Punjab Floods

Mains: *GS III – Disaster and Disaster Management.*

Why in News?

Recently, Punjab faced its worst floods since 1988 in August this year.

What are the serious issues?

- **More villages affected** – Waters overflowing from the Sutlej, Beas, and Ravi rivers have destroyed several villages in the State.
- Early in August, the village of Dharali in Uttarkashi district of Uttarakhand disappeared after a deluge triggered a landslide.
- **Mortality** – At least 34 people died after intense rainfall lashed India-controlled Kashmir and several parts of Pakistan.
- **Frequent incidents** – This isn't the first time the Indian Himalayan region has suffered such catastrophe the 2013 Kedarnath floods and the 2021 disaster in Chamoli come to mind.
- **Undermining the seriousness** – Experts have already said calling every heavy-rain event a cloudburst risks oversimplifying the disasters.
- **Important factors** – Most of these natural disasters are often a combination of two factors
    - Climate change
    - Development.

What are the disaster potential of Himalayan region?

- **Unstable region** – The Himalayas are the world's youngest mountains and are high-energy environments characterised by instability and variability.

  Landslides *here are often triggered by heavy rainfall, slope undercutting or seismic activity.*

- **Prone to multiple disasters** – According to ICIMOD research, the mountains are also particularly susceptible to floods, cloudbursts, glacial lake eruptions, and landslides.
- **Increasing encroachments** – The Hindu Kush Mountains are currently being encroached on as well as hosting more tourists, infrastructure development projects, and power generation activities.

- **Insufficient EIA** – The absence of proper environmental impact assessments (EIA), experts have warned that the mountains are being pushed beyond their ability to cope.
- **Increasing Hydropower projects** – According to the Directorate of Energy of Himachal Pradesh, there are 1,144 hydropower plants in the state.
- Uttarakhand, has 40 operational hydroelectric plants while 87 more are at various stages of planning and construction.
- **Roads and other infrastructures** – The Centre has also sanctioned funds to build new bridges and widen roads.
- All these construction activities entail the use of heavy equipment to cut through the mountains.
- Highways are built without any attention to how they can increase disaster potential.
- **Development and climate change** – Supreme Court bench observed that the proliferation of development work is joining hands with climate change to worsen the effects of rain and temperature changes.
    - ***For example,*** *The apex court also issued a notice to the National Highways Authority of India following a petition that claimed 14 tunnels between Chandigarh and Manali turned into death traps during heavy rains.*
- **Rise in temperature** – The average temperature in the Indian Himalaya is already rising faster than the global average, resulting in reduced snowfall and more snow melt.
- **Rise in tourism** – It has stoked a demand for land on which to build hotels, homestays, and other facilities, and that in turn has been driving local deforestation.
- **Removal of native trees** – When the trees are removed, the soil is in boulders which will soon erode out.
- The erosion will increase the disaster potential of the area in terms of landslides and floods in the downstream villages.
- **Glacial lake outburst floods (GLOFs)** – According to ICIMOD, there were more than 25,000 classified glacial lakes in five major river basins across the Himalayas by 2018.
- This has more potential for GLOFs, placing communities and livelihoods downstream at more and more risk.

To know more about GLOFs click here

What are the observations of Supreme Court?

- **Destruction of forests** – Chief Justice of India called visuals of tree logs floating in flood waters in Himachal Pradesh, Jammu & Kashmir, Punjab, and Uttarakhand in the first week of September a very serious issue.
- If this goes on, we will not have any forests left.
- In Punjab, entire villages are inundated.
- **Concern on Himachal** – Himachal Pradesh may vanish in thin air from the map of India, if things proceed the way they are as of date.
- **Development vs Sustainability** – The bench also said governments shouldn't build revenue at the cost of ecological sustainability, and blamed human activity for worsening disasters.
- Development is needed, but not at the cost of the environment and lives.
- **Region based development** – The development in Himachal Pradesh and

Uttarakhand can't happen according to the same plans drafted for metropolitan cities like Delhi and Mumbai.

What measures can be taken?

- **Responsible constructions**– Infrastructure changes have to be done keeping in mind such climatic variations like GLOFs, landslides, and even droughts.
- **Correction of courses** – The Himalayas are at a tipping point, and we need an urgent course correction that balances economy and energy.
- **Developing nature based solution** – We need nature-based solutions with the involvement of the local communities because they know the local landscape and the hazards that come with it.
- **Assessment of carrying capacity** – Assessing the carrying capacity of an area before implementing any project should be carried out.
- **Inclusion of Social impact assessment (SIA)** – Prior to making any major interventions in the mountains, there should be clearly defined steps in terms of an honest and independent social impact assessment.

A Social Impact Assessment (SIA) *is a systematic process for identifying, analyzing, monitoring, and managing the intended and unintended social consequences, both positive and negative, of a planned project, program, or policy.*

It ***focuses on the effects on people and communities****, examining changes in their lives, culture, well-being, and social structures to ensure development is socially responsible and sustainable*

- **Imparting climate education** – Building climate literacy amongst the locals to drive local self-governance is important.
- **Building in safe zones** – All the critical structures, such as hospitals and schools, must never be built in unsafe locations because they are the immediate places that house those affected by any disaster.

Reference

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