ASIA: CLIMATE RISKS ARE A TOP VULNERABILITY FOR ASIA

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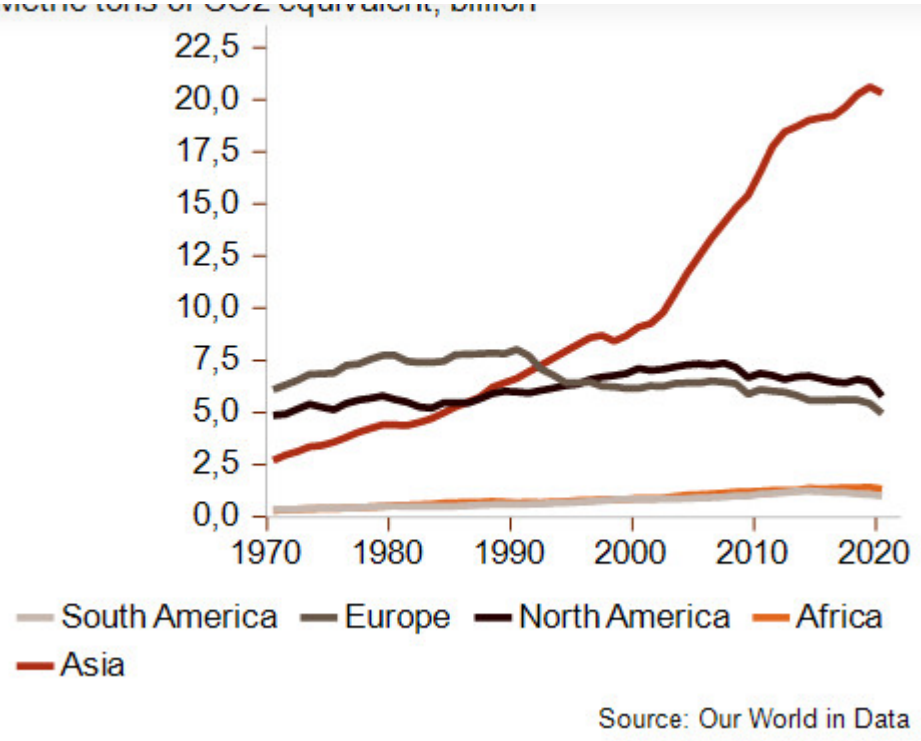
Filed under Region news

Highlights

- Asia is one of the most vulnerable regions when it comes to climate risks due to the specific characteristics of the continent (population, geography, economic structure, GHG emissions, exposure to natural disasters).
- From China to Pakistan, extreme natural disasters in 2021 and 2022 illustrated the rapidly rising impact of climate change in Asia.
- South Asia is particularly vulnerable to food and water security risks.
- Besides the structural economic shock, climate change will increase country risks through higher socio-political instability and conflict risks.
- Adaptation to climate risks is largely insufficient to mitigate the unprecedented challenge of an intensifying climate change.

Asia is one of the most vulnerable regions in terms of climate risks

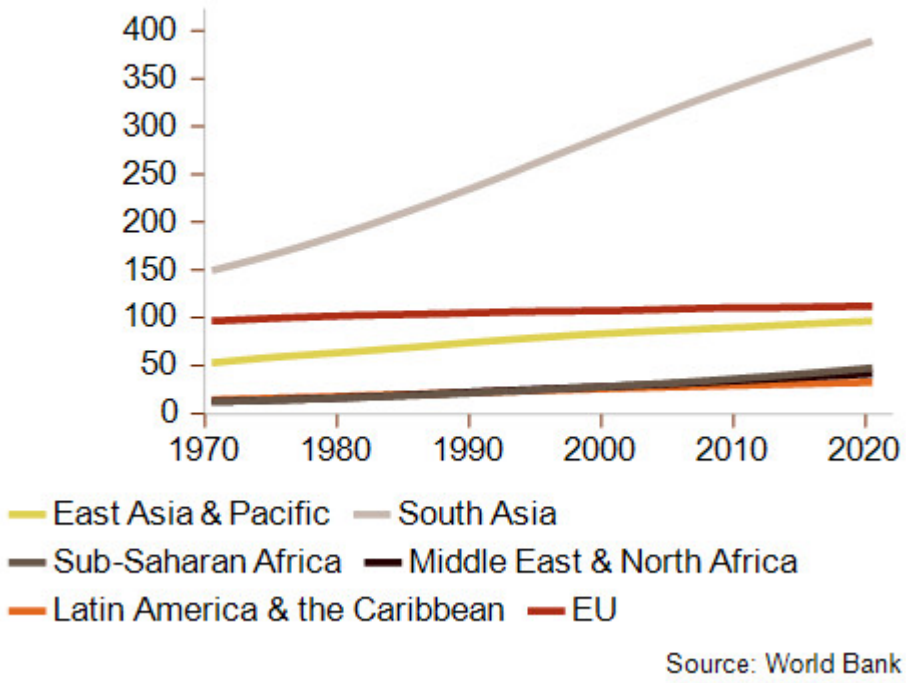
The years 2021 and 2022 were emblematic in demonstrating Asia's high exposure to climate change, which is only going to increase in frequency, severity and scale and hence lead to soaring human, economic, social and environmental costs. Extreme natural disasters have indeed been intensifying, from extreme rainfall and record-long droughts in China to devastating record floods across a third of Pakistan's territory in 2022, pushing the country to the verge of a sovereign default. Asia is not only the biggest regional-scale emitter of greenhouse gases worldwide (58% of the total in 2020) – with China leading total annual GHG emissions and India catching up quickly – but it also faces a gloomy future due to the projected disproportionate impact it is predicted to face. Negative projections show that Asia's long-term prosperity is under threat. According to Swiss Re, climate costs could amount to 26.5% of the regional economy by 2050.



Source: Our World in Data

The region is expected to be among the most exposed and vulnerable when it comes to climate change, particularly heatwaves, floods, erratic monsoons and sea level rises that affect a high proportion of the economy and human outdoor activity. Impacts are manifold, from huge human and economic damages to mass migrations and the central risks of water scarcity and food insecurity, not to mention loss of marine and forest ecosystems. Moreover, in addition to encouraging the spread of tropical diseases on a larger scale, climate change and biodiversity decline in Asia will boost the risk of damage to agriculture from invasive species and pandemics caused by new zoonotic diseases (such as Covid-19). In the coming decades, all these impacts will adversely affect country risks through economic and financial channels (growth potential, export receipts, public finances, external debt, etc.) and also via risks related to heightened political violence.

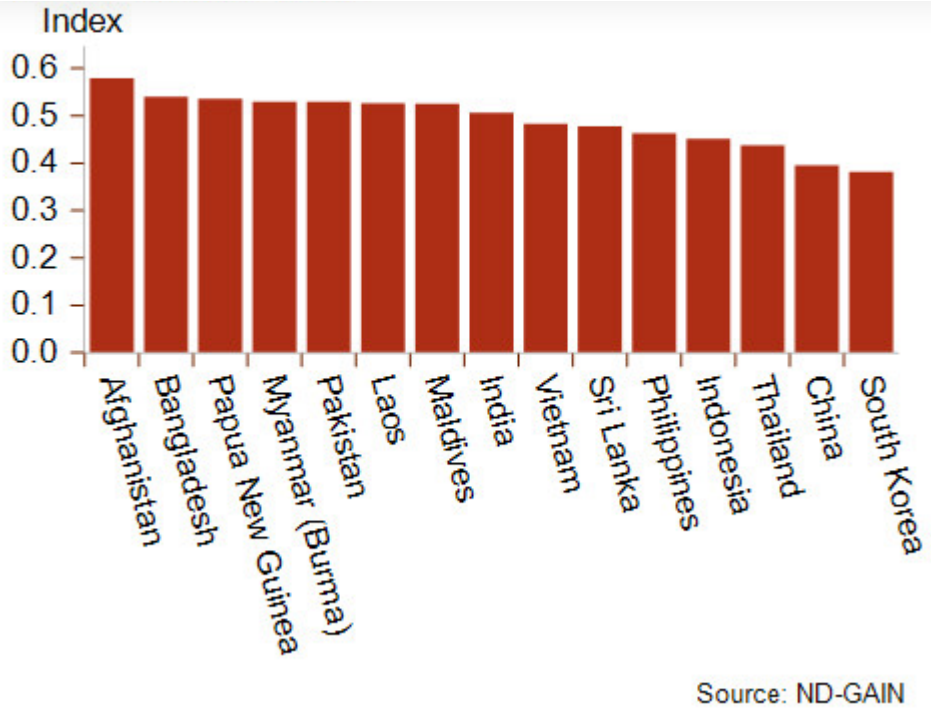
Asia's proportionally high level of risks is connected to its regional features. It has the world's largest population, with a high proportion living in extended coastal areas that are particularly exposed to cyclones and sea level rises above the global average, or in densely populated (mega) cities that are relatively more exposed to floods and deadly heatwaves.



Source: World Bank

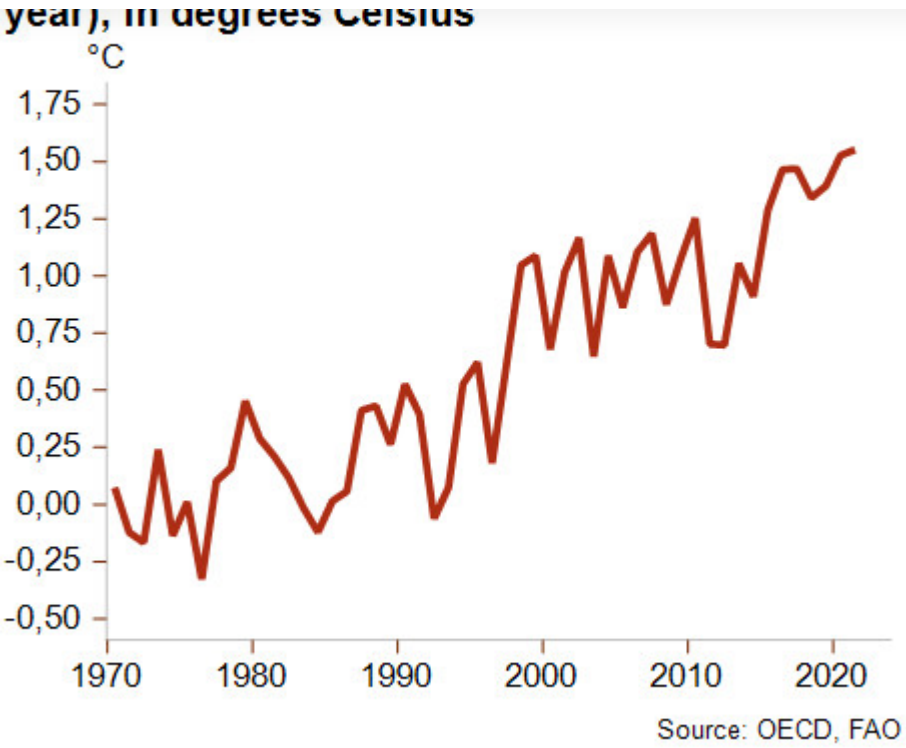
About one billion urban citizens are said to live in high flood risk areas in Asia. The region has the highest economic reliance on coal and oil – and thus elevated transition costs compared to decarbonised economies – and maintains strong economic dynamism usually associated with the world's fastest GDP growth and consequently high energy use.

Existing climate risk indices highlight the vulnerability of Asian countries based on the occurrence and impact of past natural disasters and considering the grim climate projections and country specifics. Even though climate risks are particularly elevated for the Asian region, there are nevertheless sub-regional disparities in terms of exposure and resilience. The vulnerability of certain countries to weather-related events and their resilience to adapt to extreme natural disasters depends on various factors, such as geography, level of economic development, demographic dynamics, the share of agriculture in the economic structure, urbanisation levels, governance and institutions, and the depth of the domestic financial system. Therefore, different groups of countries can be distinguished according to the above factors and the most likely types of natural disasters and degree of intensity.



In the spotlight: South Asia and the Bay of Bengal

The countries most threatened by climate security risks are located in South Asia and around the Bay of Bengal. South Asia is particularly exposed to heatwaves due to rapid temperature increases and the significant share of outdoor work in the sub-region, as well as floods. Agricultural crops and food security appear to be the highest risk. In summer 2022, Pakistan was laid bare to this after its worst floods to date damaged infrastructure and devastated crops on a large scale. The resulting financial and economic disaster also underlined the destructive future challenge for countries in a region with weak macroeconomic fundamentals and a poor population. The Himalayan mountain chain is also of high regional concern, as floods and water scarcity for hundreds of millions of people caused by the acceleration of melting glaciers will have dire consequences on economic activity and predominantly poor populations across several countries. According to the World Bank, water shortage is a top risk in South Asia that could affect more than 1.5 billion people by 2050 – a scary prospect with no real translation into government policies until now.



With one fourth of the world's population living on its coastline, the Bay of Bengal, including eastern India, Bangladesh and western Myanmar, is an area particularly vulnerable to climate risks, from sea level rises (Bangladesh being the world's most vulnerable large country in this regard) and intensifying cyclones, to heavy rainfall and prolonged droughts. In addition, shrinking fish stocks and the loss of mangroves will threaten food security in a region where agriculture is central and which is expected to be hit hard by natural disasters such as erratic monsoons and reduced water access. Furthermore, geopolitical and conflict risks, such as its proximity to the strategic Strait of Malacca where India, China and the USA compete for influence and maritime expansion, as well as the negative consequences of climate risks on social stability and ethnic tensions, will bring the sub-region into the spotlight regarding climate change. As a result, mass migrations and higher conflict risks are expected in the long term.

India: vulnerable to a broad range of extreme natural disasters

India is expected to become the world's most populous country in 2023, but climate change risks are clouding its future as the country is highly dependent on agriculture and related sectors (involving 44% of the population and 20% of the country's GDP). Agricultural production is at great risk, especially for the predominantly poor population. Over the past two years, India's vulnerability has been underscored by its long heatwaves and droughts, heavy floods, extreme cyclones and the accelerated melting of Himalayan glaciers, while the rising sea level is threatening people living along India's 7,500-km-long coastline. In the coming decade, Indian public authorities will have to perform a tough balancing act between pursuing the country's development and containing growth in GHG. As the world's third largest GHG emitter – but with a far lower per capita contribution – India contributes increasingly to climate change, which in turn threatens its development. Given the country's huge reliance on coal, its energy use and its development ambitions, India pledged a late

decarbonisation commitments this decade. The stakes are high, and according to think tank ODI (Overseas Development Institute), the current climate change trajectory towards +3°C amid climate inaction could cost India between 3–10% of its GDP annually by 2100.

South-East Asia: agriculture and food security endangered

In South-East Asia, countries will have to cope with severe heatwaves, shorter monsoon seasons and heavy rainfall jeopardising economic activity, particularly agriculture (as in Indonesia and Thailand). Because these economies have a significant outdoor and labour-intensive structure and small to moderate financial capacities, they are vulnerable to these climate risks. Food security risks are highlighted in the case of rice production. A key staple in the region, rice is on the radar as yields could be halved by 2100 unless new high-yielding rice seeds are resilient to climate change. The rising sea levels are also of high concern for many low-lying countries in the sub-region, especially Indonesia, the world's biggest archipelago that is shifting its sinking capital Jakarta to Nusantara, the yet-to-be-built future capital city. Climate risks are also on the rise in the countries surrounding Mekong, South-East Asia's biggest river, and the past years have seen sharply reduced rainfall and river flows that only add to depleting fish stocks. Given the importance of the Mekong River, this will hurt agriculture and country economies in Cambodia, Laos, Myanmar, Thailand and Vietnam. Meanwhile, the Philippines are particularly prone to more devastating cyclones and hotter temperatures that threaten coral and fish stocks. Until now, ASEAN countries have taken little action to withstand these enormous risks, even though renewable power generation is gaining traction and deforestation is slowing down in Indonesia. At the same time, the trend of rapid economic development fuelled by rising coal consumption does not seem to be abating.

East Asia: high risk and economic losses, but impact mitigated by higher resilience

Although East Asia is highly exposed to climate change, the total impact appears relatively weaker mainly thanks to the advanced state of its economies. In this sub-region of high-income economies, the strength of macroeconomic fundamentals and depth of financial systems will help to alleviate the climate bill. Even so, given the current GHG emission trajectory, economic costs will still increase rapidly. The main risks come from droughts and water scarcity, as seen in 2021 in Taiwan when the key chip industry was severely disrupted. Extreme typhoons and floods are also increasing risks that will lead to very high annual economic losses.

China: climate change to threaten domestic stability and ambitions

In East Asia, all eyes look towards China given its economic weight, high economic costs from natural disasters and because it is the world's number one GHG emitter, albeit not on a per capita basis. Its large financial means and broad geostrategic network worldwide are its best buffers against climate change, but the country is fragile due to its exposure to many climate risks that will lead to huge costs, affect food and water security and harm the country's wide ambitions. China experienced a taste of what it may expect in future with severe floods (2021), long heatwaves and droughts (2022), historically low levels in the Yangtze River and similar issues in other water supply sources. These natural disasters greatly disrupted energy supply

and the degradation of ecosystems are also rising risks across the whole country. Consequently, agriculture (which will also be affected by high pollution of soil and water reserves), infrastructure, supply chains, trade and ultimately all economic activity will be seriously affected. Thus Xi Jinping's primary goal of self-sufficiency for China might be in jeopardy, as this net food importer will still depend significantly on imports such as grains and on progress in developing climate-resilient crops. In this context, China has pledged to bring GHG emissions to a peak in 2030, net-zero emissions by 2060 and internally the country is aiming for climate resilience by 2035 thanks to a battery of preventive measures. Although this century's past actions have allowed economic and human costs from natural disasters to be reduced significantly, the acceleration of climate change will increase this challenge too. Under these circumstances, China's key role in reversing the GHG emissions trajectory is a concern, as the impact of natural disasters on domestic power generation might lead to an even bigger reliance on fossil fuels this decade, thereby exacerbating climate change dynamics. Another risk lies in the Chinese Communist Party's uncontested political leadership, given the long-term threat posed by climate change to lasting social stability.

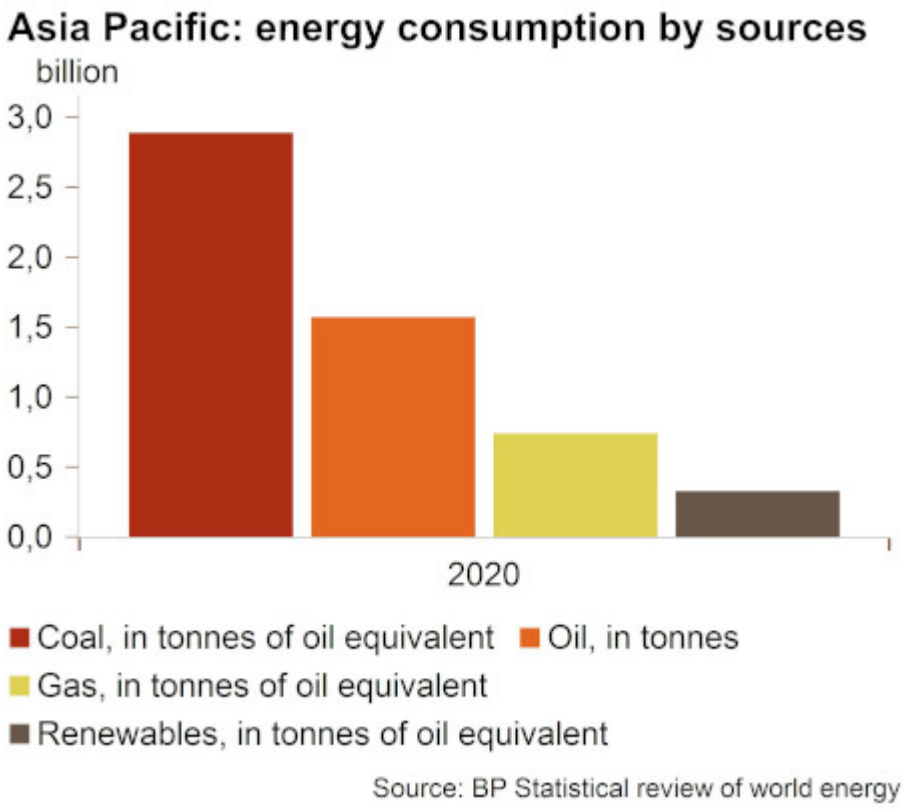
Rising conflict risk and socio-political instability

Besides the wide impact of climate change on the regional economy, political and social dimensions also matter greatly when assessing climate risks, which will drive higher social instability and conflict risks as a result of food and water insecurity and land losses within countries such as Afghanistan, India and Pakistan. Violent tensions and conflict in Asia will also increase between states around vital access to water, with two main conflict risks. First, between China and several of its neighbours (including India), as China controls the upstream flows of the region's main rivers (e.g. Mekong and Ganges), and if water volumes shrink considerably it is likely to give domestic use top priority, particularly given the expected recurrent droughts in China. Second, between Pakistan and India, two countries with nuclear capabilities, historical contention concerning Kashmir, huge populations and high climate risks that are now competing for shrinking water resources. Mass migrations driven by intensifying climate change in and between states will also fuel tensions and conflict risks. According to the IPCC, natural disasters in South Asia, South-East Asia and East Asia led to the displacement of more than 20 million people in 2019, and those figures are expected to soar in the long term.

Asia adapting to fast-rising climate risks, but urgency is lacking

By far the world's highest GHG emitter in terms of volume, Asia has a central role to play in mitigating climate change. Adaption is the other big challenge that the region faces to reduce future climate risks, but to date Asia has been adapting slowly to this momentous challenge. It's true that several Asian countries are among the most developed in the emerging world when it comes to infrastructure, trade, finance and early-warning systems, and climate-related actions are increasingly visible in tools, policies and technologies such as EVs and renewables in China, new resilient crops and farming practices, climate-smart agriculture, urban infrastructure adaptation against extreme heat and floods, etc. These developments will help to adapt somewhat to climate change and will reduce risks, but this mainly refers to East Asia's richer countries and some of South-East Asia's major economies with a higher capacity to generate part of the huge financial needs required by climate change mitigating measures. Other countries will struggle, especially in South Asia. More generally, the key

more than offset by, among others, simultaneous continued growth in fossil fuels (especially low-cost coal amid high global hydrocarbon prices), to underpin regional economic development. In fact, the development of renewables has to a large extent not replaced existing fossil fuels but rather has met the growth in energy demand, which is in turn boosted by warmer summers and rising populations.



Therefore, there is a high risk that the bulk of mitigating policies are predominantly undertaken reactively to deal with the structural impact of climate change. Many countries are likely to largely depend on financial support from climate change funds and multilateral institutions. As in other regions, the pace of change remains at odds with the accelerating threat of climate change, which requires an urgent structural transformation to energy systems, land management, ecosystems and urbanisation, for example, rather than the addition of adaptation measures. This situation concerns multiple factors, such as fiscal space, level of income and development, the quality of institutions, political instability and often a lack of risk awareness too. Therefore, policy action and investments could accelerate during this decade as climate risks grow in intensity. Meanwhile, the longer the delay in large investments and bold systemic changes in Asia – notably the continued upward trajectory in GHG emissions – the sharper the impact of climate risks will be to future country risks.

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