

IPCC and Assessment Reports

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Why in News?

- Recently, on March 20th, the **Intergovernmental Panel on Climate Change (IPCC)** published its **Synthesis Report of the Sixth Assessment Report (AR6)**.

Intergovernmental Panel on Climate Change (IPCC)

- The Intergovernmental Panel on Climate Change is a United Nations body for assessing the science related to climate change.
- It was created in **1988** by the **World Meteorological Organization** (WMO) and the **United Nations Environment Programme** (UNEP).
- **Objective** - To provide governments, at all levels, with scientific information that they can use to develop climate policies.
- **The IPCC does not conduct its own research.** Thousands of people from all over the world voluntarily contribute to the work of the IPCC.

About IPCC Assessment Reports

- The **IPCC** prepares comprehensive **Assessment Reports** about knowledge on climate change, its causes, potential impacts and response options.
- Since its inception in 1988, the **IPCC has had six assessment cycles and delivered six Assessment Reports, the most comprehensive scientific reports about climate change produced worldwide.**
- The current report, 6th Assessment Report, is divided into three segments i.e. its three Working Groups and a Synthesis Report.
- The three working group reports have already been published.
- The Synthesis Report was published as recently as 20th March, 2023.

Key Highlights of the Synthesis Report

- This Synthesis Report of the IPCC Sixth Assessment Report (AR6) **summarises the state of knowledge of climate change, its widespread impacts and risks, and climate change mitigation and adaptation.**
- It integrates the main findings of the Sixth Assessment Report (AR6) based on contributions from the three Working Groups, and the three Special Reports.
- **Current Status of Climate Change -**
 - Global surface temperature was **1.09°C higher in 2011-2020 than 1850-1900.**
 - There is a larger increase over land (1.59°C) than over the ocean (0.88°C).
 - In 2019, **atmospheric CO2 concentrations were higher than at any time in at least 2 million years.**
 - **Concentrations of methane and nitrous oxide were higher than at any time in at least 800,000 years.**
 - **Global mean sea level increased by 0.20 m between 1901 and 2018.**
 - Although overall agricultural productivity has increased, climate change has slowed this growth over the past 50 years globally.
- **Future Climate Change -**

- In the near term (**2021-2040**), global warming is more likely than not to reach **1.5°C** even under the very low GHG emission scenario.
- Compound heatwaves and droughts are projected to become more frequent, including concurrent events across multiple locations.
- Due to relative sea level rise, **current 1-in-100 year extreme sea level events are projected to occur at least annually in more than half of all tide gauge locations by 2100 under all considered scenarios.**
- **Climate Change Adaptation & their Limits -**
 - Climate change adaptation is the process of adjustment to actual or expected climate and its effects.
 - Adaptation options that are feasible and effective today will become constrained and less effective with increasing global warming.

How India's Compensatory Afforestation Policy is at odds with IPCC's Synthesis Report?

Afforestation is codified in the **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.

- CAMPA is meant to promote afforestation and regeneration activities as a way of compensating for forest land diverted to non-forest uses.
- It was established on the Supreme Court's orders in 2002.
- Afforestation is also a part of India's climate pledges –
 - The government has committed to adding **"an additional (cumulative) carbon sink of 2.5-3 GtCO₂e through additional forest and tree cover by 2030"**.
 - 'GtCO₂e' stands for gigatonnes of carbon-dioxide-equivalent.
- However, the IPCC's latest Synthesis Report has pointed out that not **degrading existing ecosystems in the first place will do more to lower the impact of the climate crisis than restoring ecosystems (through afforestation) that have been destroyed.**
- When forest land is diverted to non-forest use, such as a dam or a mine, that land can no longer provide its historical ecosystem services nor host biodiversity.
- The report also highlights that **climate action, such as technologies to combat climate change, renewable energy farms, etc. should not come at the cost of natural ecosystems.**

Q1) What do you mean by Climate Mitigation?

Climate change mitigation is **action to limit climate change by reducing emissions of greenhouse gases or removing those gases from the atmosphere.**

Q2) What is Greenhouse Effect?

Carbon dioxide and water vapour absorb infrared radiations coming to the earth and partly reflect it back to the earth's surface. Due to this, the surface of the earth gets heated up. This phenomenon is called the greenhouse effect.

Source: [India's disputed compensatory afforestation policy at odds with new IPCC report](#) | [IPCC](#)

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