

# Sensor network to predict landslide

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**KOLKATA:** A landslide prediction and early warning study is underway to prevent the kind of tragedies that left 34 dead in the Darjeeling Hills earlier this month.

Speaking to TOI on the sidelines of meet organized by MCC Chamber of Commerce, ministry of earth sciences secretary Shailesh Nayak said Kochi-based Amrita University is developing first-ever wireless sensor network system for predicting landslides at Munnar in Idukki district of Kerala. A similar study will be done in north Sikkim.

"Once the pilot project in Sikkim is a success, it will be replicated in landslide prone areas of Darjeeling Hills in north Bengal and elsewhere in the country like north-east, north UP, Uttarakhand, Himachal Pradesh and Kashmir," Nayak said.

The university's sensor network-based landslide detection system comprises a variety of strategically placed sensors that are accessible through an alert-based monitoring and notification network. It delivers real-time warnings during the monsoon, thereby giving the administration lead time to issue evacuation alerts, something that did not reach the villagers in Darjeeling who were sitting ducks killed in the landslide that was imminent after two days of torrential rainfall.

National Disaster Management Authority member Lt Gen NC Marwah said a landslide mitigation programme was being planned on the lines of the national cyclone mitigation programme in Andhra Pradesh, Odisha and West Bengal.

"We have to act before the disaster strikes and prevent deaths. The Geological Survey of India has mapped landslide risk areas. The local administration has to now ensure that these areas are free of settlement. If people are living in vulnerable areas, they have to be relocated after explaining the risk," Marwah said.

While the devastating earthquakes in Nepal and the 180-odd tremors that they had triggered could have destabilized the soil that is already geologically vulnerable and contributed to the landslide following high rainfall, laying of cables through storm water channels along the hillside precipitated

the disaster.

"The state government and the local administration has to ensure that statutory norms are followed. Construction of buildings should be in areas that are low risk. The buildings should be according to the building code prescribed for the area. An early warning system will prevent deaths but we need to take a more holistic approach and prevent economic loss as well by doing things a lot more smartly than we have in recent years," Marwah added.