



12th March 2021 – Editorials/Opinions Analyses

Content

1. Working towards climate justice in a non-ideal world

Editorial: Working towards climate justice in a non-ideal world

Context:

- The election of Joe Biden as U.S. President has catapulted climate change to the top of the global agenda, allowing him to keep his promise to “lead a major diplomatic push” to increase global climate ambition.

Relevance:

GS Paper 3: Environment (Climate Change)

Mains Questions:

1. New Delhi has to leverage its green commitment to ensure carbon and policy space for its developmental aspirations. Discuss. 15 Marks
2. ‘Climate Change’ is a global problem. How India will be affected by climate change? Also discuss the measures taken by the Indian government to address the consequences of climate change. 15 Marks



Dimensions of the Article

- What is climate change?
- Causes of climate change in Indian Ocean
- Consequences of climate change in Indian Region
- Measures to address the climate change.
- Way Forward

What is climate Change?

Climate variability includes all the variations in the climate that last longer than individual weather events, whereas the term **climate change** only refers to those variations that persist for a longer period of time, typically decades or more. In the time since the industrial revolution the climate has increasingly been affected by human activities that are causing global warming and climate change.

- **GHGs, along with other anthropogenic activities** such as aerosols and changes in land use and land cover (LULC) have caused global average temperature to rise by around 1°C since pre-industrial times.
- **Warming induced mainly by anthropogenic factors** with minor contributions of natural climatic factors since 1950s has already contributed to a significant increase in weather and climate extremes globally (e.g., heat waves, droughts, heavy precipitation, and severe cyclones).

Causes of climate change in Indian Ocean:

- **The surface air temperature changes** over India are attributed mostly by greenhouse gases and partially offset by other anthropogenic forcing including aerosols and Multi-temporal Land Use Land Cover (LULC) change.
- **Sea-level rise of the North Indian Ocean NIO** during the recent 3–4 decades are closely linked to the weakening trend of summer monsoon winds and the associated slowdown of heat transport out of the NIO.
- **The radiative effects of anthropogenic aerosol** forcing over the Northern Hemisphere have considerably offset the expected precipitation increase from GHG warming and contributed to the observed decline in summer monsoon precipitation.
- **Increased variability of monsoon precipitation** and increased water vapour demand



in a warmer atmosphere that tend to decrease soil moisture content.

Consequences of climate change in Indian Region:

- **Food Security:** Due to lack of irrigation, a large number of farmers are dependent on monsoon rainfall to practice agriculture (between 50 to 60 percent of Indian agriculture is rainfed, without access to any form of irrigation).
- **Water security:** The growing propensity for droughts & floods because of changing rainfall patterns would be detrimental to surface and groundwater recharge. Also, the rising sea level leads to intrusion of saltwater in the coastal aquifers contaminating the ground water. **E.g. in Gujarat, Tamil Nadu, and Lakshadweep etc.** Declining trend in snowfall and retreat of glaciers in HKH region may impact the water supply in the major rivers and streams including the Indus, Ganges, and Brahmaputra.
- **Energy infrastructure and supply:** Rising temperatures are likely to increase energy demand for space cooling, which if met by thermal power would further add to the global warming by increasing GHG emissions.
- **Damage to coastal infrastructure:** Potential coastal risks include loss of land due to increased erosion, damage to coastal projects & infrastructure such as buildings, roads, monuments, and power plants, salinization of freshwater supplies and a heightened vulnerability to flooding. **Damage to coastal infrastructure For example,** higher sea levels and receding coastlines escalate the destructive potential of storm surge associated with cyclonic storms that may be additionally compounded by land subsidence occurring in parts of the country due to factors such as the declining water table depth.
- **Human Health:** Studies indicate that climate change may seriously compromise human health particularly among children and the elderly. Higher temperatures, extreme weather events, and higher climate variability could elevate risk of heat strokes, cardiovascular and neurological diseases, and stress-related disorders.
- **Biodiversity:** With the climate changing more rapidly than the usual pace of evolutionary adaptability of many species, they may face increasing threats on account of these changes. Species specially adapted to narrow environmental conditions are likely to be affected the most. **For example, the Indian Ocean** is home to 30% of the world's coral reefs and 13% of global wild-catch fisheries. This marine ecosystem, including corals and phytoplankton, and fisheries are being impacted by a rise in heat waves in the ocean, known as marine heat waves.
- **Social Issues:** Large scale migration induced due to climatic disasters such as droughts, cyclones and floods cause social distress at the source and destination places. This reflects into unorganised nature of jobs, slums in urban areas and also social tensions.
- **Cascading of climatic hazards:** Multiple negative climate events when acting in tandem could create an extreme situation. For instance, a region may experience an abnormally long or intense summer heat wave followed by intense monsoon floods that alternate with lengthening dry spells.



Measures to address the climate change:

- **National Action Plan on Climate Change (NAPCC)** identifies measures that simultaneously advance the country's development and climate change related objectives of adaptation and mitigation through focused National Missions.
- **Climate Change Action Program (CCAP)** is a central sector scheme to build and support capacity at central and state levels, strengthening scientific and analytical capacity for climate change assessment, establishing appropriate institutional framework and implementing climate actions.
- **National Electric Mobility Mission Plan (NEMMP) 2020** under which Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) scheme was formulated to promote manufacturing and sustainable growth of electric & hybrid vehicle technology.
- **Environmental Impact Assessment (EIA)** under the Environment Protection Act, 1986 enables integrating environmental concerns into developmental activities and encourages the adoption of mitigation strategies in the developmental plan.
- **National Adaptation Fund on Climate Change** that supports concrete adaptation activities for the States/UTs that are particularly vulnerable to climate change & are not covered under on-going schemes.
- **Green bonds** issued by financial, non-financial or public entities where the proceeds are used to finance 100% green projects and assets specifically linked to climate-change mitigation, adaptation & resilience. India also has the second largest Emerging green bond market after China.
- **International Solar Alliances (ISA)** to provide a dedicated platform for cooperation among solar resource rich countries to harness their solar energy potential by collaborative efforts in the field of solar technologies.
- **India's NDCs targets submitted under the Paris Climate agreement:**
 - reducing the emission-intensity of its GDP by 33%–35% (vis-à-vis 2005) by 2030;
 - achieving 40% cumulative electric power installed capacity from non-fossil fuel resources by 2030;
 - creating additional carbon sink of 2.5–3 billion ton of CO₂ equivalent by 2030 through forest and tree cover.

Way Forward:

Tackling climate change is a balancing act between the present and the future. One way to do this would be to frame more holistic goalposts. Current policies seek to maximize GDP, which does not capture the potential for future prosperity entirely. An alternative could be something like the UN's Inclusive Wealth Index, which measures three different types of capital: Produced (infrastructure, etc.), human (education, etc.) and natural (land, forests, etc.), all of which are



important for prosperity to sustain. The UN measure is not perfect but is useful to track multiple indicators that feed into a society's progress.

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