

City infra prone to damage from climate change: Study

9 States In List Of Top 50 Regions In World To Face Hazards

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New Delhi: Nine Indian states, including Bihar, Uttar Pradesh and Punjab, are among the world's top 50 regions at high risk of damage to infrastructure due to eight climate change hazards, according to a new study published on Monday.

Analysing 'gross domestic climate risk' (GDCR) to calculate the physical climate risk to the built environment in over 2,600 territories globally by 2050, Cross Dependency Initiative (XDI), a UK-based climate organisation, has placed Delhi at 446th position.

Built environment refers to aspects of our surroundings that are built by man to support human activity like homes and workplaces.

The XDI study takes into account 'aggregated' and 'average damage' ratios, both of which represent annual average loss or damage to property due to extreme weather events. While 'aggregated damage' looks at the total damage to the built environment in a particular province, 'average damage' is a wider analysis and provides insight into territories that may have fewer properties but are subjected to greater widespread damage.



The nine Indian states in the top 50 were categorised under 'aggregated damage'. Delhi's ranking was qualified under 'average damage', which projects the damage risk to infrastructure like homes and office buildings from extreme climate events such as flooding, forest fire, drought, winds and heatwaves.

The study pointed out that 80% of the top 50 at-risk

WHAT MAKES DELHI VULNERABLE

- Delhi ranks 460 out of over 2,600 regions at risk of damage to infrastructure due to extreme climate events
- This includes residential, commercial and industrial buildings

Hazards for Delhi

- Riverine and surface flooding
- Extreme heat 
- Fire
- Drought-related soil movement
- Extreme wind 
- Freeze-thaw

9 Indian states (Bihar, Uttar Pradesh, Assam, Rajasthan, Tamil Nadu, Maharashtra, Gujarat, Punjab and Kerala) are among the world's top 50 regions that are at risk of damage to infrastructure due to eight climate change hazards



states and provinces in 2050 are in China, US and India. After China, India has the highest number of states — nine — in the top 50. Bihar is at 22, followed by UP (25), Assam (28), Rajasthan (32), Tamil Nadu (36), Maharashtra (38), Gujarat (48), Punjab (50) and Kerala (52).

Assam would see the maximum increase — over 330% by 2050 as compared to 1990 — in climate risk to the built environment, according to the study.

"This is the first time there has been a physical climate risk analysis focused exclusively on the built environment, comparing every state, province and territory in the world," stated the study, also naming Mumbai among the highly developed and globally significant Asian economic hubs in the top 100 for damage risk.

IPCC AUTHOR SAYS

We must protect the blue and green infrastructure. Delhi has done considerably better than other cities and countries in terms of protecting green, but not blue infrastructure

According to Anjal Prakash, research director and adjunct associate professor at Indian School of Business, Hyderabad, Delhi's 446th ranking seems to be problematic and the city is facing multiple climate risks.

"As global temperature rises — it is expected to reach 1.5 degree Celsius by 2050 — the risk is going to compound for some of the cities featured in the report," said Prakash,

who is also one of the authors for Intergovernmental Panel for Climate Change (IPCC).

He added that a similar assessment must also be done by Indian institutes as a combined effort of scientists working in different climate change areas to understand how the risk ranking or average damage is impacting the lives and livelihood of people living in Delhi and other regions.

"We must protect the blue and green infrastructure. Delhi has done considerably better than other cities and countries in terms of protecting green, but not blue infrastructure. More trees need to be planted in the city and the water infrastructure must be mapped out and protected," Prakash said, pointing out that an IPCC report had stated that the window for mitigation and adaptation is only about 15-20 years.

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