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Friday,12 June 2009 19:15 hrs IST

Network system to detect landslides installed

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Kochi, Jun 12: India's first ever cutting edge wireless sensor network system, designed to detect landslides at least 24 hours ahead of its occurrence, has been set up at Munnar in the high range Idukki district of Kerala where eight persons had lost their lives in 2005 landslides.

The early warning system was developed by Amrita Vishwa Vidyapeetham University as part of a research project, 'WINSOC' (Wireless Sensor Network with Self Oganisation Capabilities for Critical and Emergency applications).

The project has a consortium of 11 partners from eight countries including Amrita Vishwa Vidyapeetham University and ISRO's commercial arm Antrix, Dr Venkat Rangan, the University vice-chancellor, and Paolo Capodieci of Selex communications, Italy, the overall coordinator of the project, told reporters here Friday.

The total budget of the project is 3.5 million Euros, 60 per cent which has been contributed by the European Union and the rest by different partners, Capodieci said.

WINSOC's goal is to develop a general purpose innovative wireless sensor network having the distributed processing capabilities and to test applications on environmental risk management where heterogenous networks, composed of nodes having various degrees of complexity and capabilities are made to work under realistic scenarios.

"This is India's first cutting edge wireless network system," Rangan said. Each partner works on different areas of wireless sensor technology. One of the partners - Selex Communications - has developed a new wireless sensor node, Maneesha V Ramesh, the project leader and Assistant Professor, Department of Computer Sciences engineering, Amrita University, said.

The initial deployment of this system has been done at Antonia Colony in Munnar which is an area prone to rainfall- induced landslides.

The system has wireless sensors that will collect data and forward them to the data analysis station located at Amrita University campus at Kollam.

The data from the wireless sensor network is transmitted over the satellite network using the Village Resource Centre station provided by ISRO.

Totally, 20 sensor columns, of which 10 are already functional, have been embedded 23 m below the ground in Munnar, Rangan said.

Once fully operational, the system can be deployed in all parts of the country which are prone to landslides, industrial sites prone to gas leakages and areas having regular forest fires, he said.

Presently, the system consists of 50 geological sensors and 20 wireless sensor nodes. The geological sensors are used for monitoring the moisture content, pore pressure and terrain movement at the deployment site.

In another three months, the network would be extended to 150 geological sensors, and approximately 25 wireless sensor nodes as

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part of the funding provided by the Departments of Information Technology and Science of the Union Government which has sanctioned about Rs 2.5 crore, he added.

Article 2 of 20 in Kerala