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## The Himalayan Hurdle-Climate Fight of the Century

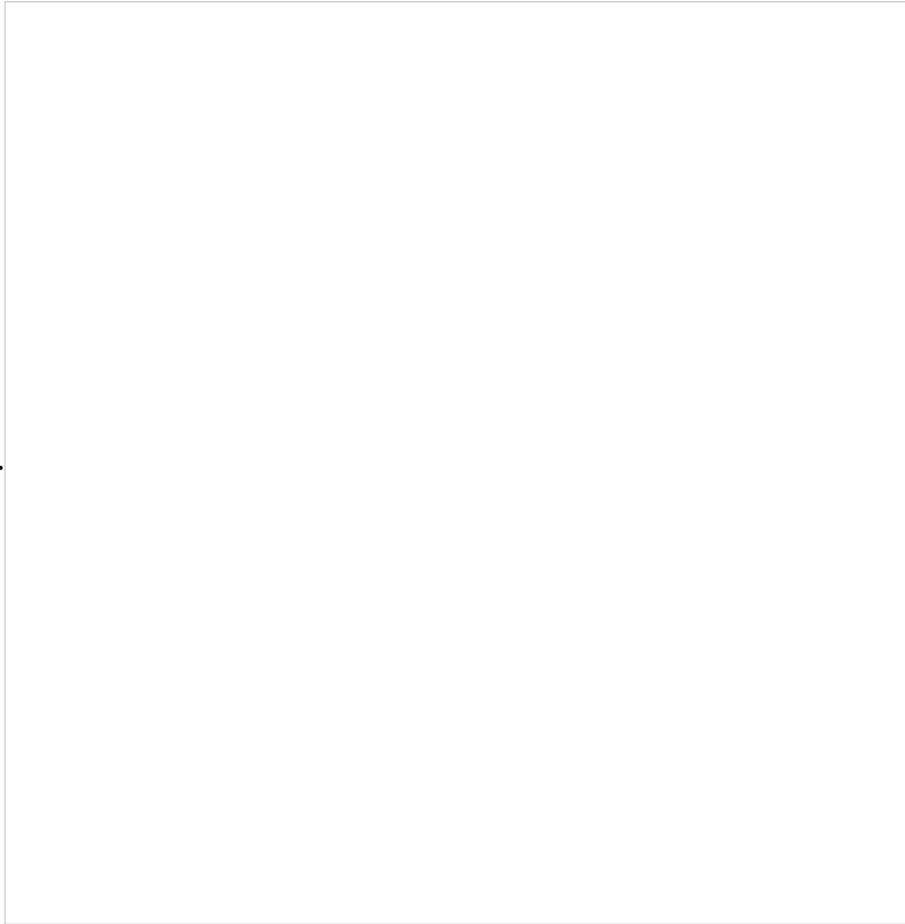
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(This editorial is based on the article “The Himalayan Hurdle-Climate Fight of the Century” which appeared in Livemint for 14th February 2019. In this editorial, we’ll see how climate change is affecting the Himalayan region.)

**Climate change is affecting the Himalayas more than almost any region in the world.**

In some of India’s coldest outposts, lack of adequate snow is increasingly becoming a concern while at the same time there is an increasing worry about the availability of water. The assessment report prepared by the Kathmandu-based International Centre for Integrated Mountain Development (ICIMOD), an intergovernmental organization set up by the eight countries of the Hindu Kush Himalayan (HKH) region, makes for grim

reading.



## Concerns

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- **HKH region has lost 15% of its glaciers since the 1970s, and in a best-case scenario, will lose another 15-20% by 2100.** But if global action against climate risks falters, as much as 90% of snow in the region may disappear.
- **Increased glacial melting means that flooding disasters will escalate over the next fifty years, and this will be followed by drastically reduced flows in rivers like the Ganga and the Indus, leading to acute water stress, large scale migration, and conflict.**
- On average, winter snowfall is decreasing and winter days are shrinking too. In the past five to six decades, **the number of cold nights per year has been declining by one night per decade, while the number of warm nights is increasing by 1.7 nights per decade.**
- The South-East monsoon is also slated to strengthen considerably over the next century, causing heavy, unpredictable and potentially ruinous downpour. The crux of the matter is that climate change has already hit the Himalaya hard, and things are only going to get worse.
- Many glacier-covered peaks could turn into bare rocks in less than a century. Nearly 240 million people live up there in the mountains. So, that's a quarter of a billion people which, somehow, not all that many people are aware.

- **When the UN’s Intergovernmental Panel on Climate Change (IPCC) had published its highly anticipated fourth assessment report in 2007**, one claim in the report about the Himalayas had made waves. This was that the region will be utterly devoid of glaciers by 2035. This was later found to be an anecdotal remark which had not been verified.
- A source of embarrassment for the IPCC, the Himalayan \* **“Third Pole”** has not received as much importance in subsequent IPCC reports, including the fifth assessment report of 2013-14, possibly due to a lack of available research. The ICIMOD report, which seeks to plug this information gap, is the work of 210 scientists, which was, in turn, peer-reviewed by another 135.
- \*The international research team dubbed the plateau the **“Third Pole”** because it contains the largest stores of freshwater in the world outside of the North and South poles.
- According to its findings, if the global average temperature is indeed kept to a 1.5°C rise over pre-industrial levels (as agreed upon at the 2015 Paris Climate Conference), this will mean a 2.1°C rise in the HKH region due to elevation-dependent warming. In such a scenario, the region will lose 36% of its glaciers by 2100.
- When it comes to river basins, the HKH assessment report establishes that just the Indus, Ganga and the Brahmaputra basins between them support 916 million people. Of these, 580 million people depend on the Ganga basin alone. Higher glacial melts due to warming, according to the report, will cause these rivers to see continuously increased flow till 2050-60. This will exacerbate chances of flooding and glacial-lake burst disasters, such as in Uttarakhand in 2013.
- **Towards the end of this century, pre-monsoon water-flow levels in these rivers will drastically reduce**, affecting agricultural output as well as non-consumptive use such as hydropower generation.
- The report warns that a lack of adequate action now with regards to dams, the equitable sharing of hydropower benefits with mountain people, and the lack of robust transboundary cooperation for international rivers can lead to a deepening of social inequities and heighten the chances of conflict.
- Responses to hydropower is varied among the HKH countries. While in India, the consensus is shifting away from hydropower and dams, especially with the entry of renewable energy, in countries like Nepal and Pakistan, dams are still desired.

## Way Forward

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- Policymakers must start looking at the economic valuation of ecosystems seriously.
- **While infrastructure projects such as dams and roads gather pace in China, Nepal, and India, there is no cooperation between countries to tackle the growing problems associated with climate change.**
- The Himalayan states must build a viable and sustainable forest-based economy.

- Promote local organic agriculture and its produce as speciality, high-value premium produce of a fragile ecology.
- Use ecosystem-based tourism for development but with safeguards and local benefits.
- **There is a need to build policies for sustainable urbanization in the mountains.**

### **NMSHE: National Mission for Sustaining the Himalayan Ecosystem**

- The National Mission for Sustaining the Himalayan Ecosystem (NMSHE) is one of the eight missions under the National Action Plan on Climate Change (NAPCC).
- NMSHE is a multi-pronged, cross-cutting mission across various sectors. It contributes to the sustainable development of the country by enhancing the understanding of climate change, its likely impacts and adaptation actions required for the Himalayas- a region on which a significant proportion of India's population depends for sustenance.
- NMSHE seeks to facilitate the formulation of appropriate policy measures and time-bound action programmes to sustain ecological resilience and ensure the continued provisions of key ecosystem services in the Himalayas. NMSHE intends to evolve suitable management and policy measures for sustaining and safeguarding the Himalayan ecosystem along with developing capacities at the national level to continuously assess its health status.
- Recognizing the importance of scientific and technological inputs required for sustaining the fragile Himalayan Ecosystem, the Ministry of Science and Technology has been given the nodal responsibility of coordinating this mission. However, the mission involves valuable cooperation of Indian Himalayan States, and the Ministry of Environment, Forests and Climate Change to achieve its goals.