

NOTES FROM TOMORROW

Prolonged Heat Waves and their Implications for Security in South Asia

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This summer, South Asia experienced an unprecedented heat wave. [Temperatures rose to approximately 45°C \(113°F\)](#), and urban sprawl exacerbated conditions. This extreme heat resulted in numerous [deaths](#) and exposed the lack of proper infrastructure and energy capacity to provide cooling to residential and commercial areas throughout the region. A unique combination of intense heat and humidity made South Asia a slow onset climate emergency. As global temperatures continue to rise, geographically vulnerable areas such as South Asia will experience more long-lasting heat waves, impacting coastal areas, island nations, and dense cities.

Extreme heat across South Asia has deeper security implications as people struggle to meet basic needs such as food and water. Rising global temperatures deplete water sources, which limits human and animal consumption as well as

irrigation for agriculture that feeds livestock and humans. Water scarcity creates a cascading security risk.

Water and the surrounding land will heat up because of the El Niño weather pattern. Water temperatures measured by the Niño 3.4, a dataset used by the UN, anticipates temperatures [increasing up to 2.6°C](#), and forecasts predict that temperatures will continue to rise until [October 2026](#). Furthermore, the UN states that there is almost a 100% chance that El Niño will persist [until February 2027](#). With El Niño, heatwaves across South Asia will likely be prolonged. As a result, crops will not receive sufficient water, leading to agricultural shortages that will strain an already weakened population.

Prolonged heat waves should no longer be treated as [occasional events](#) but a new norm that will deeply impact quality of life in South Asia.

Climate migration

Heatwaves will lead to an increase in climate migrants searching for better living conditions. This new wave of migrants will have both domestic and international implications.

Bangladesh is already suffering from climate migration. It is burdened by a large Rohingya refugee population and has been disproportionately impacted by recent heat waves with areas reaching 40°C. Refugees live in cramped, geographically hazardous camps [vulnerable to landslides, with 95](#) disasters occurring between July 4-9. Attempts at [rehousing refugees face resistance](#) and a lack of funding to build proper shelters. With over [1 million Rohingya refugees](#) straining resources, and recent funding cuts, Bangladesh faces a growing economic burden alongside internal instability. [The Joint Response Plan](#), a framework developed by the Bangladeshi government and partners to provide aid to vulnerable refugee communities in the country, requested \$710.5 million, a 26% decrease from the previous year. Already strained resources from the heat wave and increased natural disasters will burden the government and its 1.2 million refugees.

Island nations in South Asia like the Maldives are at high risk of rising sea levels and climate change. About [80% of the islands](#) making up the Maldives are only around [1 meter above sea level](#). Any changes in sea levels will result in this 80% slowly eroding away on habitable settlements for its natives and industries.

Economic impact

High temperatures have had catastrophic effects on labor productivity and agricultural output. In cities across South Asia, workers are [unable to properly](#) perform their jobs because it is too hot. [Street vendors](#) suffer as concrete heats the atmosphere. Despite less-than-ideal conditions, some street vendors continue working, creating a

public safety crisis as they risk heat stroke and death. Temperatures in key industrial cities such as New Delhi range from 36°C to 40°C. The [lack of reliable energy infrastructure](#) and air conditioning, combined with insufficient green space to cool the city, will result in disastrous health outcomes. Untreated heatstroke has an [80% mortality rate](#). Patients who survive have increased [mortality rates \(up to 71%\)](#), increased risk of [heart problems](#), and [neurological dysfunction](#). This will leave behind a population that is extremely vulnerable to health problems, which will impair their ability to work.

Climate change impacts agricultural output and weather patterns. A report from the [Food and Agricultural Administration](#) projected that in the future, a 1°C increase in temperatures can decrease staple crop production by up to 10%. Livestock that is dependent on these crops for their diet will have less food and energy, lowering livestock production. Additionally, more frequent drought and flooding will lead to water scarcity and damage soil quality. Farmers will struggle to meet previous yields, resulting in lower profits and economic output.

Implications

Prolonged heatwaves can no longer be treated as rare events. There must be preparation for weeks of high temperatures. Cities such as Kolkata have developed climate action plans ([K-CAP](#)) to build a more resilient city. Policies have centered on [restoring biodiversity and vegetation](#) throughout the city, [improving water drainage systems](#), and [identifying high-risk enclaves](#) of vulnerable populations. Bangladesh has had success with its "[Coastal Climate-Resilient Infrastructure Project](#)," which made its coastal cities more secure against climate change while providing greater economic opportunities for [low income families](#).

COP has worked to address growing climate challenges in vulnerable communities through its "[Global Goal on Adaptation](#)" (GGA). But [limited funding and slow implementation](#) have resulted in slow progress. Even if the international community can stabilize temperatures, [water temperatures will still take decades to cool down](#), resulting in glaciers melting and an overall increase in sea level.

There must be a comprehensive plan to handle the potential influx of climate refugees alongside infrastructure-building plans to make vulnerable populations more resilient during extended summer heat. Unaddressed, these issues will lead to large-scale humanitarian crises characterized by mass migration, food scarcity, and death, along with long-term health problems from prolonged exposure to high heat and humidity. While some governments, such as India's, have set up cooling stations, this is not enough to mitigate the impacts of high, sustained heat.

Cities in South Asia must also start incorporating more greenery into urban planning. Tree coverage can lower surrounding temperatures by [1.5°C](#). The "feels-like" temperature will drop as vegetation and trees block oppressive sunlight, and they can help mitigate the harsher impacts of climate change. Cities should also reduce their use of blacktop to limit the heating of surrounding areas or convert unused lots into green parks.

Another way to offset climate change while building community resilience is restoring and preserving natural wetlands. Wetlands help protect vulnerable communities from extreme weather events and store large amounts of carbon. Destroying wetlands [can release up to 100 tons of CO₂ per hectare](#), contributing to atmospheric warming. Establishing a governmental body to preserve wetlands and outright prohibit urban expansion into these key ecosystems would ensure greater resilience to climate change and

extreme weather patterns, such as flooding. Wetlands can also mitigate water scarcity, as they naturally purify and store water. Not only do wetlands build climate resilience, but they contribute greatly to the economy. India's East Kolkata wetland alone is valued at around [\\$62.8 million dollars](#).

Conclusion

Increasingly intense heatwaves are becoming the new normal in South Asia. Countries must look not only to mitigation but also to implementing strategies that address the more immediate impacts of climate change. These strategies include restoring biodiversity and vegetation in urban areas, increasing tree coverage, identifying high-risk areas and implementing both proper evacuation plans and resilient infrastructure, and protecting wetland biomes. Through these measures, South Asia will become better equipped to handle extreme heat and climate change.