

FLOODS IN PAKISTAN

By
Muniba Arif
Intern

Centre for Strategic Perspectives (CSP), ISSI

Supervised by
Mahrukh Khan

November 11, 2022

(Views expressed in the brief are those of the author, and do not represent those of ISSI)



Natural disasters and Climate Change pose a severe threat to the world and Pakistan is no exception. For years, the country has been plagued by disasters like earthquakes, storms, floods, and droughts, which have frequently destroyed the foundations on which the lives of hundreds of thousands of families were constructed. Floods have caused significant devastation to Pakistan throughout history. Almost every monsoon season inundated the country with a large amount of water. However, Pakistan has failed to develop any climate-resilient infrastructure as well as a policy.

The monsoon of 2022 wreaked havoc in Pakistan. It received 60 per cent of its average rainfall in just three weeks of July, leading to catastrophic floods, across the country¹. More than one-third of the country went underwater impacting 33 million people including 8 million homeless; and access to no clean water;²with a significant impact on the Southern parts of the country.³

Two major outcomes of the devastation of the floods in Pakistan were felt on the damage to the standing crops as well diseases that are emerging due to the stagnation of the flood water in

¹ "Emergency Flood Appeal - *Fast Rural Development Program*," August 27, 2022, <https://frdp.org.pk/appeals/emergency-flood-appeal/>

² *Malteser International*, <https://www.malteser-international.org/en/our-work/Asia/Pakistan>

³ "Pakistan Floods: Six Month Wait for Water to Recede, Warn Relief Agencies *UN News*," United Nations, <https://news.un.org/en/story/2022/09/>

different parts of the country. Diseases like malaria, diarrhea, typhoid, and cholera are spreading and posing threat to the lives of people as well as looming starvation.

History of Floods in Pakistan

According to Federal Flood Commission, the country has witnessed 28 major floods in its seventy-five-year history. Since 1950 floods in Pakistan have caused humongous devastation to lives, livelihood, and land, along with the country's economy.⁴ The first flood which brought a great calamity was recorded in 1950 after that, many catastrophic floods, even in 2010 occurred and all such alarming calamities fell on deaf ears.⁵ Successive governments did not strive for developing any climate-resilient infrastructure. Therefore, the country now goes underwater every year, when the monsoon rainfall pours down heavily. However, the floods of 2022 have pushed the floods of 2010 to the second-deadliest in Pakistan's existence. In 2010 the devastation claimed 1,985 lives and inundated 17,553 villages over a 160,000 square-kilometer area, affecting 21 million people.⁶

Floods 2022

The recent flood of 2022 is earmarked as the deadliest flood in the history of Pakistan.⁷ The financial losses faced by Pakistan as a result of the latest floods are almost twice as high as those experienced in the floods of 2010. According to official estimates, the damages caused by the most recent floods are almost \$18 billion with further financial instability expected in the upcoming months, up from \$10 billion of damage in 2010.⁸ The 2022 floods affected 33 per cent of Pakistan.⁹ According to National Disaster Management Authority (NDMA) statistics since June, 81 districts in Sindh, Punjab, Baluchistan, and Khyber Pakhtun Khwa (KPK) have been officially designated as disaster affected, with about 1,400 people killed,¹⁰entire villages submerged, roads, bridges, and railway lines and farmlands washed away.

⁴ "Pakistan's History of Disasters and the Lessons We Fail to Learn," Prevention Web, <https://www.preventionweb.net/news/pakistans-history-disasters-and-lessons-we-fail-learn>

⁵ "Pakistan: Top 10 Natural Disasters since 1945 - Pakistan," *Relief Web*, August 10, 2010 <https://reliefweb.int/report/pakistan-top-10-natural-disasters>

⁶ "History of Disaster: Floods Affecting Lives, Economy since Independence," *Tribune*, August 14, 2013, <https://tribune.com.pk/story/590504/history-of-disaster-floods-affecting-lives-economy-since-independence>

⁷ "Devastating Floods in Pakistan", <https://www.unicef.org/emergencies/devastating-floods-pakistan-2022>

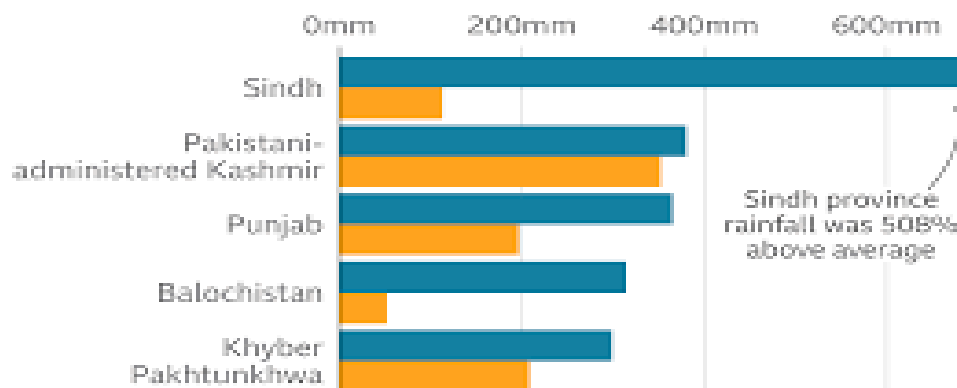
⁸ "2010 Vs 2022: Which Flood Wreaked More Havoc in Pakistan?," September 13, 2022, <https://propakistani.pk/2022/09/13/how-damages-due-to-2022-floods-compare-to-2010-floods/>

⁹ "Pakistan Floods: One Third of Country Is under Water ,," *BBC News*, August 30, 2022, <https://www.bbc.com/news/world-europe>

¹⁰ "Estimated Damage to Houses in Flood Affected Districts and Existing Population Density in Pakistan, as of 17 September 2022 - Pakistan," *Relief Web*, <https://reliefweb.int/report/pakistan/estimated-damage-houses-flood-affected-districts-and-existing-population-density-pakistan>

According to the NDMA report, rain or flash floods have had an impact on more than 40,000 households. More than 32000 houses have sustained partial damage, while another 8146 houses have sustained destruction.¹¹ 60 bridges and 2445.5 km of road sections have also been destroyed, 24,000 animals have drowned and 2 million acres of crops are devastated, and these numbers are probably going to increase.¹² The percentages of both unemployment and poverty have increased dramatically, from 21.9 per cent to more than 36 per cent.¹³

The rising global temperature has made not only intense heat waves but also the monsoon season more intense in Pakistan in recent years. An intense summer heat wave melted glaciers that feed into the Indus, aggravating the flooding by creating a wide lake in the southern province of Sindh. The country has experienced record-breaking rainfall with over 190 per cent; more rain than its 30-year average from June to August 2022. This caused the Indus River to burst its banks whilst aiding in the flash flooding throughout the country. The Southern provinces of Sindh and Baluchistan were most severely affected, receiving 726 per cent and 590 per cent rainfall in August.¹⁴



Source: Rainfall in 2022 Compared to Average Rainfall, 1 July till 30 August 2022¹⁵

Post Flood Damage

Floods increase the risk of waterborne disease and malnutrition in the country. Millions of people affected by Pakistan's floods are at an elevated risk for waterborne diseases, as access to healthcare

¹¹ "Floods in Pakistan, Thomson Reuters," <https://graphics.reuters.com/>

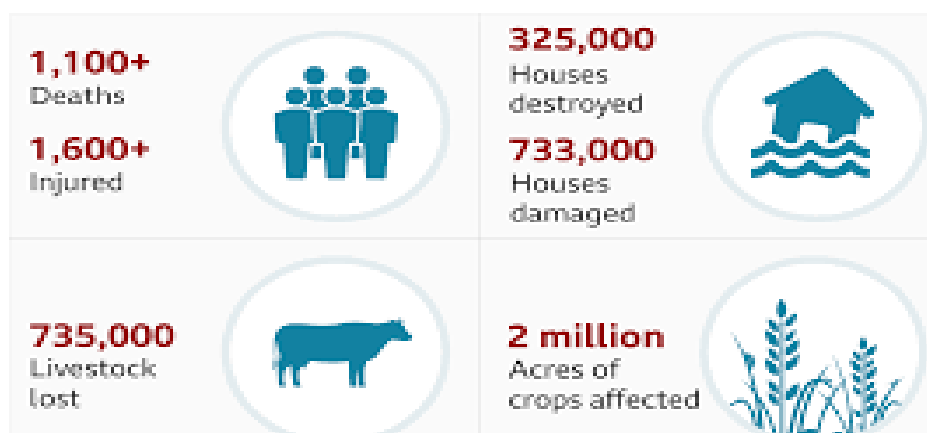
¹² "Emergency Flood Appeal, *Fast Rural Development Program*," August 27, 2022, <https://frdp.org.pk/appeals/emergency-flood-appeal/>

¹³ "Pakistan Floods 2022: Bi-Weekly Highlights," 09 September, *Relief Web*, <https://reliefweb.int/report/pakistan/pakistan-floods-2022-bi-weekly-highlights>

¹⁴ "Carbon Brief, Climate Change Likely Increased Extreme Rainfall That Led to Pakistan Flooding, September 21, 2022," <https://www.carbonbrief.org/climate-change-likely-increased-extreme-rainfall-that-led-to-pakistan-flooding/>

¹⁵ "Monsoon Floods in Pakistan," *EUMETSAT*, <https://www.eumetsat.int/monsoon-floods-pakistan>

is being interrupted. Malnutrition has also become a grave issue as flooding ruins crops and the highways that convey food.



Source: Pakistan Flood Situation Report, 2022¹⁶

Damage to Agriculture: Floods have caused massive damage to crops including cotton, rice, sugarcane, and wheat. Similarly, vegetables such as onions and tomatoes were also destroyed. 1.9 million residents of flood-affected areas are experiencing food insecurity. A major source of income will undoubtedly be affected by the flood damage because Pakistan is a significant supplier of agricultural goods.¹⁷ Since Pakistan is the fifth-largest cotton producer in the world and meets 5 per cent of global demand, flood damage may have an impact on the availability of cotton globally.¹⁸ According to government officials, the flood has swept away almost half of the nation's cotton harvest. Also, Pakistan is the fourth-largest exporter of rice worldwide.¹⁹ Early-season heat waves and subsequent floods have devastated significant areas of rice fields, which will reduce rice production and have an adverse effect on the rice industry and food security. If thousands of acres of land aren't recovered, the nation may experience a food crisis shortly.

Food Insecurity: The poor people in Pakistan are finding food “out of reach”²⁰ due to the rapidly increasing food prices, with vegetable prices increasing very speedily. After the floods, food prices that are already very high are predicted to increase by another 30 per cent. The cost of potatoes and

¹⁶ Team, The Visual Journalism, “Pakistan Floods: Map and Satellite Photos Show Extent of Devastation,” *BBC News*, August 31, 2022, <https://www.bbc.com/news/world-asia/>

¹⁷ “Pakistan Floods Threaten Food Security as Critical Crops Destroyed: DW: 13.09.2022,” <https://www.dw.com/pakistan-floods-threaten-food-security-as-critical-crops-destroyed/>

¹⁸ Ahmed, Amin, *DAWN.COM*, September 21, 2021, <https://www.dawn.com/news/1647482>

¹⁹ “Ample World Rice Supplies to Cushion Impact of Pakistan, China Crop Losses,” Thomson Reuters, September 6, 2022, <https://www.reuters.com/business/environment/ample-world-rice-supplies-cushion-impact-pakistan-china-crop-losses-2022-09-06/>

²⁰ “Pakistan Floods Fuel Back-Breaking Food Inflation,” August 30, 2022, <https://www.france24.com/en/live-news/20220830-pakistan-floods-fuel-back-breaking-food-inflation>

tomatoes is growing four times while ghee has increased 400 per cent.²¹ More than 727,000 cattle have died, causing a scarcity of meat, milk, curd, and milk products. In a nation where 8 million rural households raise cattle and almost half of their income came from livestock, the loss of livestock has had an impact on the way of life.²²

Water Borne Diseases: According to the World Health Organization (WHO), more than 1,400 healthcare institutions had been completely or partially destroyed.²³ The potential increase in waterborne diseases such as Dysentery, Cholera, Dengue Malaria, and skin disorders is a major issue as well. Already 87,373 cases of infectious diseases have been reported across the country, mostly in Sindh, about 23 per cent were skin infection cases, 17 per cent were lung infections and 17 per cent were diarrhea.²⁴

In some of Pakistan's hardest-hit regions, sanitation, and hygiene facilities have sustained major damage, and thousands of cases of dysentery have already been recorded. The spread of cholera is another problem. As flood water becomes stagnant and acts as a mosquito breeding habitat, we will see an increase in mosquito populations. Malaria and dengue fever are the two most serious diseases that mosquitoes transmit. There have already been several cases of skin disorders in people who reside in humid areas.

Challenges:

Weak governance and policy orientation in Pakistan is one of the key barriers to climate resilience. These elements have contributed to the growth of water mafias, illegal constructions, and deficient urban and rural planning. Although climate change is a growing threat to the nation, it is not the only factor contributing to the increased flood destruction. Most of the losses resulting from flooding are frequently brought on by bad governance and a fragile economy.

The mismanagement by the government on many fronts is causing great damage due to the heavy floods. Heavy floods always loomed over the head as Damocles sword but the successive governments did not pay any considerable attention. Pakistan also could not develop any proactive, technologically equipped, and responsible institution to deal with flood calamity. Although, there

²¹ Mangi, Faseeh, and Ismail Dilawar, "Vegetable Costs up 500% Threaten to Fuel Pakistan Inflation," *Bloomberg*, September 5, 2022, <https://www.bloomberg.com/news/>

²² "Carbon Brief, 7 September 2022: Pakistan Floods; China's Food Security;" <https://www.carbonbrief.org/pakistan-floods-chinas-food-security>

²³ Dr Amir, "Pakistan Floods: A Health Crisis of Epic Proportions, September 14, 2022" <https://www.aljazeera.com/features/2022/9/13/pakistan-floods-health-crisis-of-epic-proportions>

²⁴ Dr Amir, "Pakistan Floods: A Health Crisis of Epic Proportions, September 14, 2022" <https://www.aljazeera.com/features/2022/9/13/pakistan-floods-health-crisis-of-epic-proportions>

exists National Disaster and Management Authority (NDMA), which always blamed climate change for natural calamities. Similarly, the local governments which are responsible for maintaining sustainable infrastructure at a low level, are not functional in the country. The absence of any authority allows people to exploit the environment as they want. Lastly, the outdated warning system of the country intensifies the damage of floods. Citizens are informed at the eleventh hour to evacuate their homes, which becomes difficult for them. Thus, the underdeveloped conditions of the concerned institutions escalate the damages caused by heavy floods.

Conclusion

The Intergovernmental Panel on Climate Change's most recent assessment on climate impacts, adaptation, and vulnerability demonstrates that climate impacts are occurring far more quickly than expected throughout the world. However, it is difficult to pinpoint climate change as the only cause of the rise in flood catastrophes. While there is a very significant correlation between the rise in floods and Climate Change, which is a hazard that is becoming more and more serious for humanity, the majority of the damages brought on by flooding are frequently the result of bad governance and a fragile economy. It would be obvious that the loss from floods rise if people begin to build homes along riverbanks and the governance is so poor that it encourages them to do so by constructing schools, hospitals, and electricity connections, it indicates that the state is legitimizing this vulnerability and that the government is causing it to worsen through its poor governance.²⁵

The extent of the damage is revealed as the floodwaters recede. Along with numerous public health facilities, water systems, and schools, hundreds of thousands of homes have also been destroyed or damaged. Young children are living out in the open with their families, with no drinking water, no food, and no livelihood, exposed to a wide range of new flood-related risks and hazards, including damaged buildings and drowning in floodwaters.²⁶

Pakistan is not an exception to floods, many countries have adopted mechanisms to reduce the after-effects of floods and have minimized losses. The government must adapt strategies to avoid this level of loss and damage in future floods, in addition to providing financial assistance to individuals who lost their homes and crops in the nation's worst flood in history. The devastation caused by the recent floods in the country may be greatly reduced, if not entirely, by action to timely clean out storm drains, enhance planting, and build dams.

²⁵ Zahidi, Farahna, "Interview: Climate Change Only One Factor in Pakistan Flood Devastation," The Third Pole, September 14, 2022, <https://www.thethirdpole.net/en/climate/interview-climate-change-only-one-factor-in-pakistan-flood-devastation/>

²⁶ "Devastating Floods in Pakistan, October 21, 2022," UNICEF, <https://www.unicef.org/emergencies/devastating-floods-pakistan-2022>