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AI in Disaster Management: Enhancing Resilience

Recent applications of AI, drones, and satellite imagery in disaster events highlight technology's growing role.

AI in disaster management involves applying machine learning, computer vision, natural language processing (NLP), and predictive analytics to analyze vast data for improved decision-making.

KEY EXAM POINTS

- **Artificial Intelligence** (AI) transforms disaster management from a predominantly reactive system into one based on **prediction**, **early warning**, and rapid response.
- AI utilizes data from various sources including **weather stations**, hydrological sensors, **satellites**, **drones**, and Internet-of-Things (IoT) devices.
- **Smartphones**, **social media**, Geographic Information Systems (**GIS**), and historical disaster databases also feed crucial data into AI systems.
- The primary objective is to improve decision-making across the entire **disaster-management cycle**, encompassing **prevention**, **preparedness**, **response**, recovery, and rehabilitation.
- However, technology cannot substitute for **effective institutions**, **trained personnel**, and **last-mile governance** in disaster management.

DID YOU KNOW..!?

The **National Disaster Management Authority (NDMA)** was established under the **Disaster Management Act** of **2005**.

The **National Disaster Response Force (NDRF)** was constituted under the same **Disaster Management Act, 2005**.

India's **National Policy on Disaster Management** was released in **2009**, outlining the vision for disaster risk reduction.

The **Sendai Framework for Disaster Risk Reduction** (**2015-2030**) was adopted at the **Third UN World Conference** on Disaster Risk Reduction.

The Indian Space Research Organisation (**ISRO**) provides crucial **satellite imagery** and data for disaster monitoring through its **National Remote Sensing Centre (NRSC)**.

The **Tamil Nadu State Disaster Management Authority (TNSDMA)** was constituted under the provisions of the **Disaster Management Act, 2005**.

The **Tamil Nadu State Disaster Response Force (TNSDRF)** operates under the guidance of the **TNSDMA** for state-specific disaster response.

REVISION FLASHCARD

AI enhances disaster management through prediction, early warning, and data-driven response.

Syllabus Relevance: High

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