ARDENT CO.

Strengthening India's Focus on Investments in Climate Adaptation

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The world experienced its hottest day ever on Tuesday, July 4, breaking a record set just the day before.

Last week, China experienced its highest-ever temperature, adding to the severity of the climatic extremities witnessed worldwide. Concurrently, regions in South Korea faced the wrath of torrential rains, resulting in widespread flooding. In the Mediterranean and Southern Europe, a lingering heatwave held its grip, fanning the flames of wildfires near Athens, Rhodes and parts of Turkey. Additionally, several Spanish cities endured mercury readings reaching 40 degrees, while virtually every Italian city found itself placed under a red alert, signalling the danger posed by the unrelenting heat.

The World Meteorological Organization, in this context, has reported an alarming trend over the past 50 years: one disaster every day attributed to weather, climate, or water hazards. Shockingly, this number has surged fivefold, reaching a staggering 11,000+ events between 1970 and 2019.[1]

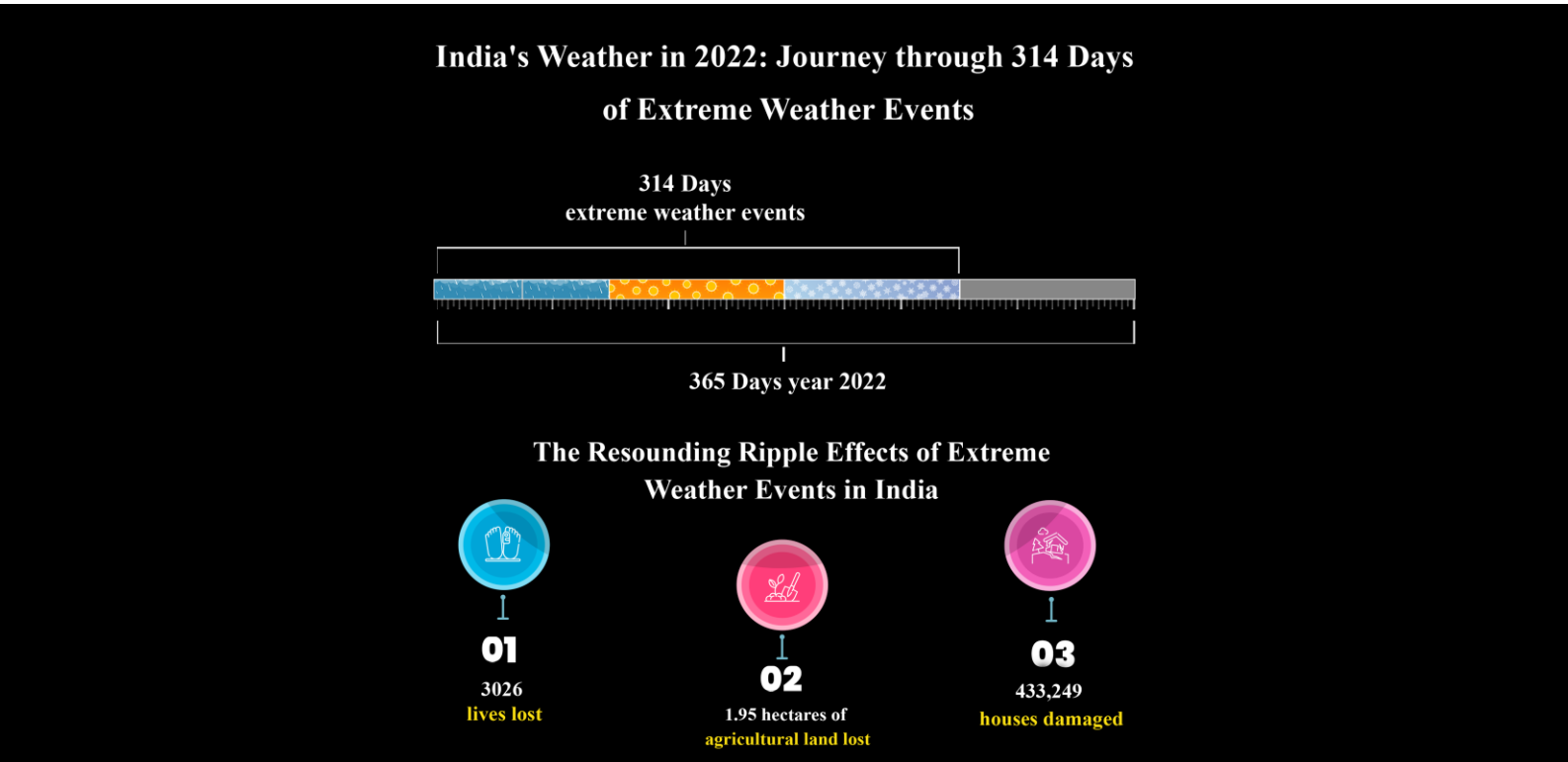
[1] WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes.

The increasing frequency of extreme weather events in India

The story in India is no different. Throughout the past month, different regions have been grappling with incessant heavy rains that have led to severe flooding in northern, western, and southern parts of the country. The national capital, in particular, has borne the brunt of incessant rainfall, leading to flooding around the Yamuna basin, prompting the evacuation of more than 20,000 individuals from the affected areas.

India is, thus, increasingly witnessing a surge in the frequency of extreme weather events. From devastating floods to prolonged droughts, scorching heatwaves to disastrous cyclones, the country is contending with the severe consequences of these climatic upheavals.

India experienced extreme weather events on 314 of the 365 days in 2022. These events have resulted in the loss of 3,026 human lives, and caused damage to approximately 1.95 million hectares of agricultural land and 423,249 houses.[2] In 2020 alone, India suffered economic losses to the tune of USD 87 billion due to extreme weather events.[3] The State of the Climate in Asia report released in 2022 states that India incurred a loss of USD 4.2 billion as a result of extreme weather events, primarily attributed to floods, followed by droughts and heatwaves.[4]



Source: Centre for Science and Environment (CSE) and Down to Earth (DTE)

[2] CSE-DTE Data Centre
[3] State of the Climate in Asia, 2020
[4] State of the Climate in Asia, 2022

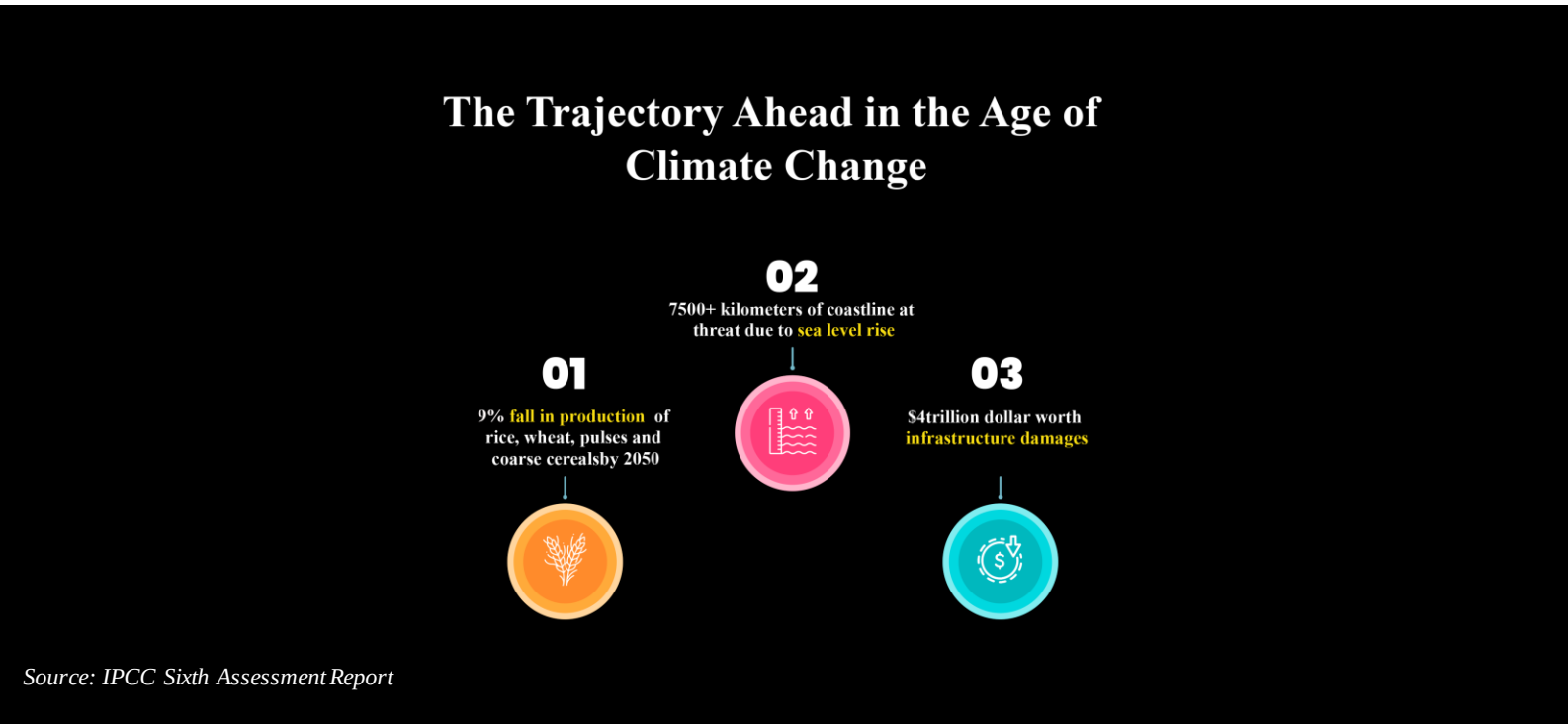
The first instalment of the IPCC's Sixth Assessment Report offers a future-oriented projection and rings a warning bell.

It indicates an increase in extreme weather events in South Asia, including India. It highlights that heatwaves will become more intense and frequent in the 21st century; summer and monsoon precipitation will also increase and become more frequent. It also identified India as the most vulnerable country in terms of crop production, stating that rice, wheat, pulses and coarse cereal yields could fall almost 9% by 2050.

The report underscores the inevitable rise in global mean sea levels due to ocean warming, ice sheet melting, and glacier retreat, even under the most optimistic emissions scenarios. With India's extensive coastline spanning over 7,500 kilometers, this poses a significant threat to communities residing in vulnerable coastal areas. The potential economic damage from such flooding would be approximately USD 4 trillion, impacting valuable assets in these regions.

As the frequency of extreme weather events continues to increase in India, it becomes imperative to understand and analyze the investments made by the country in order to address the growing challenges posed by catastrophic climatic conditions.

It becomes even more important to prioritize investments in climate adaptation.



Source: IPCC Sixth Assessment Report

Having understood the devastating trends of the impact of constantly changing climatic conditions on human lives and livelihoods, infrastructure, economy etc – it is imperative to recognize the urgency of the situation. Concerted efforts and resources must be directed towards climate adaptation measures – the need to build climate resilience by embracing proactive measures, fostering international cooperation and investing in adaptation strategies is more crucial than ever.

Understanding the cost of climate mitigation and adaptation

Climate finance aims at reducing emissions, enhancing sinks of greenhouse gases, minimizing vulnerability of, and maintaining and bolstering the resilience of human and ecological systems to negative climate change impacts.[4]

The International Monetary Fund recognizes climate mitigation and adaptation as two complementary approaches to address the challenges posed by climate change.[5] Mitigation focuses on reducing greenhouse gas emissions to prevent further warming of the Earth's temperature. It involves measures such as transitioning to renewable energy sources, implementing cleaner technologies, and pricing carbon emissions.

Adaptation, on the other hand, involves preparing for and adapting to the impacts of climate change that are already occurring. It includes actions such as building resilient infrastructure, securing water resources, and developing strategies to protect vulnerable communities. Both mitigation and adaptation are essential in tackling climate change, with mitigation addressing the causes and adaptation addressing the effects.

The Reserve Bank of India, in May 2023 came out with a report stating that India will need to spend an estimated INR 85.6 trillion by 2030 to adapt its various industries to be compliant with climate change norms. According to estimates, India needs to allocate a minimum of 2.5% of its GDP annually for green financing in order to address the infrastructure gaps caused by climate events.

The report further stresses the importance of adopting a sector-specific approach to address climate risks. It brings attention to the complex policy trade-offs between managing short-term adverse output impact, driven by nationally determined contribution commitments, and potentially facing greater output losses in the medium run if no appropriate policies are implemented.

[5] UNEP: Climate Finance
[6] IMF: Climate Mitigation and Adaptation

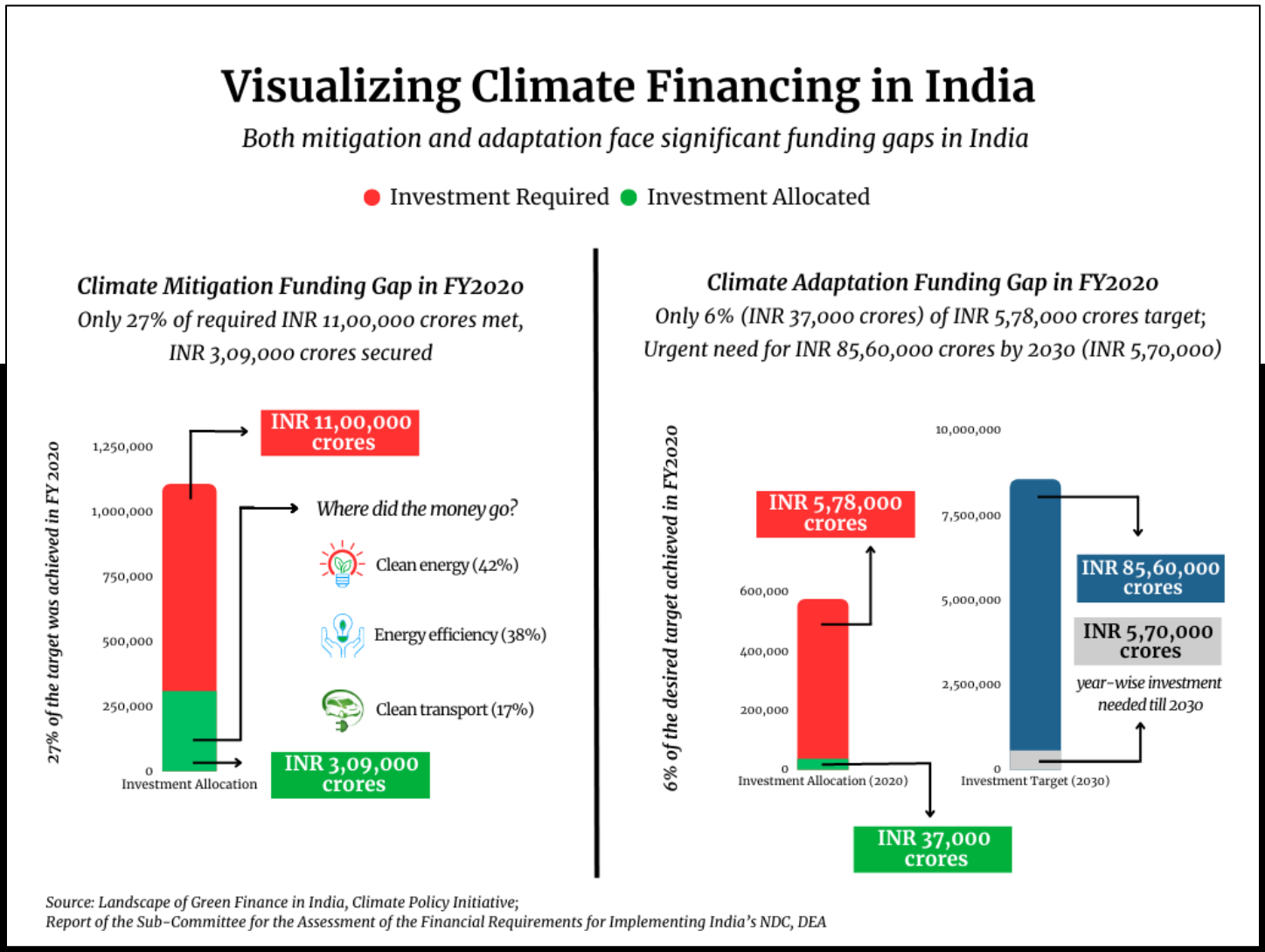
While India has been shoring up climate financing, it may not be enough.

Both, mitigation and adaptation face significant funding gaps in India.

An estimate by the Climate Policy Initiative highlights that while green finance flows increased by 150% from FY2017/FY2018 to FY2019/FY2020, the funding is still falling far short of the country's current needs. In 2019/2020, tracked green finance was INR 3,09,000 crores per annum, which is approximately a fourth of India's needs.

To achieve India's Nationally Determined Contributions (NDCs) under the Paris Agreement, the country requires approximately INR 11,00,000 crores per year.

The funding ratio for climate adaptation to mitigation is estimated to be extremely disproportionate, with only INR 37,000 crores allocated for adaptation, which, again is nowhere close to the required average annual expected investment of INR 5,78,000 crores. An assessment by the DEA indicated that India required a substantial sum of INR 28,90,000 crores by FY2020 for climate adaptation. Furthermore, the projected expenditure for climate adaptation is estimated to escalate to approximately INR 85,60,000 crores by 2030, necessitating an average annual flow of INR 5,70,000 crores.[67]



Further, an assessment of the union budget in this context highlights that while climate change mitigation has garnered the required attention with an increase in the number of initiatives focused on decarbonization and green growth, the budget fails to directly address climate change adaptation as a specific area for investments. Further, measures focused on enhancing climate resilience do not find explicit mention in the budget either.

[7] Landscape of Green Finance in India, Climate Policy Initiative
[8] Report of the Sub-Committee for the Assessment of the Financial Requirements for Implementing India's NDC, DEA

Need for increased investments and recommendations for strengthening adaptation investments

Historically, the global climate discourse has prioritized mitigation efforts over adaptation. As a result, funding for adaptation has been relatively scarce when compared to mitigation. Additionally, adaption solutions often do not provide immediate benefits or measurable returns on investment (ROI), which makes them less attractive to mainstream capital. Climate adaptation also requires the adoption of localized and nature-based solutions, which cannot be easily measured in a traditional ROI framework. This makes it challenging to attract interest-seeking capital.

It is in this context that India needs to reassess its investments in climate adaptation.

At present, the major source of adaptation funding is domestic (94%) and it is fully funded by the Central and State governments. However, to enhance financial support for the sector, it is imperative for the country to diversify funding by encouraging private sector investments. Additionally, the country should also seek international collaboration to support its climate adaptation efforts. Engagement with global climate funds, international organizations and effective bilateral partnerships focused on efficient adaptation strategies can help secure additional resources in this regard.

There is also a need to develop more targeted and focused plans vis-a-vis climate adaptation. India should focus on developing sectoral adaptation and resilience master plans. These plans should involve vulnerability assessments, formulation of adaptation strategies, targeted response and action. Further, it will be necessary for these plans to focus on facilitating collaboration and partnerships, thereby enhancing financial support for adaptation initiatives.

Finally, the development of a dedicated initiative to improve India's climate adaptation practices becomes imperative here. In order to build a supportive ecosystem to promote research and innovation, undertake capacity building efforts, and enable stakeholder engagement, the country should think about integrating climate adaptation into long-term policymaking.

Thus, to strengthen adaptation investments,

there is a need for India to increase public and private sector funding, foster partnerships with international organizations, develop targeted policies to encourage investment in adaptation projects, and integrate climate adaptation into long-term planning.

By undertaking these measures, India can effectively enhance its capacity to adapt to climate change and build resilience, **thereby helping minimize the adverse impacts of climate change on the country's economy and livelihoods.**

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