The Role of Big Data and Mining Technology in Strengthening Flood Resilience and Adaptive Capacity in India

CST2201 202219102 Joy
Northeastern University at Qinhuangdao

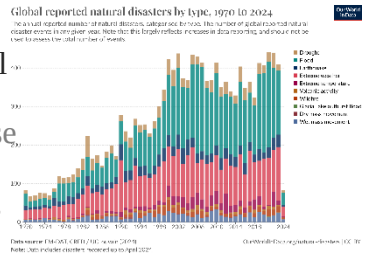
FOCUS STATEMENT

SDG 13: Climate action

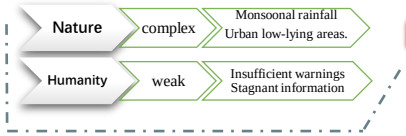
13.1 - How Big Data and Mining Technology can strengthen Flood Resilience and Adaptive Capacity in India.

BACKGROUND

- Floods pose a significant natural disaster in India, inflicting immense losses on human society, economy, and ecosystems.



Cause



Solution

- **Structural measures**
  Construct flood embankments, improve river channels, and build reservoirs.
- **Non-structural intervention measures**
  Deploy early warning and rescue positioning systems.

PROPOSED ACTION

- **WHAT:** Establish an Open Data Sharing Platform.
- **WHEN:** Website coverage within 2 years
  Effective flood mitigation within 5 years
- **WHO:** Funding: Government
  Technology: Leading enterprises
- **HOW:**

Clarify the needs and objectives

Consider network coverage and the digital divide

Provide ongoing training and technical support

1 2 3 4 5

Integrate existing data and technology

Establish information sharing and collaboration mechanism

- **HOW TO MEASURE:**
  80% flood prediction accuracy
  60% loss reduction.

TAKE-AWAY

Innovation: Integrating big data and communication tech, establishing open data sharing, enhancing flood response.
Key approach: Identifying needs, integrating resources, solving network coverage, establishing cooperation, providing training.
Impact: Improving flood response, fostering cooperation, promoting sustainability.

REFERENCES

[1]Ritchie, H., & Rosado, P. (2024). Natural Disasters. Our World in Data. Retrieved from: https://ourworldindata.org/natural-disasters

[2]Mohanty, M. P., Mudgil, S., & Karmakar, S. (2020). Flood management in India: A focussed review on the current status and future challenges. International Journal of Disaster Risk Reduction, 49, 101660.

[3]Nanditha, J. S., & Mishra, V. (2021). On the need of ensemble flood forecast in India. Water Security, 12, 100086.