



## Climate-Driven Economic Losses in Asia- Pacific

**For Prelims:** [UNESCAP](#), [Gross domestic product](#), [Asian Development Bank](#), [Climate Risk Index](#), [Green Climate Fund](#)

**For Mains:** Climate change and economic vulnerabilities, India's policy measures for climate adaptation and mitigation

[Source: DTE](#)

### Why in News?

A [United Nations Economic and Social Commission for Asia and the Pacific \(UNESCAP\)](#) report titled "**Economic and Social Survey of Asia and the Pacific 2025**" has highlighted that one-third of Asia-Pacific countries face economic losses of at least 6% of [Gross domestic product \(GDP\)](#) annually due to climate-related events, which include floods, heatwaves, droughts, and cyclones.

### How Does Climate Change Threaten Macroeconomic Stability in Asia-Pacific?

- **Average Annual Loss (AAL):** ESCAP utilized the AAL, which represents the estimated annual economic loss from disasters based on risk assessments that account for hazard frequency, intensity, exposure, and vulnerability.
  - Across the observed **30 Asia-Pacific countries**, AAL averages 4.8% of GDP and nearly 11% in Cambodia and at least 7% in Fiji, Myanmar, and Pakistan.
- **Vulnerability of Developing Economies:** Among the 30 countries analyzed, 11 countries (Afghanistan, Cambodia, Iran, Kazakhstan, Laos, Mongolia, Myanmar, Nepal, Tajikistan, Uzbekistan, and Vietnam) are particularly vulnerable to **climate risks** from a **macroeconomic standpoint**.
  - Rapid urbanization and weak infrastructure, especially in coastal areas, heighten climate risks, causing high losses.
  - Despite contributing **60%** to global economic growth in 2024, many Asia-Pacific nations remain poorly equipped to handle climate shocks.
- **Sectoral Exposure:** Agriculture may see up to a **14% reduction in rice yields** by 2050, impacting food security and farmer incomes in countries like India.
  - Countries reliant on coal and oil (like Indonesia, **India**, and China) face major economic disruptions due to the global transition to renewable energy, with job losses and revenue declines projected.
  - **Fishing stock depletion** could reduce fish stocks by up to 30% in tropical regions by 2050.

#### What is UNESCAP?

Click here to Read: [UNESCAP](#)

## What are the Major Climate Change Impacts on India's Economy?

- **India's Economic Impact:** According to the [Asian Development Bank \(ADB\)](#), India could face a **24.7% GDP loss by 2070** due to climate-induced economic impacts.
- **Key Drivers of Economic Losses:**
  - **Extreme Heat:** India is already warming, unusual heat spells are expected to become more frequent and widespread.
    - By 2030, India could account for **34 million of the projected 80 million global job losses** due to [heat stress](#)-induced productivity declines (World Bank, 2022).
    - Additionally, 4.5% of India's GDP could be at risk due to lost labor hours from extreme heat and humidity conditions.
  - **Agricultural Decline:** Rising heat and erratic rains are reducing rice and wheat yields. According to the **World Bank**, under 2°C warming by the 2050s, India may need to import **more than twice the amount** of food grain compared to a scenario without climate change.
  - **Rising Sea Levels:** India's 7,500 km coastline is increasingly vulnerable to rising sea levels, with **32% affected by erosion from 1990 to 2018**.
    - Coastal cities like Mumbai and Kolkata face heightened flood risks, and the Sundarbans may shrink by up to 80% by 2100.
  - **Extreme Weather Events:** India ranks 6th among the top 10 countries most affected by extreme weather events from 1993 to 2023, according to [Germanwatch's Climate Risk Index](#).
    - India witnessed over 400 extreme events, resulting in **USD 180 billion** in economic losses and at least 80,000 deaths during this period.

## What Strategies Can Asia-Pacific Adopt to Curb Climate-Driven Economic Losses?

- **Embrace Circular Economy:** Asia-Pacific Countries should promote [circular economy](#) systems where waste is reused in other sectors, cutting emissions and reducing resource use.
  - India should focus on **Zero Waste Cities** by encouraging **Waste-to-Wealth initiatives** to minimize waste and resource consumption.
- **Foster Green Innovation:** Encourage climate-tech startups in areas like [carbon capture](#), and renewable energy production and storage.
  - India can foster climate innovation through the [Atal Innovation Mission](#) and Start-up India by supporting climate-tech ventures. Further funding from the [Green Climate Fund \(GCF\)](#) can help scale these green solutions.
- **Climate-Resilient Infrastructure:** Invest in flood-proof and heat-resistant infrastructure to protect urban areas from climate shocks.
  - India can align the [Smart Cities Mission](#) with the [National Action Plan on Climate Change \(NAPCC\)](#) to integrate climate adaptation and mitigation.
  - Developing climate-resilient **Special Economic Zones (SEZs)** with green infrastructure can attract low-carbon industries, inspired by models like **Masdar City in the UAE**.
- **Green Taxonomy:** India can develop a **green taxonomy** to channel investments into sustainable sectors and align it with the NAPCC to strengthen green financing.
- **Global Climate Funds:** Financial tools like the [Loss and Damage Fund \(LDF\)](#) support Asia-Pacific nations by funding climate resilience, better farming practices, and renewable energy transitions. Scaling up the LDF is crucial for impactful adaptation.

### **Drishti Mains Question:**

Discuss Climate vulnerabilities of developing countries in Asia-Pacific and suggest adaptive policy interventions.

## **Prelims**

**Q.1 In the context of India's preparation for Climate-Smart Agriculture, consider the following statements: (2021)**

1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CCAFS), an international research programme.
2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.

**Which of the statements given above are correct?**

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

**Ans: (d)**

**Q.2 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)**

**Q.3 With reference to 'Global Climate Change Alliance', which of the following statements is/are correct? (2017)**

1. It is an initiative of the European Union.
2. It provides technical and financial support to targeted developing countries to integrate climate change into their development policies and budgets.
3. It is coordinated by World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD).

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

- (a) 1 and 2 only

**(b)** 3 only

**(c)** 2 and 3 only

**(d)** 1, 2 and 3

**Ans: (a)**

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**Mains**

**Q.1** Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? **(2021)**

**Q.2** 'Climate Change' is a global problem. How will India be affected by climate change? How Himalayan and coastal states of India be affected by climate change? **(2017)**

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