



## Gross Domestic Climate Risk Ranking

**Prelims:** Gross domestic climate risk ranking, RCP8.5,

**Mains:** Climate risks, Adaptation and Mitigation

### Why in News?

According to **Gross Domestic Climate Risk ranking by Cross Dependency Initiative (XDI)**, India has nine states in the 50 high risk states including Punjab, Bihar, Uttar Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Gujarat, Kerala and Assam.

- XDI is a global organisation specialising in climate risk analysis for regions, banks and companies.

### What is this Report About?

- The index calculated the **'Physical climate risk' to built environments** such as buildings and properties across 2,600 States and provinces globally in 2050.
- The index assigned an **Aggregated Damage Ratio (ADR)** to each region, which signifies the **total amount of damage a region's built environment would sustain in 2050. A high ADR signifies more peril.**

### What are the Findings?

- **Vulnerabilities:**
  - Risk **originates from 8 climate change Hazards:** Riverine and surface flooding, coastal inundation (coastal flooding), extreme heat, forest fire, soil movement (drought-related), extreme wind and freeze thaw.
  - Most damage posed to built infrastructure globally is caused by **"riverine and surface flooding** or flooding combined with **coastal inundation.**
- **Global Findings:**
  - According to report the vast majority **(80%) of 50 provinces** facing the highest climate risk to their physical infrastructure by 2050 are **in China, the US, and India.**
  - Two of China's largest sub-national economies - Jiangsu and Shandong - top the global ranking; followed by the U.S. which has 18 regions in the top 100 list.
  - **Asia dominates the list** with 114 of the top 200 regions falling in the continent, including **Pakistan, Indonesia and most South East Asian countries.**
    - **Devastating flooding in 2022 affected 30% of the area of Pakistan** and has partially or fully damaged more than 9 lac houses in Sindh province.
- **India Specific Findings:**
  - Under high emissions scenarios such as the [Representative Concentration Pathway \(RCP\) 8.5](#), high risk provinces will witness an average of 110% **increase in damage risk by 2050.**
    - **Currently, with 0.8 degrees rise in temperature,** India's 27 states and more

than three-quarters of its districts are extreme event hotspots accounting for a **5% loss in GDP**.

- If global warming is not limited to 2-degree thresholds, **climate-vulnerable states in India will lose more than 10% of their gross state domestic product (GSDP)**.
- **Bihar, Assam, and Tamil Nadu had the highest ADR among other Indian States.** Assam, in particular, would witness the maximum increase of climate risk: rising up to 330% by 2050.
  - **Assam** has witnessed an experienced **exponential increase in flood events** since 2011, and it had **15 of India's 25 districts most vulnerable to climate change**.
- **11 of the 36 districts in Maharashtra** were found to be **"highly vulnerable"** to **extreme weather events, droughts** and dwindling water security.

## What is the Significance of the Report?

- The ranking data can also be **significant for investors**, as extensive built-up areas overlap with high levels of economic activity and property wealth.
  - It can inform **climate resilient investment**, in conjunction with **adaptation measures and infrastructure planning undertaken by state** and provincial governments
- The finance industry can **directly compare global industrial hubs** like Mumbai, New York and Berlin using a like-for-like methodology **to check vulnerability of global supply chains**.

## What are the Steps Taken by India regarding Climate Change?

- **Global Leadership:**
  - India has already established its global thought leadership by founding institutions like [International solar alliance \(ISA\)](#) and [Coalition for Disaster Resilient Infrastructure \(CDRI\)](#). Also, India gave **stronger climate targets for 2030 in revised [Nationally determined contributions \(NDCs\)](#)**.
  - It seeks to make India the climate solutions hub for the world by fostering **systemic, technological, and financial innovations** from the margins to the mainstream.
- **Reforms in Transport Sector:**
  - India is accelerating its **e-mobility transition** with the Faster Adoption and Manufacturing of **(Hybrid &) Electric Vehicles Scheme**.
  - A voluntary **vehicle scrapping policy** to phase out old and unfit vehicles complements the existing schemes.
- **India's Support to EVs:**
  - India is among a handful of countries that support the **global [EV30@30](#) campaign**, which aims for at least 30% new vehicle sales to be electric by 2030.
  - India's advocacy of five elements for climate change **"Panchamrit"**, at the **UNFCCC COP26 in Glasgow** is a commitment to the same.
- **Role of Government Schemes:**
  - **[The Pradhan Mantri Ujjwala Yojana](#)** has helped 88 million households to **shift from coal-based cooking fuels to LPG connections**.
- **Role of Industries in Low-Carbon Transition:**
  - **The public and private sectors** in India are already playing a key role in **meeting the climate challenge**, helped by growing customer and investor awareness, as well as increasing regulatory and disclosure requirements.
- **Hydrogen Energy Mission:**
  - Focus on generation of hydrogen from green power resources.
- **Perform, Achieve and Trade (PAT):**
  - It is a **market-based mechanism** to further accelerate as well as incentivize **energy efficiency in the large energy-intensive industries**.

**UPSC Civil Services Examination Previous Year Question (PYQ)**

**Prelims**

**Q1. Which of the following best describes/describe the aim of 'Green India Mission' of the Government of India? (2016)**

1. Incorporating environmental benefits and costs into the Union and State Budgets thereby implementing the 'green accounting'.
2. Launching the second green revolution to enhance agricultural output so as to ensure food security to one and all in the future.
3. Restoring and enhancing forest cover and responding to climate change by a combination of adaptation and mitigation measures.

**Select the correct answer using the code given below.**

- (a) 1 only  
(b) 2 and 3 only  
(c) 3 only  
(d) 1, 2 and 3

**Ans: (c)**

**Exp:**

- National Mission for a Green India, also known as Green India Mission (GIM), is one of the eight missions outlined under India's National Action Plan on Climate Change. It was launched in February 2014.
- To increase forest/tree cover to the extent of 5 million hectares (mha) and improve quality of forest/tree cover on another 5 mha of forest/non forest lands. Separate sub-targets existing for different forest types and ecosystems (eg., wetland, grassland, dense forest, etc.). **Hence, statement 3 is correct.**

**Q2. The scientific view is that the increase in global temperature should not exceed 2°C above pre industrial level. If the global temperature increases beyond 3°C above the pre-industrial level, what can be its possible impact/impacts on the world? (2014)**

1. Terrestrial biosphere tends toward a net carbon source.
2. Widespread coral mortality will occur.
3. All the global wetlands will permanently disappear.
4. Cultivation of cereals will not be possible anywhere in the world.

**Select the correct answer using the code given below:**

- (a) 1 only  
(b) 1 and 2 only  
(c) 2, 3 and 4 only  
(d) 1, 2, 3 and 4

**Ans: (b)**

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**Mains**

**Q.** Examine the status of forest resources of India and its resultant impact on climate change. **(2020)**

**Q.** "Policy contradictions among various competing sectors and stakeholders have resulted in inadequate 'protection and prevention of degradation' to environment." Comment with relevant illustrations. **(2018)**

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