



## Overlapping Hazards

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This article is based on **“Managing Risks From Overlapping Hazards”** which was published in The Indian Express on 13/06/2021. It talks about the frequent occurrence of overlapping hazards and remedies to address the problem.

Recently, India has been hit by two cyclones, first the Western Coast (**Cyclone Tauktae**) and then the eastern coast (**Cyclone Yaas**). The increasing frequency of environmental hazards indicate the vulnerability owing to climate change.

However, the more concerning matter is the occurrence of overlapping hazards. For example, while the Yaas cyclone caused immediate damage, the flooding it induced took the adversity to a different scale altogether.

Further, these environmental hazards happened in the middle of another mega hazard – the Covid-19 pandemic.

There is an urgent requirement on the part of the state - along with the non-state actors - to take immediate measures towards acknowledging the multiple risks that emanate from these overlapping hazards and reducing the same.

### Examples of Overlapping Hazards

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- **Floods In Ganga-Brahmaputra Plains:** Flood months bring with themselves a typology of hazards associated with the geographical location of habitation and have differential effects. The typologies include:
  - Waterlogged regions,
  - Areas which are in the riverside and prone to bank erosion,
  - Riverine floods in areas with no embankment,
  - Riverine floods in the countryside after the breach of the embankment,
  - **Flash floods,**
  - River bank erosion.

- **Cyclone Induced Flooding:** As an outcome of the cyclone Yass and the Yaas-induced flooding, the affected witnessed many overlapping hazards. For example:
  - Disruptions in the form of salinity intrusion,
  - Loss of agriculture and capture fisheries,
  - Decimation of the marine capture fishery supply chain
  - Rotting fish, plants and animals are resulting in severe stench and pollution are enhancing the possibility of water borne disease.
- **Social Vulnerability:** Vulnerability owing to overlapping hazards also emerges from underlying socio-economic-political conditions.
  - Often the (socially, economically and politically) marginalised population have to reside in such precarious areas.
  - They often lack access to various resources – land (due to salinity intrusion or erosion), safe housing, water and sanitation, stable livelihoods and markets.
  - All this is both a cause and outcome of their social vulnerability.

## Way Forward

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- **Identifying Risk Drivers:** When overlapping hazards take place, with each hazard having their own character, the final shape of the hazard is often a product of these individual characters.
  - Accordingly, the disaster risk reduction activities need to be geared towards first an interdisciplinary diagnosis of various risk drivers.
  - The government needs to develop a disaster atlas of India for better preparedness and mitigation measures.
- **Focusing on Disaster Risk Reduction:** Rather than focusing on knee-jerk ex-post set of actions, there is a need to build resilience at the individual and community level. This can be achieved through following interventions:
  - Reducing the probability of the occurrence of the hazards in the first instance.
  - Preparation strategies like early warning systems.
  - Arrangement of adequate spaces for evacuation and prompt rescue and evacuation.
  - Disaster Impact Assessment must be made a mandatory part of Environment Impact Assessment.
- **Disaster risk insurance:** It covers hazards arising from geological, meteorological, hydrological, climatological, oceanic, biological, and technological/man-made events, or a combination of them.
- **Decentralised-Integrated Framework:** Disaster management approach needs to be more decentralised as suggested by the Sendai Framework and 14<sup>th</sup> Finance Commission.
  - The key action points that need to be taken include a ward-level disaster management plan, large-scale construction of elevated platforms through MGNREGA, universal access to safe water and sanitation facilities, etc.

## Conclusion

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Tackling overlapping hazards would require a multidisciplinary approach to risk reduction, where each of the risk drivers is subject to interdisciplinary deliberation, followed by a preparation of a plethora of thematic interventions planned round-the-year which would reduce the intensity of the risk drivers.

### ***Drishti Mains Question***

Cyclones along the Western and Eastern coasts amidst the pandemic alert us to the need for year-long preparedness, approaching a multi-disciplinary approach to averting disasters, reducing vulnerabilities. Discuss.