

## ICIMOD Report on Hindu-Kush Mountains

### Why in news?

The report 'Water, ice, society, and ecosystems in the Hindu Kush Himalaya' was released by the International Centre for Integrated Mountain Development (ICIMOD).

### What is the geographic extent of the Hindu-Kush Mountains?

- The Hindu Kush Himalaya (HKH) region extends 3,500 km over 8 countries from Afghanistan in the west to Myanmar in the east.
- **Range Countries** - Afghanistan, Pakistan, India, Nepal, Bhutan, China, Bangladesh and Myanmar.
- The HKH region, harbours the highest mountain ranges in the world.
- It also contains the largest volume of ice on earth outside of the polar areas and is called '**Third Pole**'.
- The range is also the source of major Asian river system and called as '**Water tower of Asia**'.



**HKM in India** - The entire territory of 11 mountain states & Darjeeling district of West Bengal state are included in the HKH region.

The 11 states are Assam, Uttarakhand, Himachal Pradesh, Manipur, Jammu & Kashmir, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, and Arunachal Pradesh.

### What is the significance of HKM?

- The glaciers of the Hindu Kush Himalaya are a major component of the Earth system.
- Ice and snow in the HKH are an important source of water for 12 rivers that flow through 16 countries in Asia.
- The basins of these rivers provide freshwater and other vital ecosystem services to 1.9 billion people, a fourth of the world's population.
- **Buffer** - Glaciers act like a 'buffer' in the hydrological cycle.
- As more snow reaches the top, it is stored as ice for decades and centuries, which will be eventually released as meltwater in the dry months.

### What are the consequences of loss of HKH?

- **Climate change** - Climate change is driving unprecedented and irreversible changes in glaciers, snow and permafrost of the Hindu Kush Himalayas.
- **River system** - As a consequence, major rivers in the Himalayas including those in eastern and north-eastern India are set to suffer.

- Water availability in the Ganges, Indus and other river basins in the Hindu Kush region is set to increase in the short term and decrease in the long term.
- **Disasters** - Natural hazards like floods and landslides are projected to increase over the coming decades and cascade the impacts on the ecosystem.
- **Invisible Impacts** - The benefits that the lowlands or the economic hotspots get from the mountains is not quantifiably known.

*Himalayan glaciers disappeared 65% faster in the 2010s than in previous decade.*

### What are the issues in adaptation measures?

- **State support** - Governments have played a limited role in helping mountain communities of the HKH adapt to climate change.
- **Adaptation fund** - The adaptation in the mountains is expensive, but the investment has been low.
- **Geopolitics** - The HKH countries are not as organised as Small Island Developing States.
- **Database** - Adaptation in one place might end up being maladaptation in another.
- Hence, data sharing is very important and the HKH range countries should come up with regional adaptation mechanism.

### What does the ICIMOD report say?

- The ICIMOD's report '***Water, ice, society, and ecosystems in the Hindu Kush Himalaya***' highlights the changes and consequence of loss of snow in HKH.
- Hindu Kush Himalayan glaciers could lose up to 80% of their current volume by 2100 in a business-as-usual scenario.
- The average temperature in the region has increased by 0.28°C per decade between 1951 and 2020.
- Contribution of water from glaciers to Ganges, Brahmaputra and Indus will increase through 2050, then decrease by 2100.
- Rivers in the Eastern Himalayas get less water from glacial melt. Still, the perennial nature of several rivers could be lost.
- Biodiversity in Hindu Kush Himalayas will suffer even if the global temperature rise is maintained at 1.5 °C.

### Quick Facts

#### **International Centre for Integrated Mountain Development (ICIMOD)**

- ICIMOD is an intergovernmental institution leading the global effort to protect the Hind-Kush Mountains.
- ICIMOD is based in Kathmandu, Nepal.
- It has 8 regional member countries - Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.

## References

1. [DTE - ICIMOD report paints bleak picture for Hindu Kush-Himalayas](#)
2. [ICIMOD - HI-WISE](#)

