



7<sup>th</sup> October 2019

Dear Sir/Madam,

It is with great pleasure that we share with you an update on the LANDSLIP project.

As a reminder, **LANDSLIP** (*Landslide Multi-Hazard Risk Assessment, Preparedness and Early Warning in South Asia: Integrating Meteorology, Landscape and Society*) is a NERC/DFID funded India-UK Collaborative Project. The LANDSLIP project has as overall objective the development of a pilot early warning system for landslides in India and more broadly South Asia, with two pilot case studies: (i) Darjeeling/East Sikkim, (ii) Nilgiris. This multi-institutional project consortium has 36 natural and social science researchers from internationally well-known government, research/academia and not-for-profit organisations: three from India including Geological Survey India (GSI), Amrita University and Practical Action Consulting, one from Italy (CNR-IRPI) and five from the UK (British Geological Survey, UK MetOffice, King's College London, Newcastle University, Practical Action Consulting). We also work closely with Save the Hills in Darjeeling and Keystone Foundation in Nilgiris, and their support helps us carrying out our work. This project is unique in its approach to landslide early warning systems as it combines landscape, meteorological and social dynamics. Broader project details are available at [www.landslip.org](http://www.landslip.org).

**We are very pleased to share with you this [updated factsheet on the LANDSLIP project](#), providing an overview of the project and how far we have progressed.**

Further information is also available on our [LANDSLIP website](#) and the [SHEAR website](#).

In addition, we would like to highlight the progress in the project over the past year. Our project consortium members from across India, UK and Italy have been working to progress the prototype landslide early warning system model in our study sites. The project has progressed on several fronts:

- Social scientists from KCL have been working to understand the institutional landscape in India related to DRR, early warning, and roles and responsibilities. The institutional mapping allows the LANDSLIP team to identify appropriate entry points into the governance structure to embed a potential landslide EWS and enable sustainability of a landslide EWS beyond the project timeline.
- The LANDSLIP team has developed preliminary landslide susceptibility and domain models in both of the pilot study areas (Darjeeling and the Nilgiris, India).
- LANDSLIP have developed experimental tools for forecasting rainfall-induced landslides for the short- and medium-range (up to 15-days ahead).
- The LANDSLIP team has created a draft landslide early warning bulletin and obtained feedback from key district level officials in workshops and meetings in both Darjeeling and the Nilgiris during February 2019.
- In July, LANDSLIP consortium members GSI visited LANDSLIP colleagues in Italy (Consiglio Nazionale delle Ricerche) and the UK (British Geological Survey) for three weeks of workshops, training, and discussions in preparation for the upcoming monsoon period in India.
- Both short-range and medium-range tools will run in real time over the 2019 monsoon season, and will be tested by the Geological Survey of India (GSI).



The consortium's next steps will be to continue engagement with District level authorities in the two study sites, where we will share findings from the tool, how it could potentially be used beyond the project and to co-develop resources and guidance material to aid decision making.

Best wishes,

**Dr Helen Reeves and Prof Bruce D Malamud**

Co-Leads of NERC/DFID LANDSLIP project

