which are agriculture dependent, because of frequent destructive rainfalls and floods. Above all, climate change is fuelling water scarcity and leading to water contamination, both of which are triggering relocation of communities. A report by the National Disaster Management Authority highlights that climate-related events have led to a significant displacement. To sum up, the scourge of climate change is inducing massive displacement of people in Pakistan.

Moreover, Pakistan is facing the ordeal of increasing health issues due to climate change. Beside of sound health, an individual is nothing but a liability on his country and a drain on its resources. Across Pakistan, climate crisis is resulting in an increased atmospheric pollution, especially in more condensed areas with respect to population, which is making heart and respiratory diseases widespread and prevalent among the residents. Similarly, the nation is experiencing deadly heatwaves, which are rendering paramount casualties to the country. Above all, rising natural disasters, in particular floods and earthquakes, are engendering various viral diseases such as hepatitis A and Rotavirus. It is, however, the declining agriculture sector owing to climate change that is more concerning as this will lead to food unavailability and malnutrition.

The Pakistan Meteorological Department has reported that the record heatwaves in 2024 have claimed hundreds of lives throughout Pakistan. In brief, significant health challenges are arising across the country owing to deteriorating climate menace.

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In the same manner, growing food insecurity is another pernicious threat being posed by climate change to Pakistan. Shortage of food will bring about various social evils in the country and make its economy bleed. As climate-related disasters are becoming prevalent, the country's agriculture sector is getting severely affected, especially its crop yields are declining substantially. Moreover, urbanization is growing in the country, particularly because of large-scale population displacement and rising poverty, leading to reduction in agricultural land. Additionally, frequent rainfalls and floods are eroding the interest of farmers in agriculture, forcing them to seek other stable sources of income. Concerning food shortage in Pakistan, the Food and Agriculture Organization has reported that around 26% of the population in Pakistan faces food insecurity. In a nutshell, climate crisis is spawning food crisis in Pakistan.

No of Words = 139

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Similarly, the country is falling deeper and deeper into the trench of debts, which is another severe threat of climate change to Pakistan. Debt is an easy route for a temporary respite, but has far-reaching ramifications in the long-run for any country. Climate change is adversely impacting Pakistan's trade as the country's imports are rising because of burgeoning health issues, declining agriculture sector and underperforming industries, leading to more borrowing to bridge the trade deficit. Additionally, frequent rainfalls, floods and earthquakes are wreaking unimaginable destruction to the country's infrastructure. Above all, the country is undertaking more borrowing in order to combat the climate catastrophe by launching forestation campaigns and green energy initiatives. The Climate Change Ministry of Pakistan has stressed the need for enhanced climate financing, highlighting the estimate of \$7 billion annually to fight climate meltdown. In short, Pakistan's debt miseries are waxing due to climate change.

No of words = 146
No of sentences = 07

Additionally, Pakistan is facing the issue of increasing imports as a result of climate crisis. Imports are deemed as an undesired activity as it impairs a country's economic growth and makes its social fabric fragile. As this menace of climate change is becoming severe, Pakistan is forced to take combative measures, in particular attempting to reduce carbon emissions by switching to green energy, which is hampering energy supply to businesses, forcing them to either reduce production or close down. In the same manner, the issue of water scarcity is becoming more pronounced, which is dimly hurting agriculture sector, leading to a substantial decrease in crops, and increase in food shortage. In parallel to this, the emergence and widespread of diseases owing to climate-induced events are forcing the country to not only import medicines but also medical technologies. For example, the country had to import 3.5 million tonnes of wheat from Ukraine in 2023 after countrywide floods. In brief, the climate ~~breaking~~ breakdown is raising Pakistan's imports substantially.

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In the same vein, an alarming increase in natural disasters is another threat of climate change to Pakistan. Natural disasters cause significant socio-economic losses to a country, thereby hampering its comprehensive growth. Because of deteriorating climate menace, Pakistan is facing a substantial increase in temperatures, which is resulting in deadly heatwaves across the country. Moreover, there is a perilous rise in rainfalls and floods due to climate change. Besides, the climate-led water shortage and lack of rains in some parts of the country are inducing significant droughts. For example, many regions, particularly southern and central Pakistan, faced extreme drought in 2023, due to low rainfall. Thus, climate change is fuelling the frequency and intensity of natural disasters in Pakistan.

Sentences exceeding three lines = None ✓

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Last but not least, climate change is causing a severe destruction to natural aesthetics and beauty in Pakistan. Lack of natural scenery and eye-catching landscape diminishes attractiveness of a country and portrays it as a place without freshness. With ever-rising temperature due to climate change, the glaciers are melting at a quick pace in ^{Pakistan} Moreover, droughts are turning lush green fields into displeasing deserts in the country. Furthermore, the climate-induced water crisis is reducing arable agricultural lands into barrenness and affecting substantially the wildlife. A report by the World Wide Fund (WWF) has pointed out that there has been a decline of around 80% in Blind Indus Dolphins. It underscores that climate change is damaging the natural scenery and wilderness in the country.

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First and foremost, the country must shift from non-renewable to renewable energy in order to fight climate change. Renewable energy is a more sustainable and inexpensive alternative, which also contributes significantly to the mitigation of the climate threat. In this pursuit, Pakistan must focus on reducing its heavy reliance on thermal source of energy by developing hydropower infrastructure, especially small and medium dams. Besides, it must recontinue the scrapped net metering policy to promote use of solar energy at a domestic level. In addition, wind projects must be launched in southern Sindh and Balochistan to tap the immense potential in wind energy. The report by the National Electric Power Regulatory Authority (NEPRA) has indicated that the country can generate 50000 MW of electricity through wind turbines. To sum up, it is essential for Pakistan to move to renewable energy for addressing the climate crisis.

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Secondly, it is pertinent to develop climate-resilient infrastructure in order to overcome the threats of climate change. Climate-resilient infrastructure will enable Pakistan to prevent huge socio-economic losses that it is bearing due to the destructive climate crisis. To do so, the country must seek an enhanced role of the National Energy Efficiency and Conservation Authority (NEECA), especially tasking it to ensure vertical and climate resilient building and houses. Moreover, the country should also provide subsidies to ceramic industry so that it may produce affordable and climate-immune construction materials. Along with these, a keen focus must also be laid on building small and medium scale dams to promote green energy and store flood water. In brief, climate-resilient infrastructure must be sprawled across the country to address the threats of climate change.

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Thirdly, it is of paramount importance for the country to shift towards circular economy to mitigate the threat of climate change. Solid waste is a strong enabler of the climate menace. To reduce the rising solid waste, Pakistan must enact insurmountable legislation to bind businesses to produce reusable and recyclable plastic. Moreover, a reward-punishment mechanism must be evolved to encourage or force consumers ~~from~~ to stop incinerating or dumping plastic instead of bringing it in reuse. Additionally, the production and use of biodegradable plastic should be increased and promoted. In this regard, the NOTE (acronym for 'No offence To Earth') pen is a fabulous example to follow for Pakistan; it is a 100% biodegradable pen, being produced in India. In a nutshell, Pakistan must embrace circular economy to combat the menace of climate change.

No of sentences = 06
No of words = 118

Fourthly, it is imperative for Pakistan to launch reforestation and afforestation campaigns to fight climate threat. Rising population and urbanization across the country are resulting in a substantial decline in forests, which, in turn, is making the climate challenge more severe. The country, first of all, needs to increase plantation drives, especially in areas where lands are in no agricultural use and lying idle. Moreover, it also needs to focus its efforts on reforestation campaigns, particularly in areas where forests have been cut down or damaged by other causes. Along with these steps, monitoring and preservation of forests should be ensured and ramped up, particularly to deter deforestation for commercial purposes. Therefore, these steps, if taken in a true spirit, will lend a big help to the country to deal with the worsening threat of climate change.

No of sentences = 06
No of words = 106

Fifthly, it is essential for the country to shut down the kiln industry, which is contributing immensely to the rising climate threat. Basically, kiln industry involves the practice of burning various wastes and woods, which cause a significant growth in carbon emissions. To deal with this peril, the country needs to indiscriminately close down all kiln factories, that are still operating on old methods. Moreover, the country must legislate in favour of implementing 'zigzag technology,' which is less dangerous to the environment, in all kiln manufacturing companies. Additionally, it should provide subsidies to the companies that are producing 'zigzag technology', so that it comes in affordability of kiln manufacturers. Thus, these steps will propel the country to counter the climate challenge.

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Finally, it is imperative for the country to relentlessly advocate for climate justice, which will financially empower it to address climate threat. Undoubtedly, the financial incapacity of Pakistan is impeding its way to addressing the pressing challenges of climate change - a threat which has been brought about by the developed world. Thus, Pakistan and the other victim countries must unite and demand climate compensation from the developed world. Moreover, they must collectively force the 'Conference of Parties' (COP) to operationalize the climate fund to financially assist those countries that are perniciously threatened by the climate menace. Additionally, the country must present its case before the multilaterals such as the IMF and ^{the} World Bank to provide it easy and low-interest climate-centric loans, along with persuading the developed world for aid to fight this ongoing scourge. By pursuing the case of climate compensation, Pakistan can potentially gain financial flows to overcome the climate crisis.

No of words = 240

To conclude, the menace of climate change is tightening its grip around Pakistan's neck, which is well evident from a number of challenges which have surrounded it. These challenges are of diverse nature and are affecting the country's all walks of life. Politically, the disharmony among the provinces is widening due to the climate crisis, which has sparked the issues such as water and food shortage. Moreover, it is leading to a smitten increase in the governance challenges and a significant decline in the public trust for the government and the institutions. On the social front, the issue of large-scale population displacement is becoming widespread and alarming because of the climate threat. Besides, it is spawning severe health issues across the country. On the economic ground, climate change is adversely affecting the country's backbone sector, agriculture, which is facing a substantial decrease in its crop yields. Moreover, it is causing a paramount rise in debts and imports. Similarly, the country is bearing the brunt of climate change on the environmental level in the form of rising natural disasters and declining natural aesthetics and appealing landscape.

As Albert Einstein says, "In the middle of every difficulty lies opportunity." Overcoming the climate challenge will ~~not~~ lead Pakistan to grow not only economically but also politically and socially. However, for reaping these dividends, the country needs to undertake an array of measures to uproot the menace of climate change. These measures ~~are~~ encompass transitioning to alternate energy, developing climate-immune infrastructure, shifting towards circular economy and such forth. With managing to address the climate threat, Pakistan will emerge as an economically affluent, politically united and socially advanced country.