

Climate Change and Pakistan

Thesis Statement: Climate change has dreadful impact on Pakistan's agricultural economy and education sector. Pakistan needs must autonomous initiatives and mutual assistance to mitigate climate change.

Outline: -

a) Introduction

b) Climate Change has terrible impacts on Pakistan

i:- Climate Change is contributing in water crisis of Pakistan

Water security and Water Global Agenda. UN Report

ii: Climate Change has alarming effect on agriculture sector

Punjab Crop Reporting Service Report, 2024.

iii: Climate Change has dire outcome on Female Labor Force.

Labor Force Survey, 2020-2021.

iv: Climate Change induced Natural Disasters have horrific effect on Pakistan's economy.

The 'PDNA' report

v: Climate Change has detrimental impact on Tourism sector.

vi: Climate Change has distressing influence on Education sector of Pakistan.

'The UN Children's Fund report'

vii: Climate Change is increasing the number of IDP's in Pakistan

The PDNA report.

viii: Climate Change is increasing the spread of disease in Pakistan.

"Child life Foundation" report.

C) Pakistan needs must autonomous initiatives to mitigate climate change

i: Pakistan should introduce climate smart budget to mitigate climate change.

"World Resource institution" study

ii: Pakistan should introduce climate compatible ~~smart~~ education.

iii: Pakistan should upgrade meteorological department as it is pivotal to climate mitigation.

iv: Pakistan should use media and press to boost climate change awareness.

d) International mutual assistance is crucial for Pakistan to mitigate climate change.

i: State actors support is essential for Pakistan to mitigate climate change.

ii: Non-state actors can help in capacity building against climate change.

e) Conclusion

Between 1999 to 2018 international experts estimates that Pakistan has suffered economic losses of worth 30 billion dollars and faced 152 extreme weather events due to catastrophic climate change. According to World Bank, only 2022 floods caused 30 billion dollars damages and economic losses to Pakistan. This is how dreadful climate change is to Pakistan and with passage of time its catastrophic impact is increasing in its extent. Despite the fact that Pakistan contributes very little in green house gas emissions, climate change affects Pakistan severely and very frequently. The fresh water reserves of Pakistan are decreasing rapidly due to climate change events. Agriculture

sector, female labour force and economy of Pakistan is also compromised due to climate change. Pakistan needs must autonomous initiatives to tackle this catastrophic disaster of climate change. Climate compatible education and using media and press to boost climate change awareness is helpful. Self help is essential to mitigate climate change but as climate change is a global phenomenon, support from international state and non-state actors is necessary too. Financial support with capacity building training from state and non-state actors is crucial to Pakistan for tackling climate change catastrophe. Climate change has dreadful impact on Pakistan's agricultural, economy and educational sector. Pakistan needs must autonomous initiatives and mutual assistance to mitigate the climate change.

Climate change has terrible

impact on natural water reserves of Pakistan. Water is livelihood of nations, explaining why historic civilisations and present-day cities line the banks of great rivers.

However, degradation of earth's ecosystem, climate induced desertification and drought, and changing rainfall patterns coupled with urbanization have resulted in a multidimensional water crisis on global scale. Pakistan's fresh water resources are at increasing risk due to their dependence on melting snow, glaciers, and monsoon rains which are all strongly influenced by climate change. According to water security and water global agenda report by UN, Pakistan fresh water reserves are reduced to 866m^3 per capita in 2020 due to climate change events. Therefore, climate change is contributing in water crisis of Pakistan.

Closely linked to water is agriculture. Pakistan is an agrarian country with its exports

largely dependent on agricultural products. Agriculture contributes 22 percent to GDP and generates over 75 percent of export revenue. Unfortunately agriculture ^{sector} is one of the worst victims of the climate change. Short term climate variability and the long term impact of climate change including the changing weather patterns put considerable stress on key crops. Punjab crops reporting service has reported that in 2024, Punjab province has produced 30 percent less cotton bales as compared to recent years. This reduction is mainly due to prolonged heatwaves that lead to fruit shedding in June and July. Such loss of cash crop of Pakistan is directly affecting the textile industry. At last, climate change has alarming effect on agriculture sector of Pakistan.

Similarly, Climate change has dire outcome on Female labour force. Most of the female

labor force of Pakistan works in agriculture sector in rural areas. Prolonged heat waves, increased temperature and low humidity level during harvesting seasons due to climate change is harshly affecting the female labor force that has to work in the open skies under scorching sun in fields. According to Labor Force survey 2020-2021 by Pakistan Bureau of statistics, the percentage of women working in agriculture sector in rural sindh is 72 percent. The increased temperature due to global warming is the major cause of prolonged heat waves. Thus, climate change is severely affecting the female working in rural areas.

Moreover, the number and extent of natural disasters is increasing due to climate change and resulting in weakening the economy of Pakistan. Natural disasters like floods are directly induced

by climate change. Due to increased global temperature the glaciers of Pakistan are melting at high speeds which is resulting in severe floods. These floods result in infrastructure damage thus, burdening the economy of Pakistan. The post disaster needs assessment report estimated that only 2002 floods resulted in 30 billion dollar damages and economy losses. For a developing economy this type of losses are fatal. Therefore, climate induced natural disasters have horrific implication on Pakistan economy.

In addition to this, the infrastructural damage also hinders the tourism in Pakistan for a period of time till they rebuild. Heavy floods result in road damage that makes the access to historical places difficult. Similarly, heavy rain falls result in weakening the base of old historical

building and castles resulting in damaging them. For example, Panjpeer Rocks on Naxos peaks offer a breathtaking view, but the journey to this tourist site remains perilous due to dilapidated roads. The road towards Panjpeer is in shambles due to 2022 floods. Subsequently, climate change has detrimental impact on Tourism sector.

In the same way, education sector of Pakistan is also severely affected by climate change. Extreme weather events results in prolonged vacations in schools. Moreover, floods result in infrastructural damage of schools and colleges. According to Sindh Education Department, 1348 schools and 181 Temporary Learning centers are damaged because of floods. Similarly, the number of children out of schools are also increasing at alarming rate ^{due to climate change.} According to

the result of 7th population and housing census conducted last year, around 25.37 million children are currently out of schools. In short, climate change has distressing influence on Education sector of Pakistan.

Like wise, heavy floods caused by climate change are increasing the number of internally displaced persons. During the 2022 floods, the whole villages near the canals were submerged under water completely. The evacuated persons were left without any residence. The Post Disaster Need Assessment estimated that as a result of 2022 floods, one third of the country was submerged, affecting 33 million people and nearly displacing 8 million within the country. Thus, climate change is increasing the numbers of IDPs in Pakistan.

Beside this, change in weather patterns due to climate

change is resulting in spread of diseases. Climate change induced air pollution and harsh weathers make people susceptible to disease. This type of vulnerability is more common in children in Pakistan. According to ChildLife Foundation climate change is exacerbating air pollution and causing severe respiratory issues making children even more vulnerable to diseases like 'pneumonia', a leading cause of preventable child death. Ultimately, climate change is increasing the spread of disease in Pakistan.

The above mentioned effects of climate change have severely affected and affecting the economy of Pakistan and social life of people. Therefore, Pakistan must need autonomous initiatives to mitigate climate change.

Foremost, Pakistan should introduce climate smart budget to mitigate climate change. Investment

in climate change mitigation is crucial for Pakistan. Relying on foreign aid and loans for climate mitigation is not a wise move. Also, there is much evidence of gains in investment in climate adaptation and resilience. A World Resources Institute study claims that for every dollar invested in climate adaptation and resilience, the return range from \$2 to \$10. Overall, Climate smart budget should be the priority of the Pakistan's government for mitigating climate change.

Furthermore, Climate compatible education is pivotal for mitigating climate change. As discussed earlier, most (discussing) distressing affect of climate change is on education sector. In order to halt this Pakistan should introduce climate smart and compatible education. The goal of climate compatible education system is to prepare

education systems to advance climate action, resilience, and equality.

According to UNESCO, the climate smart education system initiative seeks to enhance countries capacities to mainstream climate change adaptation. At last, acknowledging the importance of education sector and its pivotal role in climate mitigation; Pakistan should introduce climate smart and compatible education system.

Moreover, proper meteorological system that covers the major climate change affected areas can also help in climate mitigation in Pakistan. Early warning system and proper scanning system in meteorological department can help in climate mitigation as it can alert early. The World Resource (initiative) Institute study revealed that investment in early warning systems can help avoid losses. Currently, Pakistan Meteorological

department's weather observational network consists of 195 stations. According to international standards there should be at least 353 weather station. Thus, meteorological department upgradation is crucial to Pakistan.

In addition to this, the press and media should also be made climate smart.

There should be ads played on channels that aware the viewers about the climate change and green house gases. The indian government reduced the sales of cigarettes by showing the video of deceased person on its channels. Media is a powerful tool. It can educate people about the climate change and also can promote it across borders.

Therefore, Pakistan should use media and press to boost climate change awareness.

Autonomous initiatives

are crucial for Pakistan but they solely cannot mitigate climate change. International mutual assistance is vital for Pakistan to mitigate climate change.

Developed nations support is essential to Pakistan for mitigating climate change. It is a well known fact that climate change is due to the ^{GHG} ~~GHG~~ emissions mainly from global north. The developed nations can support Pakistan economically and technologically. For example \$24 million 'climate smart agriculture' project by USA in Pakistan will equip farmers with climate resilient seeds and eco-friendly pest management. Such type of projects are vital to Pakistan. Other developed nations support is also necessary. Therefore, state actors support is essential for Pakistan to mitigate climate change.

In addition to this, the

non-state actors like United Nations and Asia Development Bank support is also essential. International support from highly advanced educated analysts can boost climate resilience and adaptation in Pakistan. Moreover, economic funds and aids from non state actors like COP and World Bank can also play key role in climate mitigation in Pakistan. Thus, non-state actors can help in capacity building against climate change.

In order to conclude, Pakistan is the worst victim of climate change. Despite the fact that Pakistan contribute very little in green house gases Pakistan is facing severe climate change events. Decline in tourism, reducing numbers of students in schools and spread of diseases in flood and other disasters affected areas are

giving hard blows to economy, educational and health sector of Pakistan. The increased number of internally displaced persons is further burden on Pakistan.

Being a developing nation, Pakistan needs proper autonomous initiatives because there is no money to waste. The upgradation of meteorological department is crucial. Despite the fact that Pakistan is a developing third world country it has become victim of climate change imbalance. Therefore, international state and non-state actors should help Pakistan to mitigate climate change.