

Floods in Pakistan: causes and implications

Outline

1) Introduction

Thesis Statement: - There are many causes of floods in Pakistan, which had major implications. However, by taking some measures future floods could be mitigated.

2) Causes of floods in Pakistan.

- a) Erratic and heavy monsoon rains
- b) Excessive volumes of melt-out water
- c) illegal occupation of flood plains
- d) Deforestation by timber mafia
- e) Trans boundary water terrorism.
- f) Reactive disaster management regime
- g) Resource constraint and fiscal mismanagement

3) Implication of floods in Pakistan

- a) Humanitarian loss
- b) Infrastructure damage
- c) Agriculture losses.
- d) Rise in crime rate
- e) Educational loss
- f) Rise in water borne diseases

4) How to prevent floods devastation in future.

- a) Seek climate justice
- b) Introduce flood detection system
- c) Introduce insurance scheme
- d) Plant more trees

5) Conclusion.

Climate change is the biggest threat this world is facing, more serious than of terrorism. In terrorism, there is only threat from non-state actors but in climate change there is threat from every individual. Pakistan is most affected country by climate change which ultimately caused floods. This can be seen from erratic and heavy monsoon rains in 2022. Furthermore, climate change can be witnessed from the speedy melting of glaciers. Floods in Pakistan were not only due to climate change but there was also mismanagement on the hand of government. As the government failed to take action in clearing encroachment in flood plains. Additionally, clearing of forest by timber mafia and government failed role in stopping them has made these floods disastrous. The situation was further aggravated when India's upper riparian state, suddenly release essential water with no warning. The frequent and unmitigated floods in Pakistan are due to its systemically reactive and rather than proactive disaster management regime. Moreover, fiscal mismanagement played its role in making the floods more disastrous. The floods caused many implications. As many humans lost their precious life, many were displaced

and numerous lost their livelihood. Due to all this, a lot of people were forced to migrate to cities. Because of that street crime rate increased in cities.

In addition, water borne diseases are taking birth. However, if government take certain measures then these floods can be avoided in future.

Firstly, the government must seek climate justice. Secondly, it ought to introduce flood detection system. Thirdly, at country level it must introduce plantation drive and it should introduce insurance scheme for flood prone areas. These are many causes of floods in Pakistan which had major implications. However, by taking measures future floods could be mitigated.

To start with, floods in Pakistan were ~~caused~~ due to erratic and heavy monsoon rains. Usually, these monsoon rains travel towards the north of the country but in 2022 this track moved over the southern provinces of Sindh and Balochistan - drawing heavy rainfall over southern Pakistan. Over June-August 2022, Pakistan received nearly 190% more rain than its 30-year average. This shows how devastating these monsoons were.

The high rate of glacial melting also played its role in making the situation worse. Himalayan glaciers

melting has always been a major source of water in the Indus River System. The heatwave accelerated melting from country's 7000 glaciers. Pakistan is responsible for less than 1% of the world's planet-warming gases, according to European Union data. As due to ~~we~~ rains there was already overflow of water in Indus River and melting of glaciers further aggravated the situation. This indicates behind floods there was also a role of glacial melting.

The situation further intensified when flood plains are occupied by the land grabbers. There are vast inland flood plains in Punjab and Sindh capable of dispelling their intensity. However, influential people have illegally occupied these flood plains, turning them into agriculture and housing lands. The example of this is Karachi which faced urban flooding due to illegal structures and encroachments built on storm water drains, obstructing the free flow of water during rain.

Another reason which caused massive floods in Pakistan is enormous deforestation by timber mafia. At the time of its inception, Pakistan had 33% of its land covered by forest which now shrank to mere 3% to 4%. This is an alarming situation. As per Gulam Akbar, director

of the Pakistan Wetlands Program, "Deforestation played a tremendous role in aggravating the floods." If Pakistan had forest like 25 years back then the impact of floods would have been much less.

Furthermore, the situation become worse when our neighbours, India being upper riparian state, suddenly release potential water with no warning. There is Indus water treaty according to which Pakistan and India both shares water.

Under the treaty, India is obliged to release subsequent amount of water towards Pakistan. The clever India has built dam and reservoirs due to which it stores water and resultanty creates water shortage in Pakistan. Similarly, it creates floods by releasing potential water with no warning. This is clearly a breach of Indus water treaty which Pakistan have to face every monsoon season.

The floods in Pakistan are also because of its reactive rather than proactive disaster management regime. According to the Global Climate Risk index Pakistan is the eight most vulnerable nation to the climate crisis. Meaning that in future Pakistan is prone to these kind of disasters. According to National Engineering Service Pakistan Report, Pakistan has potential to build around 7000

to meet water requirements and avert the danger of water-related disasters. But knowing this there are little or no action on the hand of government. As the government's main focus is on ~~rehabilitation~~ rehabilitation than precautionary measure.

Lastly, resource constraint and fiscal mismanagement is due to lack of transparency and accountability which are contributing to disaster mismanagement in Pakistan. Pakistan is the 140th least corrupt nation out of 180 countries according to the 2021 Corruption Perception Index reported by Transparency International. Considering this, the aid Pakistan received from international community was not properly reached to needy people. This shows mismanagement which heightened the flood devastation.

The above paragraphs have discussed major causes of floods in Pakistan and in coming paragraphs the implications of floods will be discussed.

First and foremost implication which floods caused are human losses. Many precious life were washed away with floods of 2022. Around 33 million people have been affected, over 1,730 people were killed and over 12,800 people were injured - the world Bank. This is the loss which will never be compensated by anyone.

The figures indicate how devastating these floods were.

The second implication which floods had on human was infrastructure loss. It is estimated that over 30 million have been displaced as the water accumulation reached out a level where it became inhabitable to live in those houses. Sindh was the worst affected province with close to 70% of total damages and losses, followed by Balochistan, KPK and Punjab. It is estimated that total economic loss and reconstruction cost is estimated to be more than \$13 billion - the World Bank. This shows the catastrophic nature of floods.

The impact of 2022 floods on Pakistan's rural communities and agriculture has been devastating, resulting in the loss of crops and livestock. According to Servis Hindu Kush Himalayas, Sindh contributes 42% of the rice production, 23% of the cotton production and 31% of the sugarcane production nationally. Only in Sindh rice, cotton and sugarcane together faced a direct loss of USD 1.30 billion. Additionally, per paradigm shift more than 733,488 livestock killed due to floods.

Furthermore, Pakistan witnessed

Steep rise in street crime due to floods. As around 33 million people have been directly affected. As mentioned above, many people have lost their life savings in the shape of livestock, crops and more importantly their homes. When one loses everything and there is no enough aid from the government side then people do not have any other ~~to~~ choice. This proverb, "the hungry man is an angry man" syncs well with Pakistan's situation. As the rise in street crime in Karachi is the best example.

In addition to that, approximately 32,800 sq miles area of Pakistan was affected due to floods. As people ~~are~~ ^{were} displaced, therefore they were forced to drink contaminated water and because of that water borne diseases are taking place. Since July 2022, more than 660,120 people have reported acute, watery diarrhoea, skin infections, typhoid, malaria, dengue fever and snake bites as per British Red Cross report. This shows that floods have also caused water borne diseases.

Lastly, floods also have implications on the education sector of Pakistan. Due to floods more than 2 million

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Students are unable to access their schools. This is either because there is no infrastructure of school or they do not have roads to reach to the schools. As per Dawn, Nov 04, 2022 almost 27000 schools have been seriously affected because of floods. The larger schools remain close, the greater the risk of children dropping out.

The above paragraphs have discussed the implications of devastating floods on the people of Pakistan and in the coming paragraphs it will throw light on how to mitigate the situation.

Firstly, the claim of climate justice must be raised on all the international forums which Pakistan has done so far. PM Sharif addressing COP 27 and Beyond: Pakistan's Resilience & Challenges has rightly said "we need climate justice and not charity. Recent floods were mainly due to climate change and climate change is happening due to carbon emissions. The major emitters are USA and China. Therefore, Pakistan must get climate justice in the form of monetary assistance, infrastructural development and human development programmes.

Secondly, the country must invest in flood telemetry stations from the international

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al market and install them on rivers and streams for precise flood forecasts and early warning to protect vulnerable communities and regions. The use of this will allow sometime to the government to relocate people & before any disaster.

Thirdly, Pakistan shall introduce insurance scheme which can help small-scale farmers, businesses and households recover after climate event. IWMI and its partners have piloted index-based flood insurance in India and Bangladesh.

It is offering protection for agriculture livelihoods during floods, limiting the long-term effect on food systems and food security. Compensation for flood damage to crops valued \$150,000 between 2017, and 2020 allowing 7,000 families to repair their homes and farms, and recover from the losses.

Lastly, stopping forest or deforestation can increase the resilience of ecosystem, prevent soil erosion and reduce the risk of flash floods.

The Pakistan government has already launched ten billion tree Tsunami project, a tree-planting initiative to revive forests and wildfish resources in the country. The ~~foreign~~ government must also take strict action against timber mafia.

In conclusion, these are number of causes behind floods in Pakistan that had major implications. Nonetheless, by taking certain measures future floods could be mitigated. Heavy monsoon rains and glacial melting played havoc role in devastation. The situation was further aggravated by the land grabbers who encroached on flood plains.

Additionally, massive deforestation by timber mafia act like fuel in fire. Moreover, bomb-border water terrorism by India further intensified the floods in Pakistan. Furthermore, there were

defects on the part of government as government actions were reactive and rather than proactive disaster

management regime. Fiscal mismanagement by the government also played its role. Due to floods there were human

loss, infrastructure loss and agricultural loss. Because of all one has to see fire in the street crime rate and one has to face water

borne diseases. But if the government take some measures these floods can be avoided in future. The

government must focus on seeking climate justice from international

community. It must introduce flood detection system. Additionally, it ought to introduce insurance scheme at country

level. Further, it ~~have~~ has to introduce plantation drive at micro and macro level.