

The Big Picture: Climate Change and India

Summary

Date: 11th Dec 2020

Reading Time: 20 Minutes

Topics covered from the syllabus:

GS-3:

- Conservation, environmental pollution and degradation, environmental impact assessment.
- Disaster and disaster management.

Note

- Following is the summary of 'The Big Picture' discussion, which was aired on RSTV.
- Host: Frank Rausan Pereira
- Panellists: Abinash Mohanty, Council of Energy, Environment and Water (CEEW); Manjeev Singh Puri, Former Ambassador ; R. R. Rashmi, Ministry of Environment and Climate Change.
- Please note that some inputs have been given by our team in order to make the topic more relevant to UPSC.

Context

- On the eve of the 5th year of the **Paris climate agreement**, India reaffirmed its commitment to decreasing the emissions of carbon dioxide and other harmful gases. Despite not being a historically major contributor to the global pollution, **India has played its part** in arresting the spread of greenhouse gases and mitigation of climate change.
- Currently, the contribution of India is only 6.8% of the global greenhouse gas emissions, with a **per capita emission of hardly 1.9 tons**. This is insignificant with reference to other developed nations, like the US, which has a per capita emission of 15.52 tons.
 - Similarly, India is placed in the list of top 10 countries working towards mitigating climate change, according to the **Climate Change Performance Index 2021**.
- However, a study conducted by the Council of Energy, Environment and Water (CEEW) places India among the countries which will be significantly affected by climate change. **About 3 of every 4 districts in India are hotspots** for events related to climate change, like cyclones, floods, droughts, heat and cold waves. Therefore, India needs to take immediate steps to build climate resilience.

Prelims Focus

State of Climate Change in the World:

- **Gravity of Climate Change:** An ample amount of data is now available from myriad studies conducted to show the effects of climate change. Between 1970 and 2005, there is a rise of almost 0.6 degrees C in the global temperature, with almost 250 extreme events like cyclone,

flood, drought etc.. However, after 2005, **in a short period of one and a half decade, we have witnessed 310 extreme events**, which have impacted almost 75% of the Indian districts.

- **Changes in climate events:** At the same time, **climate swapping** is visible in almost 40% of the districts. For e.g. an area that was **earlier flood-prone, has now been impacted by drought-like** events. Similarly, some of the areas are showing **both cyclone and drought at the same time**. (Please note the difference from the term 'climate swaps' or 'climate debt swaps' – see inset)
- **Focus on the after effects:** At the global level, a change in narrative has been observed under which the focus has shifted to the **secondary damages caused due to an event**. For e.g. a cyclone brings with itself storm surges, floods and infrastructure damage, which might include the **critical information infrastructure** (see inset) within its ambit.
 - Similarly, the displacement of a vulnerable community due to a cyclone warrants more attention than the phenomenon itself. This is not to say that the scientific studies to understand the phenomenon are futile, because they build an understanding of the event which ultimately helps in building resilient infrastructure. But the focus has to be on **humanitarian assistance**.

Critical Information Infrastructure: This is the set of **data based processes** which are critical to ensure the normal processes in the territory of a country. Without the smooth functioning of these processes, the day to day life of the people might be disrupted.

- It includes the **electricity regulation system, banking system, digital identification system** (for e.g. aadhar in India), telecom, transportation system etc.
- Destruction of Critical Information Infrastructure might have a debilitating impact on **national security, economy, public health or safety of the country**.
- India has a specific agency, known as **NCIIPC (National Critical Information Infrastructure Protection Centre)**, for protection of Critical Information Infrastructure, which works under **National Technical Research Organisation (NTRO)**.

Debt for Climate swaps – This is a creative solution that **addresses both climate change as well as the sovereign debt crisis** in the countries suffering from fiscal issues.

- Under these instruments, the sovereign debt of a country is purchased by a third party at a discount, usually an NGO, in **return for a commitment** by that country to undertake steps to address climate change.
- This is a prevailing solution in the era of COVID crisis, where sovereign debts have climbed to high proportions due to high government spending on healthcare and emergency provisions and low receipts due to COVID-induced lockdown.

Mains Focus

Role of the US in climate change:

- **World's largest per capita emitter:** US ranks second, after China, in the total greenhouse gas emissions accounting for **almost 25% of global emissions**. In **per capita** terms, it is the **largest greenhouse gas emitter** in the world. This puts a larger share of responsibility on the US to steer the world in the direction of climate change.

- **Largest Economy and the sole superpower:** Being the **treasurer of the global reserve currency**, the US has the economic clout to nudge the world towards global environmental recovery. Also, US is considered the **leader of the western world** and holds the power to sway decisions at the global level in a particular direction.
- **Technological Leadership:** US has a powerful effect on the global climate paradigm because of its technological prowess. Better technology would mean a **more efficient utilisation of resources**. Therefore, many developing countries including India have asked for the sharing of technology to achieve faster and more efficient action on climate change. For e.g. manufacturing cheaper photovoltaic cells would help in decreasing the per-unit cost of solar cells. Even in the case of thermal power, the efficiency of power plants can be increased by the construction of ultra-supercritical power plants. Similarly, the **development of batteries** and harness the **potential of hydrogen** as a clean, high-efficiency fuel would require active US support.
- **Trump's withdrawal from Paris commitments:** Election of Donald Trump as the President and his policies led to a pause in the global efforts towards climate change. Trump administration **withdrew from the Paris climate change agreement** alleging disproportionate commitments with reference to large emitters.
- **Fractured Polity:** The election of Joe Biden as the president signals a positive turn for the efforts to combat climate change, as the democrats have been traditionally supportive of Climate change efforts. However, the political situation in the US does not afford any laxity as the US is deeply divided on many issues including **priority to economic recovery** against global environmental commitments. This is manifest in the 76 million votes being polled by Donald Trump which is a significant number in comparison to Joe Biden's 80 million votes.

Indian efforts against climate change: Please visit our section on India's renewable energy plan for more details – [link to India's renewable energy plan](#)

- **India's Nationally Determined Contributions (NDCs) under Paris summit:**
 - Decrease in Emissions intensity
 - Electricity generation capacity from non-fossil sources
 - Creation of Carbon sink

(Portion in red can be completely omitted and a link to the above article can be placed here)
- **International Solar Alliance:** ISA is a global alliance being initiated by India as well as headquartered in India, with France as a partner country. Currently, it has 88 members. It is aimed at **promoting research to develop more efficient, low-cost solutions to the global energy requirements**, by leveraging advanced technology as well as providing incentives and regulation of **solar power**. Initially, its membership was restricted to countries within the tropics, commonly referred to as countries with high solar resource potential. However, now it has been thrown open to all UN members.
- **Climate Transparency Report:** Amongst the G20 members, India is the only country to have consistently fared at the top in the Climate transparency report, with Indian actions being **consistent with the goal** of not allowing the global temperature to cross 2 degrees C of the pre-industrial levels.
- **Mobilisation of resources:** India is earmarking a **large part of its developmental resources** to the fight against climate change. This is a stupendous effort as compared to the western

countries, which are already at the advanced stages of development. In fact, through its efforts in the direction of utilisation of solar power, India has now created a situation where the generation of **solar energy is now cheaper** compared to any other source of power.

Way Forward

- **Mitigation and adaptation:** India has a strategy to combat climate change under the **National Action Plan on Climate Change** (see inset) formed with the integration of similar missions at the state level. Apart from that, India has also launched the **Coalition for Disaster Resilient Infrastructure (CDRI)**. However, climate change would require an international collective action for maximum impact. This is because safeguarding the climate is a global requirement and any strategy in silos will only have a limited impact.
- **Follow the Bottom-up Approach:** Resilience would be more effective if it is built on a bottom-up approach, by understanding the **needs of the community at the local level**, rather than providing directions from the leadership. For e.g. there is a need for a **climate risk atlas** to understand the vulnerability of a particular area at the district level.
- **Democratisation of data.** There is a need for the dissemination of data to the general public in a more robust and simple manner as information is necessary to create an impact at the local level. It also provides a **nudge to the local communities** and creates a **competitive** environment for better climate action.
- **Expanding the horizon of Indian actions:** Although India is being applauded globally for its efforts to mitigate the impact of climate change, yet there is a scope for further expansion of its efforts. Right now, they are concentrated in the field of energy emissions and utilisation of energy. However, there is a need to apply the same to sectors like agriculture, which have a measurable impact on climate change. Similarly, it is important to **protect the vulnerable communities** from extreme events and rationalising the use of fertilisers and subsidies, to create a low carbon economy.
- **Access to Finance:** it is important for the world to realise the importance of **incentivising the developing countries** towards the usage of renewable energy. At this stage of development, developing countries cannot lose sight of their most important goal viz. improvement in the standard of life of its citizens. Therefore, the lead has to be taken by the **western countries**, in light of their **historical responsibility**, to finance the shift of developing countries from fossil based power to the usage of renewable energy.
- **Holistic view:** There is a need to understand the importance of greener growth in Indian perspective. A lesser carbon-intense economy will also benefit the country in the long term as **India is a vulnerable country** in the context of climate change. Its long coastline and proximity to the Himalayas make it prone to a rise in sea level as well as cyclones and floods. Therefore, investment in renewable energy would be helpful in decreasing the chances of the occurrence of disasters and **safeguarding the livelihoods of people**.
 - Similarly, there can be an extension of the same strategy at the international level as the countries of **South Asia face a common threat** from many disasters. For e.g. a cyclone impacts Bangladesh and Sri Lanka, along with India, or the 2004 tsunami caused devastation in not only South Asia but also countries of the South East Asia and further in the indo-pacific countries.

- **Consensus oriented approach:** There is a need to bring the countries, which have fallen out of line, back into the coalition. For e.g. the international community must hold the US accountable for its huge per capita emissions. Similarly, China's overall emissions need to come down as it is the largest emitter of greenhouse gases in the world.

National Action Plan on Climate Change: NAPCC is a **set of eight missions** designed to **promote mitigation and adaptation** to the impact of climate change.

- It was launched in 2008
- Its major focus is on **keeping the emissions intensity lower** than the developed countries at all times.
- It aims to **balance** the economic growth with India's commitments towards improvement of the global environment.

Coalition for Disaster Resilience Infrastructure: CDRI is an **Indian initiative to promote joint action** in the field of building disaster resilient infrastructure.

- The major aim is to bring together like-minded countries and **create a knowledge base** which can be accessed by all members. This will be a **compilation of best practices**, which have been demonstrated successfully.
- It was launched in 2019.

Conclusion

- Climate change is now **far more acknowledged** than it was done earlier, which makes it possible to form a **joint collaboration at the global level**. This is an important step in the right direction as the climate change is a global common and cannot be fought in silos.
- Damages from climate change are a reality and need to be taken into account in all future actions to encourage swift action, while **creating suitable strategies for mitigation and adaptation, and promotion of resilience** at the local level.

Practice Question

- Analyse the importance of joint action and collaboration by the global community in combating climate change, in light of the recent steps by the government of India in the same direction.

UPSC Previous Year Question

- Climate change is a global problem. How India will be affected by climate change? How Himalayan and coastal states of India will be affected by climate change (GS3 – 2017)
- Give an account of the current status and the targets to be achieved pertaining to renewable energy sources in the country. Discuss in brief the importance of National Programme on Light Emitting Diodes (LEDs). (GS3 – 2016)
- Should the pursuit of carbon credit and clean development mechanism set up under UNFCCC be maintained even though there has been a massive slide in the value of carbon credit? Discuss with respect to India's energy needs for economic growth. (GS3 – 2014)

