

Landslide alert sensors to check dam breakage

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KOCHI: Technology may be only at an arm's length for the state government looking to deploy digital sensors in the Mullaperiyar dam to monitor warnings of dam breakage as part of the disaster management system in Idukki district.

"In landslide warnings, we monitor both water and soil pressure. The sensors used are wireless and can be set up in hilly as well as lower regions," said Maneesha Sudheer, director, Amrita Centre for Wireless Networks and Applications.

Located in the foothills of Munnar is a digital sensor system deployed to alert locals on landslides, a perennial feature that gives them sleepless nights during the monsoon season when heavy rains trigger the 'fall of mountains'.

The Wireless Sensor Network for real-time landslide monitoring & detection, which has been functioning in Munnar since 2008, proved its capability when it issued a real-time landslide warning in July 2009.

"About 150 geophysical sensors connected to 20 wireless sensor nodes have been deployed at one landslide-prone site at Anthoniar Colony in Munnar. We had put a few extra ones because we did not want to trigger false alarms," said Maneesha. These sensors measure various environmental parameters such as rainfall, temperature, humidity, and hydrological and soil parameters, including moisture content, soil pore water pressure and soil movements.

Maneesha says that based on the possibility of a disaster, an appropriate warning is automatically issued to the local population, administration, etc depending on the scale of the readings.

"We can issue warnings as early as 24 hours before a potential landslide. Now the locals are happy. Earlier, people used to move to safer areas before heavy rains and return only after the monsoon ended. Now with this warning system in place, they continue to live their lives normally and move out only when there is a warning of direct threat of a landslide taking place," she said.

The system has got a boost with the Government of India expressing interest in deploying it in other landslide-prone areas, including the rest of Kerala, Himalayan region and Maharashtra. In fact, R Chidambaram, principal scientific advisor to Government of India, visited the deployment site at Munnar with the intention of replicating the system in Uttarkashi area.

"Munnar's was a Rs 5 cr project because we could not get the sensors in India. But now we are making our own sensors, so the system is more economical," she said.