IPCC REPORT ON LAND AND CLIMATE CHANGE

Prelims: Environment- Climate Change and its Impact, Institutions, Reports

Mains: GS-III- Conservation, environmental pollution and degradation, environmental impact assessment

- Context: A new report by the Intergovernmental Panel on Climate Change (IPCC) released presents the most recent evidence on how the different uses of land — forests, agriculture, urbanization- are affecting and getting affected by climate change.

Background:

- This is the first time that the IPCC, whose job it is to assess already-published scientific literature to update our knowledge of climate change science, has focused its attention solely on the land sector.
- It is part of a series of special reports that IPCC is doing in the run-up to the sixth edition of its main report, blandly called the Assessment R
- eports, that is due around 2022.
- **Last year, the IPCC had produced a special report on the feasibility of restricting global rise in temperature to within 1.5 degrees Celsius from pre-industrial times.**
- These reports were sought by governments to get a clearer picture of specific aspects of climate change.

Land- Climate Link Explained:

- Land use, and changes in land use, have always been an integral part of the conversation on climate change.
- That is because land acts as both the source as well as a sink of carbon.
- Activities like **agriculture and cattle rearing**, for example, are a major **source of methane and nitrous oxide**, both of which are hundreds of times more dangerous than carbon dioxide as a greenhouse gas.
- At the same time, soil, trees, plantations, and forests absorb carbon dioxide for the natural process of photosynthesis, thus reducing the overall carbon dioxide content in the atmosphere.

- This is the reason why largescale land use changes, like deforestation or urbanisation, or even a change in cropping pattern, have a direct impact on the overall emissions of greenhouse gases.

Contents of Report:

Land Related Activities and Global Warming:

- Land is already under growing human pressure and climate change is adding to these pressures.
- The current report talks about the **contribution of land-related activities to global warming** — how the different uses of land, like agriculture, industry, forestry, cattle-rearing, and urbanisation, was affecting emissions of greenhouse gases.
- An important part of the report talks about the **manner in which even existential activities like food production contributes to global warming** and is also affected by it.
- The report says that if pre-production activities like cattle rearing and post-production activities like transport, energy and food processing, is taken into account, then food production could contribute as much as 37 per cent of all greenhouse gas emissions every year. It points out that nearly 25 per cent of all food produced is either lost or wasted. And even the decomposition of the waste releases emissions.
- The accelerating **destruction of the Amazon forest**, which researchers fear may be approaching a point of no return, is of particular concern.
- **Cycle of Global Warming:**
    - Climate change, moreover, creates a vicious feedback loop. Higher temperatures promote the degradation of land through drought, desertification and rising seas, and the promotion of wildfires like the ones currently blazing in Alaska, Siberia and Greenland. This, in turn, increases the amount of greenhouse gases being released by landmasses, which further accelerates global warming.
- A swelling human population also needs more land to feed itself. Balancing these needs—for space to grow food on the one hand, and natural carbon sinks to keep temperatures low on the other—is a huge challenge.

Land, Oceans, Forests:

- Land and ocean together absorb nearly 50 per cent of greenhouse gases emitted every year through natural processes in the carbon cycle.
- The importance of land, or ocean, as a carbon sink, thus cannot be overstated in the global fight against climate change. **That is why afforestation, and reduction in deforestation,** are vital approaches in a global strategy to combat climate change.

Indian Context:

- India's action plan on climate change too, has a very important component on forests.
- India has promised that it would create an additional carbon sink of about 2.5 billion to 3 billion tonnes by the year 2032 by increasing its forest cover, and planting more trees.

What is Intergovernmental Panel on Climate Change:

- The Intergovernmental Panel on Climate Change (IPCC) is the **United Nations body** for assessing the science related to climate change.
- The IPCC was created to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options.
- The reports are drafted and reviewed in several stages, thus guaranteeing objectivity and transparency.
- **The IPCC does Not conduct its own research.**
- IPCC reports are neutral, policy-relevant but not policy-prescriptive.

Background:

- Created by the United Nations Environment Programme (UN Environment) and the World Meteorological Organization (WMO) in 1988, the IPCC has 195 Member countries.
- In the same year, the UN General Assembly endorsed the action by WMO and UNEP in jointly establishing the IPCC.

Conclusion:

- Optimistically, the report's authors conclude that there should be enough room to provide a growing population with sufficient food, without rushing towards a dangerously warm climate. There is, though, a caveat. That outcome would require what one commentator called a **"global intelligent response".**