

The intricacies in the implementation of integrated geospatial platform, database, and application for disaster risk management in Uttarakhand

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Uttarakhand, an Indian Himalayan state, is prone to natural hazards such as floods, cloudbursts, glacier lake outbursts, forest fires, landslides, and earthquakes. Disasters are inevitable, but we can minimize their impact through effective management. The use of digital information technology has demonstrated its potency across the domain. Similarly, ICT can be an effective tool to support in all four stages of disaster management: mitigation, preparedness, response, and recovery.

The Integrated Geospatial Platform, Database, and Application for Disaster Risk Management (IGPDA-DRM) is currently under operation as a decision support system. It is an ICT-based solution for disaster risk management in the state of Uttarakhand. The system contains wide range of geospatial data like baseline, critical infrastructures, near real-time field observations, meteorological, and openly accessible satellite observations as standard OGC service. The system supports alerts and monitoring, resource mobilization, evacuation and shelter management, routing, reporting, and interagency collaboration through multi-user support.

The aim was to examine the current implementation status of the IGPDA-DRM system, the data status, and understanding shift in stakeholder perception due to capacity building in government departments involved in resources and disaster management. Effective implementation poses a challenge due to data issues, lack of staff readiness, effective business continuity plan, and a degree of bureaucratic hassle. The conclusion can be drawn that changing the perspective on technology during the emergency process can only lead to collaboration between emergency employees and technology, which results in the functional implementation of the IGPDA-DRM platform for disaster management.