



## Tackling the Climate Polycrisis

This editorial is based on the Article [Keeping tabs on carbon with an accounting system](#) which was published in The Hindu on 05/10/2023. It talks about the concept of a "Climate Polycrisis," and how to tackle this Climate Polycrisis effectively.

**For Prelims:** [Climate change](#), Climate Polycrisis, [National Action Plan on Climate Change \(NAPCC\)](#), [Nationally Determined Contributions \(NDC\)](#), [National Adaptation Fund on Climate Change \(NAFCC\)](#), [State Action Plan on Climate Change \(SAPCC\)](#)

**For Mains:** Climate Polycrisis: Effects of Climate Polycrisis and Ways to tackle; Government initiatives

We are facing a **Climate Polycrisis, a complex and multidimensional problem** that requires urgent action. According to the **2021 WHO Health and Climate Change Survey Report**, climate change poses a serious threat to human health and well-being, especially for the most vulnerable populations. The WHO estimates that **between 2030 and 2050, climate change will cause approximately 250,000 additional deaths per year** from: Malnutrition, Malaria, Diarrhea and Heat stress.

To tackle this intertwined crisis effectively, we need to **develop a holistic strategy that takes into account the diverse perspectives and goals of different stakeholders**. This strategy should also emphasize resilience, equity, and justice principles.

### What do We understand by the term Climate Polycrisis?

- The climate 'polycrisis' — a term made popular by Adam Tooze — **refers to the interconnected and compounding crises related to climate change** that are affecting the planet not just in a few sectors but across several sectors and domains.
- It encompasses the physical impacts of [climate change](#) (rising temperatures, [sea-level rise](#), and extreme weather events) and the social, economic, and political challenges that arise from these impacts.
  - In India, one can see the interconnections between seemingly different sectors such as energy, infrastructure, health, migration and food production that are being impacted by climate change.

### What are the Causes of Climate Polycrisis?

- **Greenhouse Gas Emissions:** Human activities, particularly the burning of fossil fuels (such as coal, oil, and natural gas), [deforestation](#), agricultural practices, and industrial processes, release [greenhouse gasses \(GHGs\)](#) like CO<sub>2</sub>, [methane](#), and [nitrous oxide](#) into the atmosphere. These **GHGs trap heat from the sun, leading to global warming and alterations in the Earth's climate system.**
- **Unsustainable Consumption and Production:** Unsustainable consumption patterns involve

using natural resources at a rate that exceeds their regeneration, which depletes these resources. Additionally, unsustainable production practices generate waste and pollution, further damaging the environment. **Unsustainable practices can reduce the Earth's capacity to provide essential services like clean water, fertile soil, and biodiversity.**

- **Lack of Political Will and Collective Action:** Addressing the climate crisis and environmental challenges requires coordinated efforts at local, national, and global levels. **A lack of political will and inadequate collective action can hinder the implementation of effective policies and measures** to reduce emissions, adapt to climate change, and support vulnerable communities.
  - For instance, even after 8 years of signing the [Paris Agreement](#), it has significantly failed to address climate change.
  - After signing of the Agreement, the **last eight years (2015-2022) have consecutively been the warmest years** on record globally.
    - Globally updated [NDCs to limit global warming to 1.5°C](#) have failed even to **achieve the 2°C target.**
    - It has **not been able to equitably phase out fossil fuels** predominantly responsible for the climate crisis.

## What could be the Effects of Climate Polycrisis?

- **Extreme Weather Events:** India is already experiencing an increase in the frequency and intensity of extreme weather events such as [cyclones](#), [floods](#), [droughts](#), and [heatwaves](#). A climate polycrisis **could lead to more frequent and severe events, causing widespread damage to infrastructure**, agriculture, and human settlements.
  - According to a RBI report, Extreme heat and humidity may adversely affect labor hours and up to 4.5% of India's GDP could be at risk by 2030.
- **Agriculture:** India's agriculture sector is **highly dependent on [monsoon](#) rains**. A climate polycrisis with erratic rainfall patterns, prolonged droughts, and flooding can **disrupt crop cycles**, leading to reduced yields and food insecurity. This could result in higher food prices and economic challenges for farmers.
  - According to Sri Sri Institute of Agricultural Sciences & Technology Trust (SSIAT), as agriculture contributes 15% to India's GDP, climate change presumably causes about 1.5% loss in GDP. **By 2030, rice and wheat are likely to see about 6-10% decrease in yields.**
- **Water Scarcity:** Climate change can **exacerbate [water scarcity issues in India](#)**. **Rising temperatures and changing precipitation patterns can reduce the availability of freshwater for drinking, agriculture, and industrial use.** This can lead to conflicts over water resources and impact public health.
- **Sea-Level Rise:** India has a long coastline, and many major cities are located near the coast. [Sea-level rise](#), coupled with increased storm surges, can lead to coastal erosion and inundation of low-lying areas, displacing communities and causing economic losses.
- **Health Impact:** Climate polycrisis can **increase the risk of health problems, including heat-related illnesses, [vector-borne diseases](#)** (such as [malaria](#) and [dengue](#)), and respiratory issues due to air pollution and wildfires. Vulnerable populations, including children and the elderly, are particularly at risk.
- **Economic Disruptions:** The interconnectedness of various sectors means that disruptions in one area, such as agriculture or infrastructure, can have **cascading effects on the overall economy**. Reduced agricultural productivity, damage to infrastructure, and increased healthcare costs can strain the country's economy.
- **Increased Energy Demands:** Increased temperatures may lead to **higher energy demands for cooling**, which can strain the electricity grid and contribute to greenhouse gas emissions if fossil fuels are used for power generation.
- **Climate Feedback Loops:** Climate polycrises can trigger feedback loops, where one crisis exacerbates another. For example, [wildfires](#) can **release stored carbon, contributing to further climate change.**
- **Political Instability:** Resource scarcity, displacement, and economic hardships can contribute to political instability, conflict, and social unrest in affected regions.
- **National Security:** Climate-related challenges can exacerbate **tensions and conflicts over resources such as water and arable land**, potentially impacting national security.

## How to Tackle Climate Polycrisis?

- **Implement National Carbon Accounting (NCA):** Establish a comprehensive NCA system that **measures and tracks carbon emissions** from individuals to the entire nation, including businesses and households.
- **Promote Carbon Awareness:** Educate the public about the importance of carbon emissions and the impact on climate change. Make carbon emissions and their effects more visible to the general population.
- **Introduce Carbon Taxation:** Implement a **progressive carbon tax system** based on NCA data. **Penalize large emitters** more than average consumers to incentivize carbon reduction efforts.
- **Set Realistic Reduction Targets:** Use the NCA system to set specific, science-based carbon reduction targets for the nation. These targets should align with global climate goals, such as achieving **net-zero emissions**.
- **Predict and Track Progress:** Utilize NCA data to make predictions about future emission reductions and continuously track progress toward meeting carbon reduction targets. Adjust policies and strategies as needed.
- **Innovate for Carbon Reduction:** Encourage the development and adoption of new technologies and practices that reduce carbon emissions. Support research and development in sustainable technologies.
- **Carbon GDP as a Parallel Goal:** Alongside traditional economic **GDP**, introduce "carbon GDP" as a parallel goal. Encourage countries to work towards reducing their carbon GDP to promote ecological sustainability.
- **Public Discourse and Engagement:** Foster a new form of public discourse around carbon emissions and sustainability. Engage citizens in discussions about the environment and the economy's role in it.
- **Align Development and Sustainability:** Ensure that economic development and sustainability goals are aligned. Use NCA data to make informed decisions that balance economic growth with environmental protection.
- **Global Adoption:** Promote the adoption of NCA systems globally, **encouraging other nations to implement similar frameworks** for tracking and managing carbon emissions.
- **Create New Livelihoods:** Explore opportunities for creating new livelihoods and economic activities related to carbon reduction, such as **renewable energy** industries and carbon offset projects.
- **Policy Integration:** Integrate carbon accounting and reduction measures into various policy areas, including energy, transportation, agriculture, and industry.
- **International Cooperation:** Collaborate with other countries to address the global nature of the climate polycrisis. **Share best practices, technologies, and resources** for a collective effort.

## What are India's Climate Change Mitigation Initiatives?

- **National Action Plan on Climate Change (NAPCC):**
  - Launched in 2008 to **address climate change challenges** in India.
  - Aims to **achieve low-carbon and climate-resilient development for India**.
  - There are **8 national missions** forming the core of the NAPCC which represent multi-pronged, long term and integrated strategies for achieving key goals in climate change. These are-
    - **National Solar Mission**
    - **National Mission for Enhanced Energy Efficiency**
    - **National Mission on Sustainable Habitat**
    - **National Water Mission**
    - **National Mission for Sustaining the Himalayan Ecosystem**
    - **National Mission for A Green India**
    - **National Mission for Sustainable Agriculture**
    - **National Mission on Strategic Knowledge for Climate Change**
    - **Nationally Determined Contributions (NDC)**
    - **National Adaptation Fund on Climate Change (NAFCC)**
    - **State Action Plan on Climate Change (SAPCC)**
- **Nationally Determined Contributions (NDC):**

- India's commitments to reduce greenhouse gas emissions and adapt to climate change.
- Pledged to **reduce the emissions intensity of GDP by 45%** by 2030 from 2005 levels and generate **50% of electricity from non-fossil fuel sources by 2030**.
- Pledged to create additional carbon sink and **achieve net zero emissions by 2070**.
- **National Adaptation Fund on Climate Change (NAFCC):**
  - Established in 2015 to **provide financial assistance to state governments for implementing adaptation projects** in various sectors
- **State Action Plan on Climate Change (SAPCC):**
  - Encourages all states and union territories to prepare their own SAPCCs based on their specific needs and priorities
  - SAPCCs outline strategies and actions for addressing climate change at the sub-national level
  - Aligned with the objectives of the NAPCC and the NDC

## Conclusion

Tackling the climate polycrisis requires a comprehensive and integrated approach that encompasses various sectors of society, from individuals and businesses to governments and international organizations. The implementation of a national carbon accounting system is a crucial step in this endeavor, as it provides the data and framework needed to make informed decisions and track progress towards a more sustainable future.

### **Drishti Mains Question:**

Discuss the concept of the Climate Polycrisis and elaborate on a comprehensive strategy that governments and international organizations can adopt to address this complex crisis effectively.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### **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)**

---

### **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 will be affected by climate change? **(2017)**