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Changing Climate and Deglaciation: A Warning Call

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This article is based on “**Climate and Consciousness**” which was published in The Hindu on 04/03/2021. It talks about the impacts of indiscriminate exploitation of natural resources just for the sake of development and how the recent disasters are a warning call for stringent policies regarding environment protection.

Humans have come quite far in terms of development, but unfortunately have left the concerns for the environment behind.

It is quite common to hear policymakers and the public referring to natural disasters “acts of God”. But concluding from events such as **Chamoli Flash Floods** and **flood in Kedarnath** in 2013, it wasn’t actually the god but human interventions with the natural environment.

Climate actions will continue to falter unless climate change is tagged as a primary culprit, instead of actions of god.

The Changing Climate

- **Floods in the Himalayan Region:** The Himalayan region has about 15,000 glaciers, which are retreating at a rate of 100 to 200 feet per decade.
 - The melting of the Himalayan glaciers that prompted the floods and landslides in Chamoli district of Uttarakhand have the fingerprints of global warming.
 - In 2013, glacial flooding in Kedarnath caused over 6,000 deaths during the monsoon months.
- **Other Events:** In 2003, the European heat wave killed over 70,000 people.
 - The years 2015-19 have globally been the warmest years on record.
 - The **Amazon** fire of 2019, the **bush fires of 2019-20 in Australia** are some of the most dangerous impacts of changing climate.

- **Global Emission:** The United Nations Environment Programme (UNEP) Emissions Gap Report 2020 showed that the year 2020 set new records in terms of rise in extreme weather events, including wildfires and hurricanes, and in the melting of glaciers and ice at both poles.

According to the report, despite a brief dip in carbon dioxide (CO₂) emissions caused by the **Pandemic**, the world is still heading for a temperature rise in excess of 3°C this century; far beyond the 2015 **Paris Agreement** goals.

The Story of Texas

- Recently, Texas, US has been hit by extremely cold weather leading to **strong wind storms** in the state.

The winter storm has killed 21 people and left around 4.4 million without power.

- The brutal cold has engulfed vast swaths of the United States, **shuttering Covid-19 inoculation centers and hindering vaccine supplies.**
- The **double-digit negative temperatures** (temperatures have fallen as low as -14°C) are connected to **Arctic-peninsula warming.**
 - Usually, there is a collection of winds around the Arctic keeping the cold locked far to the north, known as **Polar Vortex.**
 - But **global warming has caused gaps in these protective winds**, allowing intensely cold air to move south: the phenomenon is accelerating.

India and Climate Change

- **One of the Largest Emitters:** For India, **the third-largest carbon emitter after China and the United States**, a decisive switch is needed from highly polluting coal and petroleum to cleaner and **renewable power sources.**

China has announced carbon neutrality by 2060, Japan and South Korea by 2050, but **India is yet to announce a target.**

- **Global Rankings and Estimates:** The HSBC ranks India at the top among 67 nations in **climate vulnerability** (2018),
 - Germanwatch ranks India fifth among 181 nations in terms of **climate risks** (2020).
 - The **World Bank** has warned that climate change could sharply diminish living conditions for up to 800 million people in South Asia.
 - As per the Emissions Gap Report 2020, over the last decade, China, USA, EU27+UK and India combined, have contributed to **55%** of the total GHG emissions.

Issues Associated

- **No Stringent Policies:** A big worry is that the state and central governments have been diluting, instead of strengthening, climate safeguards for hydroelectric and road projects.

Studies had flagged ice loss across the Himalayas has been rapidly melting thus increasing the dangers to densely populated catchments, but any hard and fast policy response has been lacking.

- **Lack of Proper Training Programs:** There were no awareness programs or training provided to the people about disaster management by the government in case of the recent Uttarakhand floods.
- **Ignorance by Government:** A 2012 expert group appointed by the government had recommended against the construction of dams in the **Alaknanda-Bhagirathi basin, including on the Rishiganga** and in “the periglacial zone,” but the recommendations were ignored.

Similarly, ignorance of the Kerala government in terms of regulation of mining, quarrying and dam construction in ecologically sensitive places, led to **massive floods** and landslides in 2018 and 2019.

- **Ineffective Satellite Monitoring:** Physically monitoring of the entire Himalayan region (or any larger disaster-prone region) is not possible. However, satellite monitoring is possible and radars can help minimise loss.

Despite possessing remarkable satellite capabilities, India still hasn’t been able to use such imagery effectively for advance warning.

Way Forward

- **Budgetary Allocation:** A vital step should be explicitly including policies for climate mitigation in the government budget, along with energy, roads, health and education. Specifically, growth targets should include **timelines for switching to cleaner energy**. There is also a need to launch a major campaign to mobilise climate finance.
- **Climate Adaptation:** Even if major economies speed up climate mitigation, such catastrophes will become more frequent due to the accumulated carbon emissions in the atmosphere. Climate adaptation is the way forward here.
 - Disaster management strategies to be synced with the developmental plans such as **infrastructure designing**.
Such as in **earthquake prone areas**, building norms and guidelines can be issued or earthquake resistant buildings to be constructed.
 - India’s Central and State governments must increase allocations for risk reduction, such as agricultural innovations to withstand **droughts**.
 - In case of **fire prone areas**, an area can be divided into pockets so as to prevent any massive spread of fire.

- **Detailed Studies:** Detailed studies should be conducted to understand which of the glacial lakes in the Himalayan region are prone to flooding.
Such research should feed into **Environmental Impact Assessment** reports and guide decisions on developmental projects in the region
- **Setting up Early Warning Systems:** A relatively low-hanging fruit, but a very effective one, is to set up early warning systems that alert the downstream populations about an impending disaster.
 - This has to be **coupled with plans to quickly evacuate local communities** to safer regions.
 - Flooding events do not occur all of a sudden; there are ample indications like changes in water level, discharge in the rivers etc which if monitored earlier can help saving a significant number of lives and other damages.

Conclusion

- Sustainable growth depends on timely climate action and for that to happen, policymaking needs to connect the dots between carbon emissions, atmospheric warming, melting glaciers, extreme floods and storms.
Events like Uttarakhand and Texas should be treated as lessons to change people's minds and for the public to demand urgent action.
- Disasters can not be stopped but well-preparedness and strong climate change mitigation policies can definitely help prevent a huge amount of loss.

Drishti Mains Question

Disasters are not meteorological or geological phenomena alone, but are also determined by human interventions. Comment.



[Watch Video At:](#)

https://youtu.be/858xS_o1atM

This editorial is based on **“Investment from China: The issue is control, not insulating sector”** published in the Economic Times on March, 03, 2021.
