



IPCC report warns of growing risks for Indian insurers

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Key points

- Climate change is projected to increase the likelihood and intensity of extreme weather events in India, threatening its people, agriculture and infrastructure
- Growing physical risks will influence the future availability and affordability of insurance protection in India, potentially threatening existing business models for the insurance industry
- These risks raise fundamental questions about how Indian insurers manage their businesses in a sustainable and profitable way.

Climate change will hit India's people, agriculture and infrastructure

India is one of the most vulnerable countries in the world to climate-induced flooding, heat stress and droughts, according to the new IPCC WG2 report on impacts, adaptation and vulnerability.

India is exposed to many flood hazards, from sea level rise, rivers and melting glaciers. Major floods and landslides killed over 700 people and caused USD 11 billion worth of damage in India over the course of 2018 and 2019. The WG2 report found that the city of Mumbai is the second most exposed megacity to coastal flooding as a result of sea level rise. Without climate mitigation, the city could suffer economic damages of USD 49-50 billion by 2050 (cumulatively) from coastal flooding alone (chapter 10.4.6.3.4). The report also found that India has the world's second highest exposure to flooding rivers, which could amount to an annual average loss of USD 6 billion (chapter 10.4.5.3.6). Melting glaciers in north India also cause outburst floods, which threaten the security of western Himalayan communities. As an example, a flash flood triggered by a glacier lake outburst in 2013 caused devastating floods and landslides, killing over 5,000 people in the state of Uttarakhand.

Extreme heat is among the most deadly and costly climate hazards. Globally it claimed 166,000 lives between 1998 and 2017, a third of which can be [attributed directly to climate change](#). Projections show that unabated climate change is likely to cause wet-bulb temperatures, which are a measure of heat stress, to [approach or exceed survivable limits](#) over much of India by the end of the century. Critically, projected higher temperatures will increase heat-related morbidity and mortality. Heat stress was also found to be the [dominant cause of GDP loss](#) for India if warming continued to 3°C.

The WG2 report found that droughts and water stress are expected to increase across Asia as a result of climate change, and this could have serious repercussions for [food security and civil conflicts](#). The agriculture sector, which makes up about [16.5%](#) of India's USD 2 trillion economy and employs more than half of the country's 1.3 billion people, is particularly vulnerable to drought. Increase in drought conditions will severely impact India's overall economic growth given its importance to the economy (chapter, 10.5.4.3). [Six hundred million](#) people in India already face acute water shortages, according to government think tank Niti Aayog. The WG2 report found that higher emissions will heighten the drought risk for urban populations in megacities Delhi and Kolkata, which are [already experiencing water stress](#).



The WG2 report built on the findings of the IPCC’s Sixth Assessment Report on the [Physical Science Basis](#) (WGI report), which found that at the current 1.1°C of global warming, we are already seeing increasing impacts, including from extreme weather events such as [heatwaves](#), [droughts](#) and [flooding](#) across the world.

Climate change threatens Indian insurers’ business models

Munichre, [India’s largest reinsurer](#), agrees that storms, flooding and drought are the [key weather risks](#) for the Indian region. Since they are unpredictable and extreme, these weather events are driving [greater volatility in company losses](#), which makes structuring insurance solutions all the more challenging.

In general, insurers have long relied on ‘catastrophic models’, which use historical loss data to price future risks. However, unprecedented climate conditions have made modelling future losses more difficult than ever before. The potential for major events to overwhelm an insurer’s capacity to absorb climate-related losses is very real. For example, in 2018, the Merced Property & Casualty Company was unable to pay out all claims due to the wildfires in California and as a direct result was [pushed into insolvency](#).

Increasing physical risks present challenges, both to market-based risk transfer mechanisms and to the underlying assumptions behind Indian insurers’ business models. The ability to reprice insurance premiums on an annual basis is the industry’s main tool in mitigating financial losses. However, continuous premium hikes are not a sustainable, long term solution for the industry, as spiralling premiums are likely to lead to an [availability and affordability crisis for consumers](#). In places and industries where assets are harder to insure, premiums and profits will [shrink and possibly disappear](#). Instead of continual premium increases, insurers could look to collaborate with customers to develop adaptation and mitigation measures for future climate risks.

Broader economic downturn as a result of physical impacts of climate will also reduce insurance customers’ ability to purchase and afford insurance coverage. Research predicts that climate change could reduce India’s GDP by around [2.6%](#) by 2100, even if the global temperature increase is held below 2°C. Economic damage could rise up to [13.4%](#) of GDP each year in a 4°C scenario. This is especially problematic for India, where insurance penetration is [only about 1%](#) of GDP, far below the Asian penetration of 1.85% and global penetration of 2.8%. Low insurance penetration limits the insurer’s ability to spread costs across its customers and [makes it hard](#) for insurers to account for the frequency, severity and interconnectivity of risks.

Summary of negative impacts of physical climate risks for Indian insurers:

| Risk type | Description | Impact |
|------------------------------|--|---|
| Insurance penetration | Increased physical risk slows economic growth, reducing the capacity of customers to purchase insurance | Decrease in insurance uptake and higher policy cancellations |
| Claims | Higher-than-expected damages to insured assets (property, health, agriculture), leading to higher value and more frequent claims | Higher-than-expected insurance claim payouts, additional capital requirements |
| Premiums | Higher climate risk increases the pricing of insurance products, driving people to find alternative products or cease insurance | Decrease in premium revenue, profits and competitive advantage |



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Indian insurers must respond proactively to climate risks

Indian insurers are lagging behind global peers in their management of climate risks, despite recommendations from [credit rating agencies](#), the [Institute of Actuaries of India](#) and [prudential regulators](#).

In a 2020 review of climate disclosures from the global insurance industry, Indian insurance companies were among the [worst performers among their global peers](#). The global consultancy EY assessed annual reports against 11 recommendations by the [Task Force on Climate Related Financial Disclosures](#) (TCFD) and scored Indian insurance companies below 10 out of a score of 100 on the quality of their disclosures. The TCFD was formed in 2017 by the G20 Financial Stability Board to create a consistent set of recommendations on how companies can analyse and disclose climate-related impacts for their businesses. Since then, these recommendations have become the gold-standard of climate disclosure and prudential corporate management. To satisfy them, companies are encouraged to evaluate and disclose “climate-related risks and opportunities that are most pertinent to their business activities.” This means:

- a) Risks related to the transition to a lower-carbon economy
- b) Risks related to the physical impacts of climate change

The ability of insurers to articulate their management of climate risk is not only important to their shareholders, but also to the [financial stability of the economy](#). This is why European regulators are fine-tuning their approach to climate stress tests. In 2019, for example, the [Bank of England began mandatory financial stress testing](#) of the UK insurance sector for risks related to climate change. Although the Reserve Bank of India has not yet chosen an interventionist approach, it has signalled that change in climatic patterns can have a significant impact on [key indicators of economic activity](#) for India. In the absence of regulatory intervention, insurers must do more to address climate risks themselves, or face losses in an increasingly uncertain and disruptive environment.