The Devastating Floods In Southeast Asia

written by Anna Schmidt | October 1, 2024



Southeast Asia has a monsoon dominated climate and has always been prone to flooding. Recently, the frequency and intensity of flood events have increased dramatically. News reports have been exploding showing the impact of devastating floods. Millions have been affected across countries such as the Philippines, Myanmar, India, Nepal, Bangladesh, Vietnam, Thailand, and Pakistan. Torrential rains, overflowing rivers, and landslides have resulted in widespread destruction, loss of life, and displacement, raising concerns about the growing threat of climate change.

The 2024 monsoon season has been particularly unforgiving, with record-breaking rainfall affecting multiple nations. In the Philippines, Typhoon Jenny (international name Koinu) unleashed massive rainfall in September causing landslides and floods that displaced over 100,000 people. Coastal provinces like Cagayan 2023 and Isabela bore the brunt of the storm, with rivers bursting their banks and destroying homes, crops, and infrastructure. The 2023 floods in the Philippines, were among the worst in the country's history, with Typhoon Doksuri dumping record amounts of rainfall.

In Myanmar, flooding along the Ayeyarwady River has left thousands of people displaced, with dozens dead as rivers overflowed following weeks of unrelenting rain. The UN Office for the Coordination of Humanitarian Affairs (OCHA) has raised concerns about food shortages and disease outbreaks as access to flood-hit areas remains limited.

Meanwhile, in India and Nepal, torrential rains caused rivers such as the Ganges and Koshi to swell beyond capacity, inundating vast areas. In India's Assam state, over 5 million people have been affected by the floods, which have claimed hundreds of lives and damaged the agricultural produce. In Nepal, flash floods and landslides in hilly regions have destroyed hundreds of homes.

Bangladesh, a country highly vulnerable to flooding due to its low-lying geography, has experienced widespread inundation of its river systems in multiple occasions. Heavy monsoon rains and water surging from upstream rivers in India led to severe flooding, especially in the northern districts, affecting more than 6 million people. Crop loss in the fertile region is expected to worsen food security challenges in the country.

The situation is similarly dire in Vietnam, where heavy rains flooded thousands of hectares of rice paddies, particularly in the Mekong Delta. Thousands of families were displaced, and the flooding was compounded by rising sea levels, which are further intensifying storm surges.

In Thailand, over 12 provinces were affected by the floods, with Bangkok under alert as the Chao Phraya River threatened to breach its embankments.

Pakistan, still reeling from last year's devastating floods, saw the resurgence of similar patterns in its southern regions, especially in Sindh and Punjab, where floods claimed dozens of lives and destroyed homes and livelihoods. The 2022 floods claimed over 1,700 lives and displaced millions there.

The causes of the flooding

Climate change has been identified as a key driver of the increased frequency and severity of floods across Southeast and South Asia. Dr. Katharine Hayhoe, a leading climate scientist at Texas Tech University, explains that rising global temperatures lead to higher levels of evaporation, which in turn intensifies monsoons and typhoons. "We are seeing more moisture being trapped in the atmosphere, which means that when it rains, it rains harder," Dr. Hayhoe notes. As a result, countries across Southeast Asia and South Asia are experiencing more intense and prolonged rainfall.

The Intergovernmental Panel on Climate Change (IPCC) has warned that extreme precipitation events are expected to increase in both frequency and intensity, with Southeast Asia particularly vulnerable. The region's monsoon systems, which already bring heavy rainfall, are becoming more erratic, with longer periods of dry spells followed by sudden, intense downpours. This increased variability leads to flash floods, landslides, and extensive damage to infrastructure and crops. Scientist at the Climate Central also emphasizes the connection between climate change and extreme weather events.

The 2022 flood in Pakistan was driven by multiple factors, including La Niña-induced easterlies, southerly winds from the Arabian Sea, and interactions between extratropical and tropical systems. Details apart, the main reason is pointing towards change in global climate.

Poorly managed infrastructure

Rapid and often poorly planned urbanization is another significant factor contributing to the flooding crisis in the emerging economic countries. In cities like Bangkok, Manila, and Karachi, urban expansion has led to the destruction of natural drainage systems and wetlands. The result is an increase in impermeable surfaces, such as roads and buildings, which prevent water from being absorbed into the ground. Without adequate drainage systems, these cities are ill-prepared for heavy rainfall, leading to flash floods that submerge entire neighbourhoods.

In India's Assam state, floodwaters breached embankments that had not been adequately maintained, causing rivers to spill into nearby villages. Similarly, in Pakistan, ageing and poorly designed infrastructure has repeatedly failed to withstand the onslaught of floodwaters. In many cases, the lack of coordinated urban planning has left millions of people in flood-prone areas without sufficient protection.

The social and economic impacts

The floods have had a catastrophic impact on society, affecting millions of people and leading to widespread displacement, loss of livelihoods, and increased poverty.

The most immediate impact of the floods has been the displacement of millions of people. In Bangladesh, more than 6 million people were forced to leave their homes as floodwaters engulfed entire villages. Many have sought refuge in temporary shelters, but the risk of disease outbreaks, such as cholera and malaria, remains high due to the lack of clean water and sanitation facilities.

In Pakistan, flooding in the Sindh and Punjab provinces has displaced over 200,000 people, with many struggling to find adequate food and shelter. The 2024 floods have also claimed more than 50 lives in Nepal, with many of the victims caught in landslides triggered by heavy rains. India's Assam state reported over 100 fatalities, with thousands more injured or missing.

The agricultural sector has been particularly hard hit by the floods, with many countries facing the loss of critical crops. In Vietnam's Mekong Delta, floods have destroyed vast areas of rice paddies, which are a key source of food and income for the region. The Vietnam Ministry of Agriculture and Rural Development has reported that more than 500,000 hectares of farmland have been submerged, jeopardizing food security for millions of people.

In Bangladesh, the destruction of rice and jute crops is expected to lead to severe food shortages in the coming months. The floods have also devastated crops in India, where the agricultural economy in states like Bihar and Uttar Pradesh is likely to face long-term challenges as a result of flood-induced soil erosion and waterlogging.

Preventing future disasters

As the impacts of climate change become more pronounced, it is essential for countries in Southeast and South Asia to implement measures to prevent future floods and reduce their severity. Several strategies can help mitigate the risk of flooding and build resilience against future disasters.

Strengthening early warning systems

One of the most effective ways to reduce the impact of floods is through the implementation of robust early warning systems. Countries like Bangladesh and India have already made significant progress in developing early warning systems that use satellite data and real-time monitoring to predict floods. By providing communities with timely information, these systems can help people evacuate and protect their property before floods hit.

For example, Bangladesh's Flood Forecasting and Warning Centre (FFWC) has been instrumental in saving lives by issuing flood alerts based on rainfall and river level data from upstream countries like India and Nepal. Expanding such systems to other vulnerable countries in the region, including Pakistan, would significantly reduce casualties and property damage during future floods.

Investing in sustainable infrastructure

Improving urban drainage systems and building flood-resistant infrastructure are crucial steps toward mitigating the effects of flooding. In Thailand, the government has invested in flood barriers and underground water reservoirs in Bangkok to prevent flooding during heavy monsoon rains. Other cities in the region should follow suit by upgrading their infrastructure to cope with increased rainfall.

In rural areas, governments should focus on restoring natural flood defences, such as reforesting hillsides and protecting mangroves.

These ecosystems provide invaluable protection against floods, absorbing excess water and preventing soil erosion.