

RISING HEAT WAVES AND CLIMATE CHANGE: A WAKE UP CALL FOR PAKISTAN

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Climate change has brought tremendous challenges for countries which are not limited to natural disasters alone. Rising global temperatures have wreaked havoc on international economic systems of which many rely on sound ecosystems for sustenance. Extreme heat has multiple and cascading impacts not just on human health, but also on ecosystems, agriculture, water and energy supplies and key sectors of the economy.¹ The impact on lower income countries, however, is particularly severe.

Pakistan recorded its warmest March for at least the past 60 years, with several stations breaking March records. In the pre-monsoon period, Pakistan regularly experiences excessively high temperatures, especially during May. The Intergovernmental Panel on Climate Change (IPCC), in its recent Sixth Assessment Report, also said that heatwaves and humid heat stress would be more intense and frequent in South Asia this century. More than 65 deaths have been reported in Pakistan, but the true numbers are expected to be higher. temperatures in Jacobabad and Nawabshah touched 49 Celsius at the end of April.²

¹ AFP, "Pakistan must brace for even worse heatwaves," Tribune, May 7, 2022, <https://tribune.com.pk/story/2355538/pakistan-must-brace-for-even-worse-heatwaves>

² WMO, "Extreme heat impacting millions across India and Pakistan," UN News, April 29, 2022, <https://news.un.org/en/story/2022/04/1117272>

How has Climate Change Worsened it

Scientists have long warned that climate change will lead to more intense weather, such as heatwaves, floods, and cyclones. Many point to record-breaking temperatures now in India and Pakistan as proof. The intense heat has increased demand for electricity, leading to power outages. Both countries rely mainly on fossil fuels, especially coal. Leading to hundreds of millions in India and Pakistan struggling to stay cool in record-breaking temperatures. The current heatwave is unique for three reasons: It arrived very early, covered a massive area, and stayed on for a long duration.³

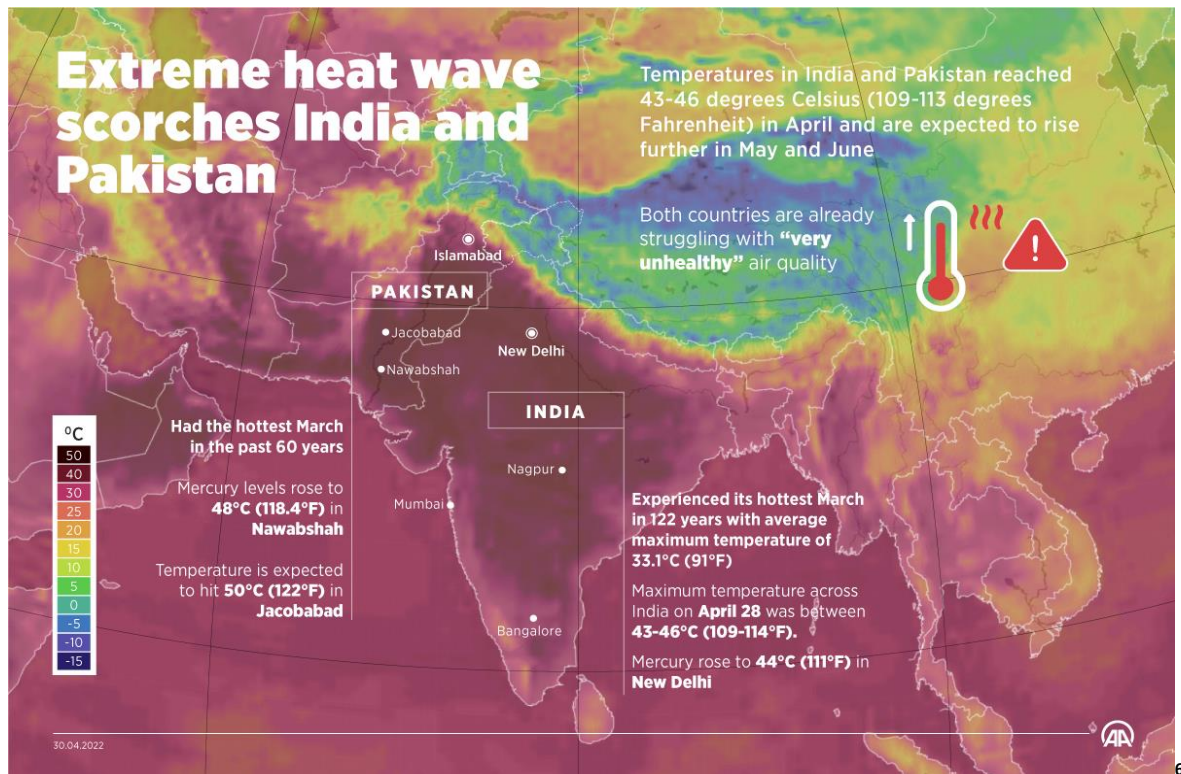
Experts attribute Pakistan's vulnerability to climate change to its proximity to both China and India, which are highly industrialized societies, as well as fast melting glaciers in the Himalayas. Burning fossil fuels and destroying forests have released enough greenhouse gases into the atmosphere, which have increased the frequency and intensity of many floods, droughts, wildfires, and tropical storms. The extended hot and dry weather has a multitude of consequences, with a lack of water hitting reservoirs and affecting the growth of crops and orchards. The melting of snow and ice on mountains risks triggering floods; air quality has worsened; and large areas of land are at risk of extreme fires.⁴

The climate summaries released by Pakistan Meteorological Department (PMD) over the past two months indicate dangerous trends that may lead to serious shortages of water and food commodities in the country and cause a further spike in inflation. According to the PMD data, national rainfall was 62 to 74 percent less than normal over the past two months with March and April 2022 the warmest ever in six decades. Pakistan is highly vulnerable to climate change, ranking eighth in a table of countries most affected by extreme weather, according to a study by environmental group Germanwatch. The high temperatures are threatening wheat production, which could push already rising food prices even higher around the world. The full health and economic fallout from the current heat wave will likely take months to determine as researchers tally the number of excess deaths, lost wages, missed school days, and diminished working hours.⁵

3 Dareen Abughaida, "How much is climate change to blame for heatwaves in South Asia?" Al Jazeera, April 30, 2022, <https://www.aljazeera.com/program/inside-story/2022/4/30/how-much-is-climate-change-to-blame-for-heatwaves-in-south-asia>

4 Dpa, "Pakistan braces for 50-degree weather amid worsening heatwaves, climate change," South China Morning Post, May 13, 2022, <https://www.scmp.com/news/asia/south-asia/article/3177597/pakistan-braces-50-degree-weather-amid-worsening-heatwaves>

5 Faiza Ilyas, "Two-month dangerous trends in climate herald looming food, water shortages," Dawn, May 6, 2022, <https://www.dawn.com/news/1688171>



Impacts on Economic and Food Security

Federal Minister for Climate Change Senator Sherry Rehman has said climate change is a matter of national security. It acts as a threat multiplier, potentially amplifying the existing risks of extreme vulnerability and exposure to intense competition over depleting resources.⁷

- The impacts of this crisis are stretching from rice plants that have attained maturity but don't have grains, to wheat. Pakistan is already importing wheat, sugar, and rice in large proportions and many are at risk of growing food insecurity.
- The demand for electricity has soared, leading to a fuel shortage for power plants and subsequent outages for several hours a day in many parts of the country.
- The climate stress is also impacting Pakistan economically in a calculus of losses which are predicted at 6-8 percent of Pakistan's GDP.
- Owing to extraordinarily high temperatures, water scarcity and other climate change-related events during the month of March and April this year, experts warned that Pakistan may

⁶ “Extreme heat wave scorches India and Pakistan,” AA, April 30, 2022, <https://www.aa.com.tr/en/info/infographic/28056>

⁷ Correspondent, “Climate change a matter of national security: Sherry,” The News, May 13, 2022, <https://www.thenews.com.pk/print/957297-climate-change-a-matter-of-national-security-sherry>

face around 10 per cent reduction in the domestic production of wheat as well as a 30 percent reduction in mangoes in Sindh, and at least a 10 percent reduction in wheat crop production this year.

- Pakistan is already facing a wheat crisis due to multiple factors including the war in Ukraine, which is the largest producer of wheat in the world. Pakistan's wheat requirement is around 30 million tons, but agriculturalists and authorities fear that the country's wheat production may not exceed 26 million tons due to extreme drought and ultra-high temperatures in the month of March 2022.⁸

Steps needed to reduce the impacts⁹

1. Better urban planning, planting trees, green spaces, improved water infrastructure, pollution controls, and more robust weather forecasting could all help ensure that fewer people suffer as temperatures rise.
2. Switching to cleaner energy sources would also help mitigate the problem over the long term.
3. Mitigating and adapting to rising temperatures across South Asia demands international action too and countries that contributed most to climate change have an obligation to help those facing the consequences now.
4. Sustainable transformation and heat wave preparedness can only be achieved in communities if different mainstreaming adaptation strategies are integrated into the system. These include: outdoor cooling strategies, infrastructural, passive cooling strategies (indoor), heat action plans (HAPs), administrative and policy mitigations, and behavioral measures.
5. A heat wave warning system under the unified classification of heat waves is recommended to improve the heat wave preparedness of communities and cities. This necessitates a set of capacities to generate and disseminate meaningful warning information to communities, health sectors, and individuals.

⁸ M. Waqar Bhatti, "Extreme weather conditions fuel fear of drop in wheat, mango production," Geo.Tv, May 12, 2022, <https://www.geo.tv/latest/416425-extreme-weather-conditions-fuel-fear-of-drop-in-wheat-mango-production>

⁹ Umair Irfan, "The extraordinary heat wave in India and Pakistan, explained," VOX, May 11, 2022, <https://www.vox.com/23057267/india-pakistan-heat-wave-climate-change-coal-south-asia>

Conclusion

Pakistan has heat-health early warning systems and action plans already in place, including those specially tailored for urban areas. But important lessons learnt from the past must be put in practice to reduce heat mortality and lessen the social impacts of extreme heat, including lost work productivity. Being an agro-based economy, Pakistan, needs interventions at the grassroots level to build climate resilience. In the summer of 2015, a heatwave engulfed much of eastern Pakistan and was directly or indirectly responsible for several thousand deaths. The event acted as a wake-up call and led to the development and implementation of the Heat Action Plan in Karachi and other parts of Pakistan. Similarly, the Shisper Glacial Outburst in Hassanabad, region of Gilgit-Baltistan ¹⁰ is a warning call for policy makers to prepare action plans for more extreme weather ahead. Also, it is important that people make changes in their lifestyle in order to reduce their personal carbon-footprint on the ecosystem.

¹⁰ Lake over Shisper glacier unleashes massive outburst of flood in Hunza
<https://tribune.com.pk/story/2355615/lake-over-shisper-glacier-unleashes-massive-outburst-of-flood-in-hunza>