

1. A Bitter Harvest That We Could Still Prevent

Context:

IPCC released a special report, “Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems”.

Introduction:

Land nourishes our communities and sustains us and the future of the planet. Its ecosystems react in kind to how we manage our lands and produce our food. At this critical juncture in the fight against climate change, the publication of this report is well-timed and vitally important.

Land is already under growing human pressure and climate change is adding to these pressures. At the same time, keeping global warming to well below 2°C can be achieved only by reducing greenhouse gas emissions from all sectors including land and food, the Intergovernmental Panel on Climate Change (IPCC) said in its latest report.

The new report of the UN Intergovernmental Panel on Climate Change places emphasis on how bad land use is making our planet less livable.

About IPCC:

The Intergovernmental Panel on Climate Change (IPCC) is the international body for assessing the science related to climate change.

The IPCC was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

IPCC assessments provide a scientific basis for governments at all levels to develop climate related policies, and they underlie negotiations at the UN Climate Conference – the United Nations Framework Convention on Climate Change (UNFCCC).

The assessments are policy-relevant but not policy-prescriptive: they may present projections of future climate change based on different scenarios and the risks that climate change poses and discuss the implications of response options, but they do not tell policymakers what actions to take.

Main Activities of IPCC:

The IPCC's main activities are the preparation of:

- ▶▶ Comprehensive Assessment Reports on climate change
- ▶▶ Practical guidance to assist Parties to the international climate change treaties prepare national greenhouse gas inventories
- ▶▶ Special Reports on various topics.

Key findings of the Report:

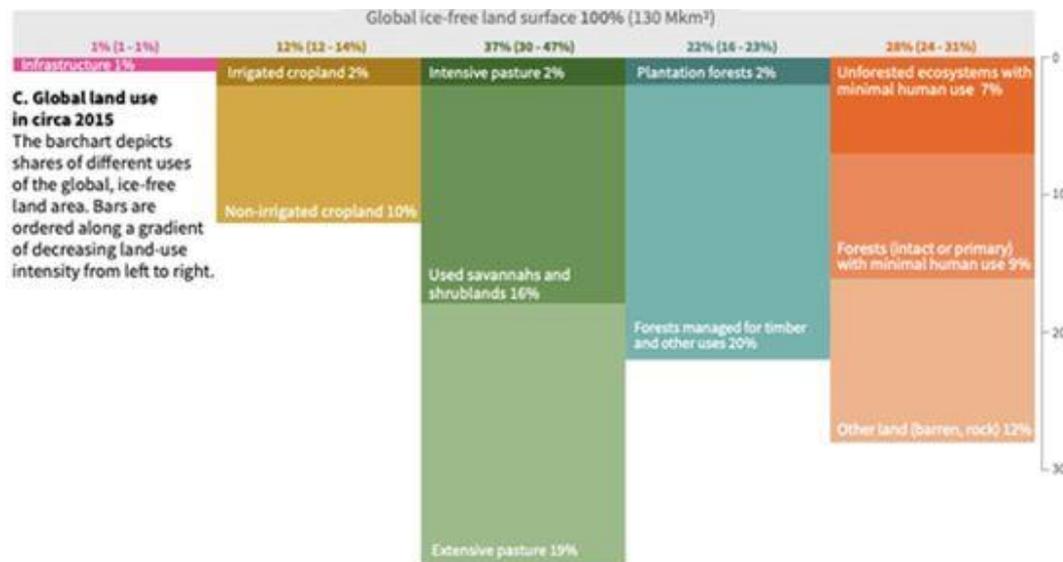
- ▶▶ Agriculture, deforestation, and other human activities have altered 70% of the land on Earth's surface.
- ▶▶ In the past decade, land use was responsible for 22% of global greenhouse gas emissions, compared to 35% for energy and 14% for transportation.
- ▶▶ Agriculture, Forestry and Other Land Use activities accounted for around 13% of CO₂, 44% of methane (CH₄), and 82% of nitrous oxide (N₂O) emissions from human activities globally during 2007-2016, representing 23% of total net anthropogenic emissions of GHGs.
- ▶▶ Since the pre-industrial period, the land surface air temperature has risen nearly twice as much as the global average temperature.

Warming over land has occurred at a faster rate than the global mean and this has had observable impacts on the land system.

The average temperature over land for the period 1999 - 2018 was 1.41°C higher than for the period 1881–1900, and 0.54°C larger than the equivalent global mean temperature change. These warmer temperatures have altered the start and end of growing seasons, contributed to regional crop yield reductions, reduced freshwater availability, and put biodiversity under further stress and increased tree mortality

Climate change, including increases in frequency and intensity of extremes, has adversely impacted food security and terrestrial ecosystems as well as contributed to desertification and land degradation in many regions.

The level of risk posed by climate change depends both on the level of warming and on how population, consumption, production, technological development, and land management patterns evolve.



India's Scenario:

Over 29% of land in India, or 96 million hectares, has been degraded, according to the desertification atlas released by the Indian Space Research Organisation in 2016.

Intensive rainfall tends to erode soil, leaving croplands with lower capacity to retain moisture, which eventually leads to drought.

Way Forward:

Sustainable land management, including sustainable forest management, can prevent and reduce land degradation, maintain land productivity, and sometimes reverse the adverse impacts of climate change on land degradation. It is a way to protect people from this cycle of flood and drought, heat and cold waves, erosion and degradation.

The likelihood, intensity and duration of many extreme events can be significantly modified by changes in land conditions, including heat-related events such as heat waves and heavy precipitation events.

Degraded land produces less food and stores less carbon. But conserving and restoring land so it can store more carbon will also improve food security.

It's important to stop the adoption of crops and methods that aren't suited to the land. Research shows that several crops like coffee, sugarcane, wheat and cotton, among other can increase soil erosion beyond the point of self-regeneration. Turning farms eco-friendly will mean adopting farming practices that are in harmony with nature.

Appropriate design of policies, institutions and governance systems at all scales can contribute to land-related adaptation and mitigation while facilitating the pursuit of climate-adaptive development pathways.

Actions can be taken in the near-term, based on existing knowledge, to address desertification, land degradation and food security while supporting longer term responses that enable adaptation and mitigation to climate change. These include actions to build individual and institutional capacity, accelerate knowledge transfer, enhance technology transfer and deployment, enable financial mechanisms, implement early warning systems, undertake risk management and address gaps in implementation and upscaling.

Conclusion:

The response options stated above, if followed and implemented in true spirit can help the nations to protect its people from adverse effects of climate change.

The heavy rains leading to floods in southern India, the landslides taking a toll on a number of human lives, the heat waves observed in summer in southern Indian states and drought conditions in other parts are incidents pointing towards the climate change impacts.

It is high time to respond to earth in an efficient way so that earth too does respond efficiently.

Source: Livemint

